



CREATING DANGEROUS ART SAFELY

Fire is truly at the heart of our events, and we encourage and support all types of safe fire art and displays. The following information and guidelines are designed to promote the safe use of Open Fire, Flame Effects and Pyrotechnics in your artwork, performance, theme camp or Mutant Vehicle and we encourage you to use these safety rules as a guide. Please read this page in its entirety, making sure to focus on the areas that apply to your work.

CATS

The mission of the CATS) is to provide experienced support for artists both pre-event and on-site, and to ensure the safe use of fire and flame effects.

This team, which includes artists, fire performers, fire safety personnel and industry professionals, will assist you in the safe execution of Open Fire, and Flame Effects in your art installation, theme camp or Mutant Vehicle. You should take advantage of their cumulative knowledge in the planning for your project.

FLAME CLASSIFICATIONS

Here are a set of definitions that will help participants understand and plan for the use of fire and pyrotechnics in art installations, camps and Mutant Vehicles. These definitions will be referenced in the following general safety information.

OPEN FIRE

- no open fire arts will be allowed in camps
- small burn barrels elevated off the ground and with suitable extinguisher are allowed in camps.
- open fire projects must follow the burnable art process (see below)

PYROTECHNICS

The use of pyrotechnics and consumer fireworks is prohibited at Burnt Oranges Events.

FLAME EFFECTS

- **FLAME EFFECTS** are defined as all flames that are automated, switched, pressurized or having any action other than simply being lit on fire, as well as projects using propane or liquid fuels.
 - Liquid fuel effects are not allowed in theme camps or on Mutant Vehicles.
 - All flame effects will be inspected by the CATS team (Fire Safety Liaison) prior to receiving go ahead to light up

- Please fill out the flame effects registration form on the website, you will be contacted by a member of the CATS team to discuss your project. They will determine if you are green lite or not they will also determine if any additional safety procedure need to be implemented.
- your flame effects need to meet the guideline below.

OPEN FIRE PROCESS:

Intro: First off thank you for stepping up and producing your art with fire, this is a task that's not easy to do safely. We will be explaining in the next few steps the *Burnt Oranges* process for dealing with the various aspects of burnable art at a regional burn.

Step 1: Read the guide!!!!!! This guide will tell you all of the aspects we will be reviewing before your art is permitted to burn at our event. For those of you who are an old hand at building burnable art projects many of the item within may be under your knowledge base. Others may not, so new or old hand please read it through and through.

Step 2: get your ideas on "paper" using the guide to guide your documentation and helping you form your ideas in a way that will lead to a successful burn. Be thorough your attention to detail will be a key component in whether or not you are permitted to burn your art or receive a grant. Documents required for submission are as follows:

1. Timeline for project.
2. Design and construction documents.
3. Demo and fire plan.
4. Budget.
5. Burnable art permit and art grant forms.

Step 3: upon receiving and reviewing the submitted documents we will schedule a call with you and your team to discuss your project. This will be a no more than 2 hour discussion that should involve all key members or your team.

Step 4: you will receive written feedback on your project and any must change items will be noted.

Step 5: After the submission deadline all projects will be voted on by 3 random mandarin members and 2 CATS team member and voting criteria based on the following variables:

1. Artistic creativity
2. Adherence to design rules and guidelines.
3. Thoughtfulness in design and burn plan
4. The ability of safely burning this art on the current site.
5. Interactivity

Burnable ART Design Guide

Size:

Keep in mind there will be two perimeters around your art while it is being burnt and while the conclave is in progress and there needs to be plenty of room for people to stand.

The first perimeter while it is being burnt will be one and one half the height of your structure.

The current maximum is around 19 feet. This is limit subject to the mass of your structure and may need

To be modified based on your design.

Design:

1. All aspects of your design and construction must be documented.
 1. Timeline: all aspects of your project must appear on you time line everything from planning and design to leaving no trace this document should include people names of who will be helping and with what. This type of information helps us ensure that you have adequate help and will not be burnt out and unable to complete the task. If you should need help with how to document this please don't hesitate to contact us.
 2. Budget: all aspects of your budget should be documented for your sake and ours, this should include. We require this to be sure that your project will make it to the event and be complete.
 3. Documentation: drawings detailing your project the general size, scope esthetics and also detailing how it will be put together how you intend to build it. This allows us to understand what we are dealing with from a safety standpoint and from a build standpoint.
 4. Conclave: if there as any requests or ideas you have about conclave they must be in the design part of your proposal, any requests received by conclave coordinator onsite will not be honored. We do this so that we have time to look at as many of the safety aspects as possible.
 5. Be prepared to receive feedback!!! We will be reviewing these plans very thoroughly and will provide feedback before the final project is selected.

Construction/materials:

There are several general guidelines behind construction

1. Absolutely no pressure treated lumber.

Some sizes of lumber generally are only available in pressure treated without having to go to a special provider, take a 4x4 generally is only inexpensively available in pressure treated, 2 2x4's can be mated together to get the required size and load capacity.

