

Western Pyrotechnic Association Newsletter



Summer 2015, Vol 26-1

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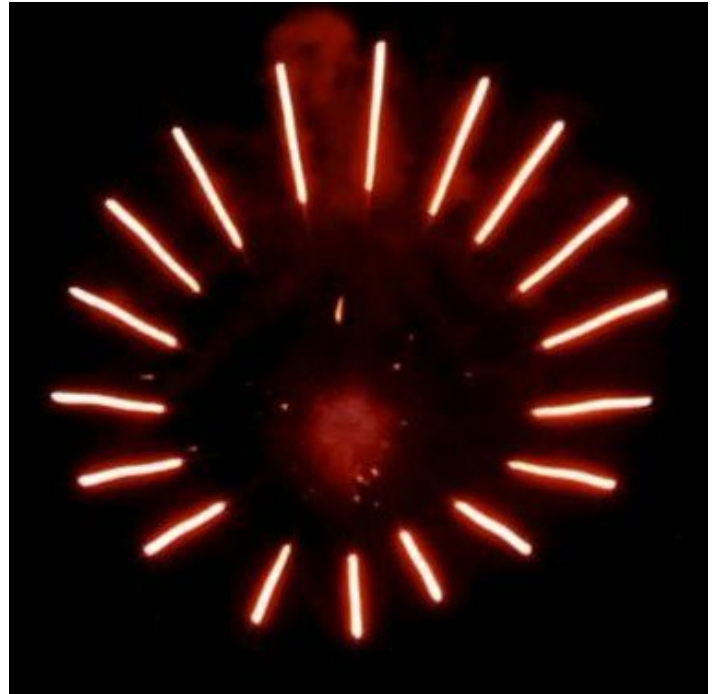
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WPA Newsletter, Volume 26, Issue 1

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Blackfinger's Workshop has been
held over for lack of space



Cover Picture - Ring shell, photographed using
Fuji infrared film. By Kelly Dreller

Elected Officers of the WPA

President:	Steve Wilson
Vice President:	Greg Dandurand
VP Communications:	Pete Hand
Treasurer:	Jane Anderson
Secretary:	Dennis Miele

THE SMALL PRINT

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**JIM LANDIS,
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**GEORGE TASICK,
PYRO PLANET**

These companies and individuals contribute handsomely to our club and help to make our events the best they can be.

In these economic times, their support can be difficult for them. It goes above and beyond anything we can expect.

Do us all a favor and turn to them *first* when you need the services they offer.

**Now go out and
CELEBRATE!**





**WHERE'S THE ARTICLE YOU PROMISED?
YES I MEAN YOU!**

Editor's Notes

Western Winter Blast 26 was a great success. The weather was perfect, the public display by Extreme Pyrotechnics was exceptional, and we had more attendees than for our 25th Anniversary last year. There were so many, we ran out of space for some of the seminars. Please give a big round of applause to the people who made it happen - the organizers, the safety staff and all the other volunteer helpers who gave up their own time and opportunity to join in the activities so that you didn't have to.

We had a special guest at Winter Blast this year - Terry Bohl, general manager of the event project for the Moapa tribe. Terry was, to use his own words, "blown away". Not only had he never seen anything like it before, he had no idea that an event like WWB was even *possible*. As our proposal for a manufacturing facility goes forward, Terry will be a powerful ally.

Also in the business meeting this year we honored three of our members for Lifetime Achievement -

Tom DeWille, for proximate pyrotechnics

Ken Nixon, for firing systems

Bob Winokur, for research into glitters

I'm running a longer piece on Bob in this issue because *somebody sent it to me*. That's what I do, you know. I publish what people send me, like Peter Shoewe's interesting article. The rest

of it, I write myself as best I can, and if I don't know something, like what's going on in your neck of the woods, *I don't write about it*. So if you have anything you think might interest other people, drop me an email. Don't worry if you can't spell or don't think you're a good enough writer. I have a spell checker and I went to *grammar* school. (Pun intended)

Let's say hi to our new treasurer, Jane Anderson, who stepped up when Richard Haase stepped down this year. She's doing a great job.

I have decided not to run obituaries in this newsletter. I do want to remember Lenny, though. It's a pity he won't be able to make it to Do It this year.

Pete Hand

A Peep from the Veep

Greg Dandurand

With Western Winter Blast behind us and the Fourth of July days away, I have too much stuff to do! But I want to thank all the people who make WWB a reality. Things are on track for next year, but we still have Do-It first. As always, we need help for safeties and other parts of the event. I look forward to seeing everyone there.

I need to ask a favor. If anyone reading this is a past officer and has any paperwork pertaining to the WPA, please get a hold of Dennis Miele and make arrangements to sent them to him. We are trying to gather our history together before it gets lost.

Also, please remember that the BOD members are the only people who are to be making commitments on behalf of the WPA. We have a lot of behind the scenes knowledge of things going on. Members want to help, but all contracts and agreements can only be executed by the BOD. Thank you for your assistance in this matter.

I wish everyone a safe and fun Fourth of July! I will be thinking of you all as I am out in the Phoenix heat!

WINTER BLAST XXVI

Photo Roundup



Traditional Italian Shell class. Above: I hope you're all taking notes. Below: meet the Case Former.





Left: A closer view of rolling kraft paper around a case former to form the shell body

Below: filling the case with stars and burst. Italian shells need to be stuffed really full and really tightly. Don't attempt this if you're short of stars.



Right above: “spiking” - wrapping the shell tightly with linen string, end over end and around. This gives the shell burst strength and is important to the pattern in the sky. Lean back and pull hard!



Right below: the spiked shell is given a final wrap in kraft paper soaked in wheat paste. Now it has to dry before the lift charge can be added and the whole assembly matched up.



Bottom: completed shells drying in the Arizona sunshine.



Always popular, our beginner's round shell class. Here we're making 4 inch shells in plastic cases.



After the hair-raising but surprisingly easy “slap the two halves together in mid-air” step, the halves are glued together and a lift cup of gunpowder (in the left hand) attached to the bottom, over the fuse.



Down in Area 51, Ed Osdale is working on a 16 inch double petal shell. First he lines the outer petal with stars and comets



Then using a temporary hemisphere as a former, he rams burst powder tightly around the stars to form a hemispherical depression where he will build the inner petal/



Once the inner cavity is shaped, the temporary cardboard hemisphere is removed and the inner petal built up by lining the cavity with stars, separated from the outer by tissue paper. Finally the center of the inner petal is filled with burst.



Then the tissue paper is folded over and taped. That's one hemisphere complete - now he has to do it all over again for the other half. Note - you don't join *this* shell by holding one half in each hand and bringing them together in the air.



It was an eventful year at the Cape Jackalope Space Center.



An intrepid crew of Space Fleet volunteers prepared the craft for their interstellar mission under the expert guidance of Cap'n Jackalope himself (front and center). (Credit: PK)



It did not escape the notice of the Mekon.





But the Mekon knew nothing of the secret JACKODELIC HYPERENGINE powering the *Mighty Shark*.



The stands - and what used to be **our** gravel area - were filled up with spectators long before the big show started, leaving most of our members to watch from the trackside (too close) or the end zones.



Some people, however, got *insanely close* to the action. The Anvil Shooters - that chunk of iron flies 100 feet in the air and lands where it damn well pleases. Hard hat required, but pointless.



Out in the back field the big mortars for the public display are supported in barrels of sand, braced with sand and rock.



Prodigious tongue of flame emitted from a 4 inch mortar on the B line at the moment of firing. NOW do you understand why we expect people to wear safety gear? (Credit - KD)



Our local photographer from last year, Kelly Dreier, came into the event as a guest, this time with a number of cameras using a variety of different films. Our cover picture is one she shot using Fuji infra red film for an unusually intense effect.

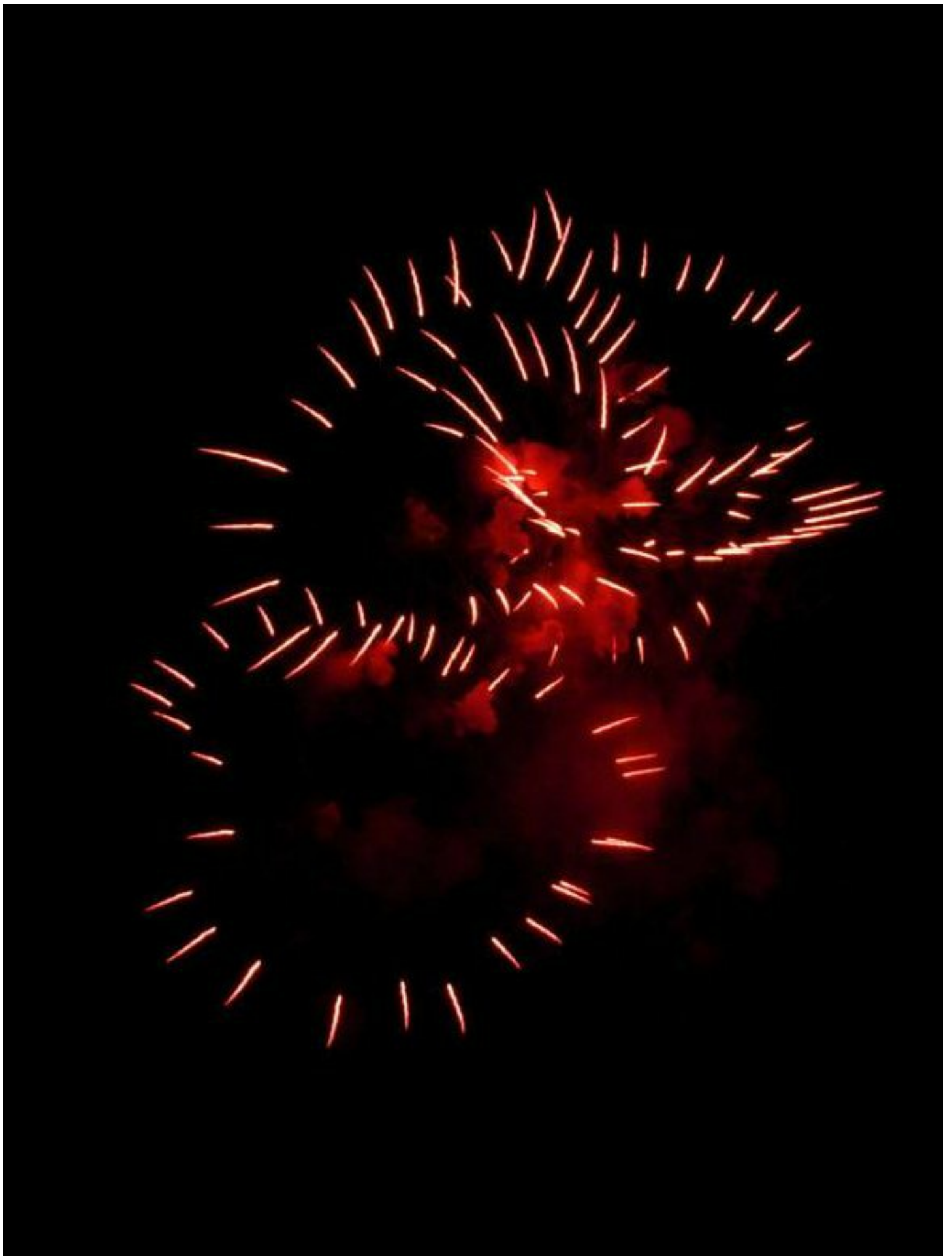
Kelly, who had not been any closer than the public areas before, was a little nervous as a newcomer, but everyone she met made her feel so welcome and accepted that she has decided to become a member.

You can find her full album, Winter Blast 2015, on facebook under the user name **Random Thoughts At 4am** . Meanwhile here's a selection, starting with the Creature from the Purple Cloud.





Winter Blast 2015-2/15/15







Kel~Winter Blast 2015-2/14

Thoughts and observations from Winter Blast 2015, from Bill Ryan

Parking

I spelled out rather clearly the consequences of not having vehicles completely out of the fenced WWB area by 4:45. I think this was effective since there were very few incidents of late removal of vehicles from manufacturing. I will continue with the 'pep talk'.

Storage

At check in, I stressed the use of the day box as well as what constituted safe storage of materials. This also seemed to work since the day box was generally filled to capacity when shooting opened. There were a few things in there that are not normal, such as several small drums of material for the auction and boxes of inert material for the Lenny tribute. Without these items, I feel that the Conex is marginal, but just workable. A part of the problem is class C product purchased to shoot that is staged there during open shooting.

We should consider adding some shelving inside the container, if we have room to store the shelving during the rest of the year. Another option would be to add a small container by the C-line for class C storage. This would be used for purchased material or manufactured class C items.

The container's latch was corroded and very hard to operate. We should probably have a grease gun available to lubricate the latch so it will not take three people to get one of the latches closed enough to lock the container.

Rockets

There were no chuffers this year. We did have a problem with a 6# BP rocket with large (300 gm) salute header as part of a two break header. I would like to propose size limits on rockets at Havasu since there is so much encroachment by spectators and RV's to the West and North. I feel that stick stabilized core burners should be limited to less than 6# (or equivalent) and stick stabilized end burners be limited to less than 3#. I also feel that salute header size should be limited to something like 60 gm maximum. I also feel that multi break headers should not be allowed at Havasu.

Do it is the proper venue for large rockets with large headers.

The limits I have proposed still do not address large fin stabilized rockets. These go a long distance and can easily carry to the RV's parked at the rodeo grounds. The casings are also heavy and constitute a risk coming back down.

We had a 5'x8' trailer at B-Rockets. This trailer was inadequate at best. The tongue would lift when someone entered the trailer to get to their rockets. This action would throw the stored rockets around inside the trailer, causing some to fall out of the racks that were placed in the trailer. Several rockets were damaged when people stepped on them after they fell. The cramped quarters also made it take longer for people to get their rockets out, especially since only one person at a time could be in the trailer. This kept the door open longer than usual, making retrieving rockets somewhat exciting since we were down range of the J-Line. We needed to dedicate a safety to watch for incoming so we could get the door closed prior to impact. We really need a 6'x12' trailer at B-Rockets.

I just learned about another problem with the trailer tipping. Apparently someone was trying to load a bunch of rockets into the trailer. He stepped up, the trailer tipped, he fell over backwards and landed on the rocks. Luckily, no serious injury occurred.

Painting salute headers yellow seems to be effective and I plan to keep the policy.

General

The track does impact the layout of manufacturing, but we have adapted and can easily support 100+ manufacturers safely.

It would be nice to have a level playing field with respect to day time testing or shooting. Manufacturing must announce all day time tests. Others seem to just light whenever they please whenever they please. Unexpected launches and booms tend to startle manufacturers and can pose a safety hazard.

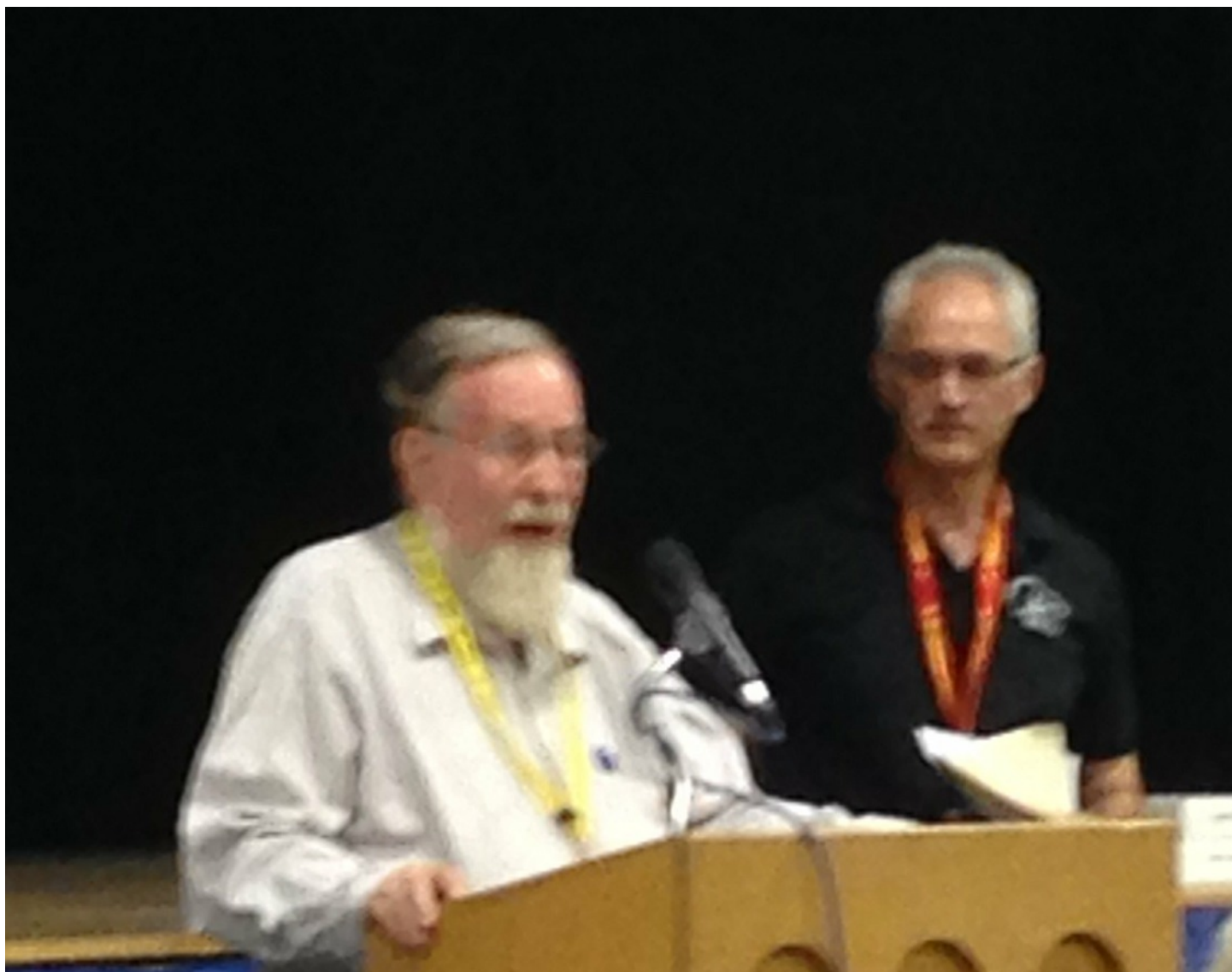
Area 51 for large shells is working well and should be maintained.

We got red containers for hot trash on Saturday. (Many thanks to Mike Hill and his crew!) These were very welcome and should be there on the first day of manufacturing. Until the red barrels arrived, hot trash was kept in the day box, adding to the congestion. The hot trash barrels should be emptied prior to open shooting every night.

Randy's plan for emergencies during the displays worked very well. We had the plan in place and ready to implement if needed. Kudos to Randy!

-Bill

WPA honors Doctor Robert Winokur



The following is a transcription of the WPA Lifetime Achievement Award presentation made by Kurt Medlin at the 2015 Winter Blast during the business meeting held February 15, 2015 in Lake Havasu City.

I first came to know of Bob Winokur in 1982 when I joined the Pyrotechnics Guild International, or PGI – he signed my membership card as he was their president at the time.

That is actually Dr. Winokur to his students at the University of Las Vegas where he is a professor Emeritus in the biology department, as well as simply “Bob” to his many friends and colleagues in the pyro world.

Bob has long been a supporter of pyro clubs starting with being the president of the PGI and later the PGI’s Publications VP; Bob was also one of the original authors of the PGI shooters certification course being taught here this Winter Blast.

Bob joined the WPA early in our history and has long been a supporter of the club. He has attended many Winter Blasts and given a seminar every time. In fact, it’s been said Bob is a

walking seminar, as every conversation is with him is interesting and educational, just like his Winter Blast lectures. If you have the opportunity, be sure to attend one of his lectures at Winter Blast, but be sure to show up early to get a seat as they are always popular.

Beyond his involvement supporting pyro clubs, Bob is probably best known in the pyro world for a paper he wrote in 1976 called The Pyrotechnic Phenomenon of Glitter which was published as the entire issue No. 2 of the seminal and influential publication, Pyrotechnica, Occasional Papers in Pyrotechnics. This issue of Pyrotechnic is considered a must-have reference for any serious fireworks maker.

In it, Bob demystified the effect we call glitter, established an understanding of how to control and adjust the effect and what the role and effective ranges are for the chemicals most often used in creating glitter stars and fountains. At the end of his paper he gave 39 representative formulas for a complete range of glitter effects. Over all, Bob laid out a practical understanding of what works and what won't in formulating a glitter effect. To give you an idea how pervasive and influential that paper is to this day, I'll give two examples.

The first is the fact that any substantial book on fireworks book that has been published since 1976 will reference Bob and his paper when discussing the glitter effect. That includes internationally known pyrotechnic authors such as Ron Lancaster, MBE and Dr. Takeo Shimizu to mention just two examples.

The second example is the way in which pyrotechnists have adopted the 39 representative formulae in his paper. They are so well known that one pyro asking another what glitter they had used in the shell they just fired, will simply respond with a number, as in:

"Hey, nice good glitter comets – what was the formula?"

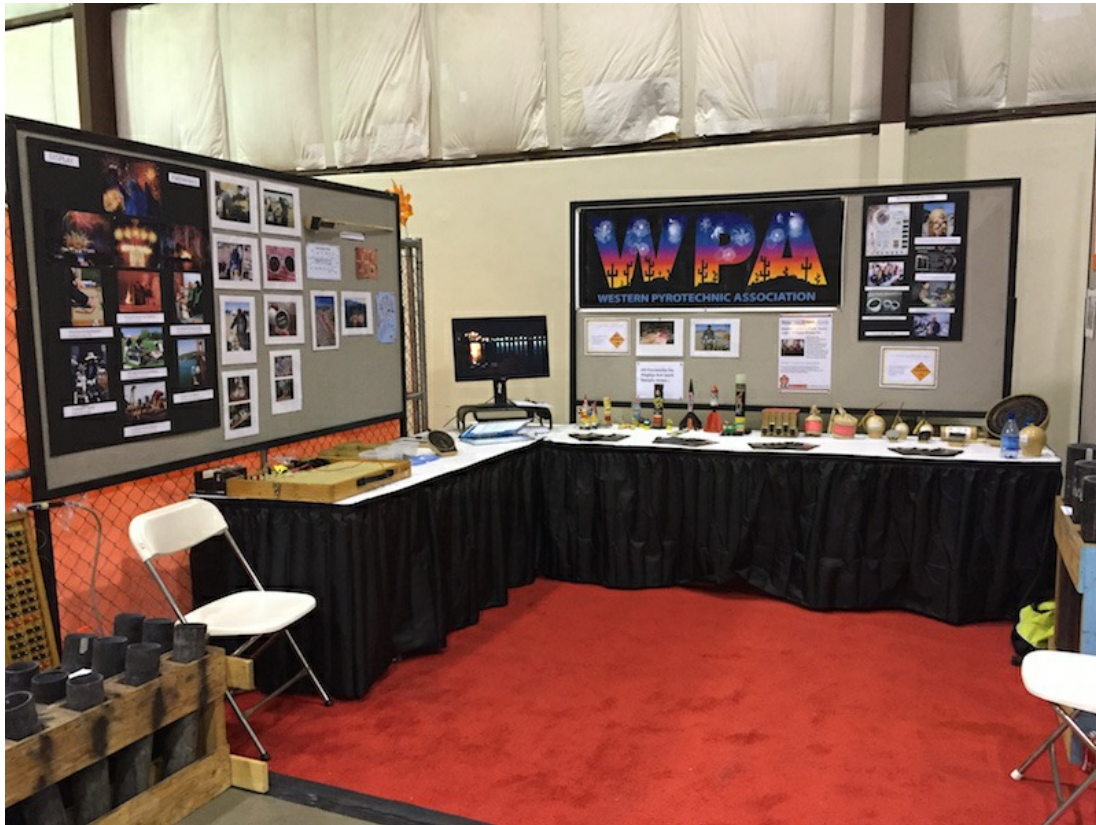
"Number 15"

- And both of them know the exact formula is being discussed!

Over the years Bob has written a number articles on fireworks in various issues of the Pyrotechnica series and other publications like the PGI Bulletin, but I'll give just one more example of Bob's many important contributions to the science and art of pyrotechnics: his participation as one of the four authors that spent a number of years compiling the "Encyclopedic Dictionary of Pyrotechnics." This is a 1,200 page illustrated dictionary of pyrotechnic terms containing over 4600 entries and 900 pictures and illustrations.

So, for 50 years of contributions to the art and science of pyrotechnics, the WPA is proud to honor Dr. Bob Winokur with the WPA's Lifetime Achievement Award!

Maker Faire



Once again Wally and Dave put together and executed a brilliant Maker Faire booth for the WPA. Hats off to them and everyone else that made it happen. Without all the volunteers and donation of booth materials we simply couldn't get it done. Well done!

Traffic by the booth was heavy each day with almost constant activity around our displays. The cut-away models of fireworks devices are fabulous conversation starters. Many people stopped in just because we looked "interesting" and left with a new view of what is possible. To them a fireworks club is a game changer they usually aren't even aware exists.

The WPA presence helped to change that. It is certain that we found potential new members but time will tell if we get new membership applications because of our booth at Maker Faire. Personally, I expect at least a few new members due to this outstanding effort.

- Mike Garrett

I really have to thank Mike Garrett for his commitment to making this show happen. Not only did he show up all day Saturday and Sunday, but he brought really great tools to help illustrate how to make rockets and herbs. His comet press is very impressive and it really showed off our booth.

Our booth would have been barren without the support of Dave Best who supplied us with professional looking backdrops, carpet, table toppers and skirting. Honestly, it took our booth from being concrete floor with a bare table to looking like the professional organization that we are.

The best looking booth is nothing without something to display and a special thank you to Davex for his donation of inert shells and consumer fireworks. His cut-aways are the first thing we usually turn

to when demonstrating how fireworks function. Davex also supplied pasteboards further illustrating fireworks which helps quite a bit. Best of all, Davex coordinated volunteers which is invaluable. Marty Walker's laminated photos continue to give us perfect examples of what it looks like to assemble a shell, a glimpse of Winterblast.

Steve Wilson supplied us with a bunch of brochures about the WPA featuring Winterblast and Do-it. These gave us something concrete to show about our events and had a link to the web site. We passed out hundreds of brochures to people eager to learn how they could build their own shells. Steve showed up on Sunday and spent the entire day talking to people about fireworks, the WPA and why he needs their vote this February at the elections. I made up the last part.

Dan Ramsauer and Pyro Spectaculars graciously donated some mortar racks and a firing system so we could demonstrate how an electrically fired show works. Mike Garrett donated some red LED lights that we wired up to the board to simulate an e-match system. It was a great touch.

Allen and Coleen Lillie came by Saturday and did a great job explaining shell building and fireworks in general.

WPA members Ruby Griffith, Erik Sayle, Josie and a few others stopped by to hang out in our booth. Erik and Julie became a WPA member after spending time with us in our booth last year. I'd like to claim Ruby became a member the same way, but I think she's part of the Davex Burning Man connection.

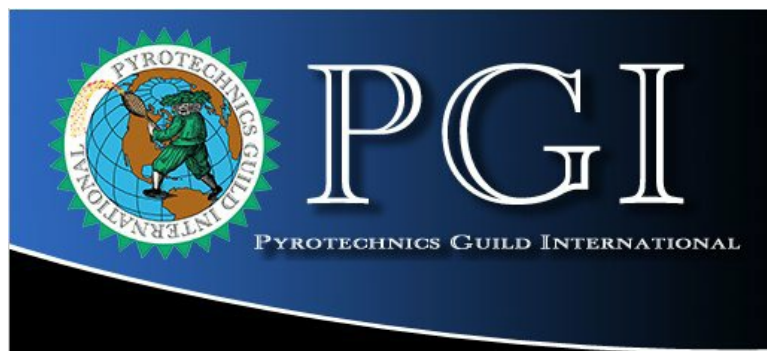
I know I am forgetting people and donations. The combined effort added up to presenting an attractive booth that was absolutely packed with people on Friday, Saturday and Sunday.

MakerFaire loves us and this is the third year we have attended with the same results every year. We are always packed with people who want to know more about fireworks.

- Wally Glen

Notice! If *you* first heard about the WPA at Maker Faire and became a member as a result, the Editor wants to hear from you!

Please drop me a line at pete@westernpyro.org



WPA is represented again this year at PGI in Gillette WY.

DO IT

It's that time again, folks. **DO IT** will be held from **September 10th to 12th** in Hawthorne, NV. Set up on **Wednesday 11th**, clean up on **Sunday 13th**. That's a little earlier than last year, as we hope the weather will be a little nicer and we won't get blown away or drowned like last year.

The cost is \$60 for a member, \$25 for a spouse or student member, \$10 for children. There is an additional clean-up fee of \$15 per member. As always, the clean-up fund will be distributed between those who actually stay Sunday and help.

You must be a member to book.

If you haven't yet become a member but decide to join to attend **DO IT**, remember your membership now runs for a calendar year from the date you join. If you sign up on September 1st you're good until August 31st the following year.



Problems with Rockets at Winter Blast

For two years running now, we have had accidents with rockets at Sara Park. Although these have not resulted in injuries, they resulted in *extremely expensive settlements*, costing the WPA its full deductible of \$5000 on each occasion and our insurance company a great deal more. As a result, it may be that our insurance premiums will be increased. But that's not the issue here. We can deal with insurance premiums. What we can't deal with are death and injury.

In last year's incident, a rocket left the park and hit a motor home, penetrating the skin and exploding inside. Fortunately there was nobody inside at the time. This year's incident was potentially much more serious. The passfire failed on a rocket with a 300 gram (11 ounce) salute header. The header separated and came down to earth in a parking lot, hitting the ground between a motor home and an SUV, where it exploded, causing severe damage to both vehicles. Again, fortunately, nobody was close enough to be injured. However

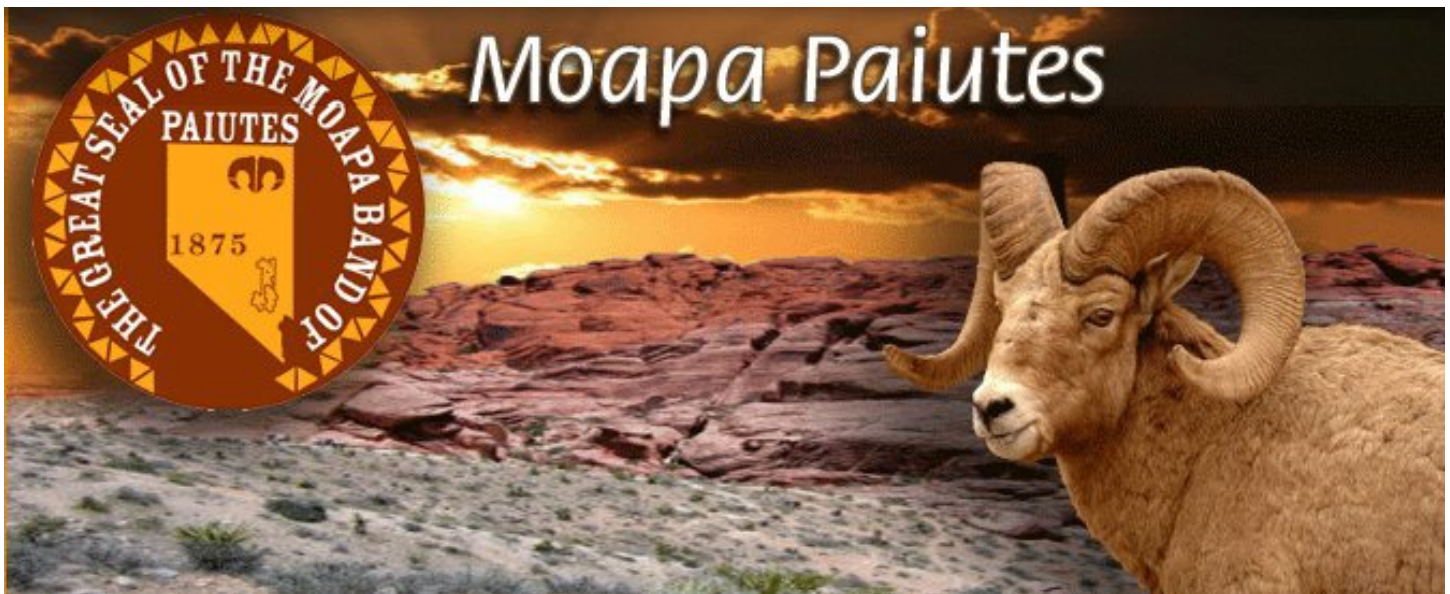
In order to get to the parking lot, the header coasted dark and silent *over the grandstand that was packed with people*. It doesn't bear thinking about what would have happened had it fallen short and exploded in the crowd.

The board has decided there is no alternative to imposing more restrictions on rockets at Sara Park. Bill Ryan, Kurt Medlin and Pete Hand have been tasked with coming up with a new rocket policy for 2016, which will be announced closer to the date of the next Winter Blast. These may involve restrictions on rocket size, but will certainly involve limits on header size. A 300 gram flash salute is not a header - it's a goddam *warhead*.

The proposed restrictions will not apply at Do It, where there is adequate space, but at Sara Park the public is encroaching on our shooting area more and more every year, and if we don't take action it is only a matter of time before some member of the public is killed in an accident, and that will be the end of Winter Blast.



"The People's Democratic Republic of Korea needs atomic weapons for self defense, since the imperialists of the Western Pyrotechnic Association tested a ballistic warhead in February."



Negotiations with the Moapa Paiutes have been proceeding glacially, but they are moving forward. We were invited to address a full meeting of the Tribal Council and on May 6th Jason Creagar and Pete Hand spent over an hour with the council going over the proposal we originally submitted to them a year ago. To recap, we are requesting space for up to six storage containers - two initially, one for a magazine and one for storage - and up to six acres for a permanent year-round members' manufacturing site. In return we agree to organize two or three public displays during the year using member product. The Council members were very interested in our proposal, asking many questions about the manufacturing process, mortar construction and placement, height and size of burst and other questions of a highly technical nature. It became clear early on that none of them had ever seen 1.3G material close up and they were very keen to learn. As the meeting drew to a close the Chairman called for a vote, and the Council unanimously accepted our proposal and called for further discussion on the details.

The Tribe's interest in this is, to put it bluntly, making money by selling class C product, in support of which they are intent on creating the most important go-to center for pyrotechnics in the south west. They guarantee us a paying audience for any events we put on there. Last year, over a 3-day 4th July event featuring Jefferson Starship and War, they attracted at least 100,000 people and sold well over \$1 million in product *each day*. This year they expect to do even better, with the Beach Boys headlining the main event. The concerts are, of course, backed up by commercial displays. The Tribe would like to have Winter Blast, and would undoubtedly make a better job of it than Lake Havasu City from a commercial aspect, but we explained to them we can't make any promises at this stage of discussion.

Before talking to us the Tribe were hardly aware of what was possible, but now they are intent on having large shells, 24 inches and larger. Unfortunately, in spite of being a sovereign nation they are still under the jurisdiction of the ATF, and this has put a stumbling block in the way of their ambition. Even though folk like Jim Widmann have agreed to manufacture 24s on site, ATF regulations make it difficult to receive such necessities as lift powder, so we were unable to oblige the tribe this year, but we would certainly like to try to get something set up in time for next year. The WPA will also have to jump through a number of ATF hoops as this project moves forward. There will have to be an ATF "responsible person" on hand whenever the magazine is unlocked, and proper records will have to be kept. It's likely that whoever takes responsibility for managing the facility will find it grows into a full time job.

We will be setting up a more formal steering committee to work on the legal and practical problems later this year. There's a great deal of work to do. If you would like to be involved, please let Jason or the board know.

VIETNAM'S INTERNATIONAL FIREWORKS COMPETITION

By Peter Schoewe

Since 2008 Vietnam started holding their own annual International Fireworks Competition in the city of Da Nang.

Some Background on Vietnam.

Vietnam was ruled by French colonialist from 1767 to its Independence in 1945. The current population is 90 million. In addition to logging, fishing and oil they mine antimony, gold, phosphates, tin and zinc. Its currency is the dong. Writing in Vietnamese used to be with Chinese characters. There were two styles: one used by novelists. The other by the mainstream. During the French era the Latin alphabet became the main form of writing we see today.

In the 1960s through the 70s, Da Nang was occupied by the largest US military base in Asia. On nearby China beach stands the only visible physical remnants: cement foundations of U.S. military buildings. The locals said these will be replaced with five star hotels. Many such hotels are already there.



View from Marble Hill



China Beach

Unexploded bombs are still dug out of the hills and people are occasionally blown up. Many Vietnamese are alive today, born after the war with severe physical or mental disabilities inherited from their parents who survived Agent Orange. As in the U.S. there are many who's fathers and brothers are missing or have missing body parts from the war, and their living relatives suffer, too. Scientists have estimated that as few as three pounds of Agent Orange (dioxin) is enough to kill eight million people.

Tourists beware! Many taxi drivers don't speak English, and: after you agree on a price by sign language or other means, they will drive you to your destination where they may ask for up to another 100%. Figure out how to get out of that one before you go! After paying your agreed fare just say "no" and walk away. Tourists told me taxi drivers have been known to drive you around different streets to raise your fare, or drive off with your suitcase in their trunk, or your back pack including money and passport in their motorcycle basket.

The money exchangers will give you around 20,000 dong to the dollar. Da Nang International airport had no currency exchangers. I advise bringing many small US bills or Vietnamese dongs to pay the \$7 flat fee taxi to your hotel.

Book ahead: On holidays such as the fireworks fest, the train and busses are booked solid a week in advance.

Tet is the traditional Vietnamese New Year's, the biggest festival in Vietnam. It starts on the first day of the Lunar Calendar, usually late January to mid February, and lasts to the end of the following week.

Especially in the past, kids and teens would often make supper-sized crackers and get their fingers blown off. In 1994, the government of Vietnam outlawed all fireworks, but the locals told me there are still plenty smuggled in from neighboring countries, mostly China.

As of 2014 *quiet fireworks* were supposed to be allowed for individuals for the first time since the 1994 ban. The kind that do not contain any '*explosive chemicals*' such as Safe and Sane, sparklers, smoke bombs and fountains. They started to make them at the Z121 factory owned by the Ministry of Defense, which already made shells for some displays in Vietnam. The factory is in Phu Tho province, near Hanoi. Expect there was a problem. In October 12, 2014 at 7:55am there was an explosion at the factory that went on for hours. The officials blamed heavy rains having leaked in through the cement fiber roof, then reacting with some powders that caught fire which soon blew up. 24 were killed and many more injured. This was the country's sole fireworks producer.

Via loudspeakers within three miles everyone was asked to evacuate their homes. At least 300 worked at the factory. As in China they were mostly women. Explosions and the smell of smoke could be smelt for many miles. Windows shook and cars were damaged as far as a quarter mile away. By 11:30am the explosion and fires were under control.

The factory had planned to produce about ten types of safe and sane fireworks. According to the Law Dong paper. The Major General Tran Van Ve with the Ministry of Public Security said "it is now impossible to consider the proposal made by the Ministry of Defense to make fireworks for the public."

In 2014, there were 728 firework accidents that killed seventy-one and injured 765 others. 100 to 200 tons of illegal fireworks mostly small to large firecrackers are confiscated each year said official figures.



The International Fireworks Competition.

The other big event besides Tet is the *International Fireworks Festival* in Da Nang. Starting in 2013, this Festival will be held every other year. The show lasts for two days and is shot from the large blacktop area on the west side of the Han River in the Hai Chau and Son Tra Districts, near the north end of town. Each show lasts twenty minutes, with two to three shows a night.

The International Festival is usually held on Vietnam's National Reunion day April 30 to May 1. In 2015, the dates were April 28 and 29, on the theme Han Sparkling River.

The crowds are large, and if you want front row standing you'll need to be at the riverfront four hours ahead of time.

In addition to the fireworks competition, 2013 was also the fortieth anniversary of the end the war with the United States. That's why most hotels were full that year, locals told me.

Hotels need to be booked at least two months in advance. Although less than desirable motels with massage girls talking in the hall outside your room till 4am will still have openings till the last minute for \$70 a night.

The show is shot in front of two of the tallest hotels in the area. The best hotel is on the east side of the river, across from the Son Tra District. Obviously, the best view is up on the high floor.



Boats can be hired for \$50 a seat in which to watch the show. They are small yet hold up to twenty people each, but be prepared: no bathrooms. Taking pictures may not be possible, since you'll need a 2-4 second exposure, and the boat has some movement to it.

The show starts out with 1000s of candle lanterns floating slowly down the river. In the foreground are dozens of boats filled with onlookers.

In 2013 three countries were participating on day one: Vietnam, Russia and Italy. Vietnam and Russia essentially just threw a bunch of shells in the air. There was nothing choreographed about it. It looked like drunk teenagers lighting them off. Vietnam went first, shooting a row of 'boat fountains' that slowly glided across the water toward us with large orange tails of sparks. When these water rockets were half way across the 100m wide Han River they went out in silence. Italy, by contrast, was very impressive, beautifully choreographed and precisely timed. Everything they shot looked great, like *Italian Made*.

On day two Japan went first. Japan did much better than throwing stuff up at random. Like the Italians, everything they shot looked as if they made it themselves. The colors and styles of shells were things I don't see from China.

The U.S. went last, and appeared to use Chinese shells, possibly some of their own. It was *Melrose Pyrotechnics*. They had the best choreographed show and the most attention to timing and placement. Then minutes after it was over, the announcements in Vietnamese came on the *air raid* loud speakers --- the same ones used during the war. A lady translated for me. Vietnam and Russia shared third, Italy and Japan shared second, and the US won first place.



In April of 2015 the fest's name was changed to "the Symphony of Colors" Australia's team *Howard & Sons* won first place. 2nd prize was Team Poland, *Surex Firma Rodzinna*. Other teams were *Pyrotecnico* from USA, *Fireworks for Africa*, from South Africa and *Danang Fireworks* from Vietnam.

Not much else happens in Vietnam in the way of fireworks besides a factory explosion. However a week later in Yasothon in northern Thailand comes the world's largest black-powder rocket fest.



Other Things to Do.

BaNa Hills - is Forty-five minutes east of Da Nang. Climbing up to 1000 meters from the base of the hills there is one five-star hotel at the top, with an atmosphere far cooler and a lot less humid than Da Nang. Built to look

like an old European city. BaNa has indoor kid rides, a roller coaster, and the world's longest gondola cable ride, twenty minutes to the top.

China Beach - with its new five-star resorts and *Marble Hill* ten minutes south of Da Nang with a street lined with shops selling marble carvings from \$20 to \$2000.

Hoi An - thirty minutes south of Da Nang --- is a popular ancient tourist town with more international tourist than locals.

Dozens of the world's largest caves, including *Son Doong*, the world's largest (only recently discovered) can be seen by hiking from the small town of *Son Trach*. With ceilings 200m high by 150m wide. *Paradise* and *Phong Nha* caves are two of other very large caves. *Son Trach* is seven hours north of Da Nang by bus or train, then another \$30 taxi ride for thirty minutes. A ten-day hiking tour of Son Dong cave, including huge rooms with tall trees inside, growing on light from openings in the roof, will cost you \$3,000. A rental car or motorcycle may be your best option since Son Trach with a population of 200 has no taxis. The Farm Stay motel can pick you up from other motels and give you a smaller, three-cave tour for \$50.

The Saigon Phong Nha motel was the newest and cleanest motel there I saw. It's located at the river's edge with boats that will take you to the Phong Nha cave with its eight plus miles of underground river. This is where the Vietnamese hid their boats in the day during the war.



Paradise Cave



Phong Nga Cave w/ a 300 foot long stalagmite wall

Farm Stay motel, five miles out of town and no way to get there, has bats flying in your room at night through gaps in the ceiling, and dogs and roosters to wake you up starting at five AM.

The Jungle Bar and restaurant was small but a great place to meet travelers in Son Trach. The owner and waitresses speak good English.

In Northern Vietnam is the old town of Hanoi with its many blocks of small shops and endless supply of hotels. This is where the infamous *Hanoi Hilton* prison is located. Only the administration building of the prison is left, along

with some tools of torture used on US airmen and locals. The Hoa Lo prison, as it's called, is off the main boulevard down a block.

Halong Bay is three hours by bus from Hanoi. It's worth staying at least two nights on a boat.

In the far south is *Ho Chi Min City*, formerly called Saigon. There are the *Cu Chi Tunnels* an hour south of Ho Chi Min. There were M-16s, M-60s and AK-47s at the shooting range. The first two types were no doubt taken from US soldiers during the war and turned into tourist attractions. They charge \$1 a bullet to shoot.



In a Hanoi hotel



Ba Na Hills Da Nang



Hanoi War museum

A gripping story from history: A client of mine in California served on the USS Oriskany during the war when a fire started from magnesium flares. He had just gotten off the phone with an officer onboard. An announcement came on for a “fire drill” on the ship. “*Because the announcer was used to saying it that way.*” Three minutes later the announcer realized it was not a drill. By that time the call line that went to the officers’ rooms was burnt through and they never got the message. Because of smoke or lack of air the officer he had just spoken to and twenty-six others died.

If you like Fireworks you'll find more elsewhere. But at least the *International fireworks festival* in Vietnam can be a good stimulus to get over there and see the rest of this interesting area.

The International Fireworks Fest video of 2015 S. Africa & US. Boring music to this Vietnamese made TV broad cast. Best I found on YouTube. https://www.youtube.com/watch?v=wwz_nkNa_V0

Factory Explosion with photos. Most other sources said 24 died.

<http://www.vietnambreakingnews.com/2013/10/firework-factory-blast-in-phu-tho-kills-19/>

Ba Na Hills, with some amazing photos <http://www.banahills.com.vn/>

Marble Hills & Surrounding area. 3 min video. <https://www.youtube.com/watch?v=62JsJ7PCxbQ>

Hoi An <http://www.lonelyplanet.com/vietnam/central-vietnam/hoi-an/things-to-do/top-things-to-do-in-hoi-an>

Son Doong Cave tour <http://oxalis.com.vn/cave/son-doong-cave/>

<http://www.sondoongcave.org/>

Hanoi <http://www.lonelyplanet.com/vietnam/hanoi>

Halong bay <http://www.lonelyplanet.com/vietnam/northeast-vietnam/halong-bay>

Hanoi Dancing water fountains great photos <http://dibari-id.com/project/musical-dancing-fountains/>

Ho Chi Mihn http://www.tripadvisor.com/Attractions-g293925-Activities-Ho_Chi_Minh_City.html

Cu Chi Tunnels only a meter tall <https://www.youtube.com/watch?v=duqShrENiiM>

The song "19" by Paul Hardcastle about the war. <https://www.youtube.com/watch?v=hRJFvtvTGEk>

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