2. Paint: water based paint only.

3. If part of your plan is to make the structure move or fall in a particular way that design and idea must be documented particularly well so that when the project is submitted we can review for any safety concerns. Also when designing your structure to fall it is often best to design it to fall rather than to design it solid then forcefully make it fall. An example of this is if you want your ball like effigy to open up and reveal something. The sections that are to fall out can be connected together conventionally via screws but where they connect to another section that will be fall in the opposite way drift pins or twine that will burn quickly can be used to affix the two sections together.

4. If your structure is to support the load of participants it is important that if you don't have experience with these types of structures that you contact the effigy team during your design process so that we can help you design a safe structure. Rule of thumb when you want participants on your structure is to have every load bearing component (wood, connections, screws bolts etc.) capable of bearing the weight of that section plus the total load you want on that section of the effigy.

5. When designing the structure you should also design a way to compromise the structure so that it will fail easily. For instance when one is designing a load bearing structure to have people on and in and able, it is important that every component of the structure be as strong as possible. However no one wants to wait several hours for your structure to fail and fall to the ground before they run around it. So having a PLAN that is SIMPLE and RELIABLE to compromise the structure is important if there is no plan for this when your application is submitted we will help you put that together and plan it before the burn. Even a non-load bearing structure will need to be planned to fail.

6. The use of cardboard and cloth can create sheets of embers blowing great distances, showering sparks down on the crowds. Laminated wood is often treated with fire retardants that can greatly affect the burn time and end with support pieces remaining upright long after the bulk of the piece burns away. Heavily painted or treated wood, plastics and other inorganic materials can cause excessive fumes and will not be allowed to burn

Safety

Fire Safety Liaison

A knowledgeable representative of the art installation or performance shall serve as a Fire Safety Liaison, The Fire Safety liaison is responsible for the exchange of information about the art installation with CATS.

They will maintain communication of all aspects of the Project during the event. The "Artist" registering the artwork and the Fire Safety Liaison can be the same person or two different people.

Perimeter: The CATS team will work with you the artist, the rangers, DOGS, and conclave team to provide an adequate perimeter for your project.

Burn plan: it's important to stick with your submitted plan the CATS team will be supervising your build and burn preparations if changes need to be made it's important that you let us know immediately we may have to re-plan safety logistics. if you purposely do not stick to you plan i.e.: adding pyro or some other type of unexpected items to the art without having permission from cats you will jeopardize your chances of being approved for any further fire art projects as well as receiving any repercussions for the unauthorized activity up and to being banned from the event.

Burning your art

Fuel:

It is important to understand the difference between the term fuel and accelerant, in this case the accelerant is what will be providing a catalyst to accelerate the spread of the fire. And the fuel is what the fire use as fuel to burn. There are several techniques to loading the effigy with fuel, the design of the structure and artists intent will generally guide the layout and selection of wood types, however there are several guidelines to this, one rule is that you want air to flow through the fuel pack like air flows through a typical boy scout campfire. It is important to have this in your plan and mind when designing your art to burn. If this is not in your list of specialty's not to worry we have people on our team that are professionals in burning and blowing stuff up, the cats team will oversee this process closely as it is important to the outcome of the burn and the participants safety.

Accelerants:

The type of accelerant and loading technique for each art piece will vary. This is where we will work most closely with you, we will work with you to come up with a plan using your input as a guide. The CATS team will implement the accelerant loading and fusing. The CATS teams will also be responsible for acquiring the necessary accelerants

Ignition:

The CATS team will be implementing an electronic or manual ignition system for each burnable art piece that we deem necessary and yes you will be the one pulling the switch.

Clean up and LNT

Pre and Post-burn, artists are also expected to completely clean the area of debris. Completely cleaning the sight of your burn is essential for the continuation of our event and it is your responsibility as the artist.

- Removal of all unburnt material, any moop within a 25 foot radius of your project.

Cats Team/ Ranger Team Check Out

· After your art is burnt to the ground we will meet with you for a debriefing. This will be a quick conversation on how the burn went and next steps if any.

Guidelines for Flame Effects

FLAME EFFECTS DEFINITION:

Flame Effect is defined as “The combustion of solids, liquids, or gases to produce thermal, physical, visual, or audible phenomena before an audience”. This includes all flames that are automated, switched, pressurized or having any other action than simply being lit on fire; as well as projects using propane or other liquid or gaseous fuels. The Recipient must comply with the following guidelines:

GUIDELINES:

The majority of Flame Effects we utilize Liquefied Petroleum Gas (LP), more commonly referred to as propane. Most of the guidelines below deal with propane as a fuel. Regardless of fuel type or technological basis, all Flame Effects must be constructed in such a way as to meet or exceed applicable laws, codes, and industry standards. These standards can be found in the National Fire Protection Association (NFPA) documents, Sections 54 and 58, The LP Gas Codes, as well as Section 160 that deals with flame effects with a live audience.

• **All LP-GAS CONTAINERS** shall be designed, fabricated, tested, and marked in accordance with the regulations of the US Department of Transportation (DOT) or the ASME Boiler and Pressure Vessel Code. DOT cylinders shall not be overdue for periodic requalification and be in good working order.

All LP-GAS Flame Effects must have 1/4-turn shut-off valves at each fuel supply connection as a primary emergency fuel shutoff point. These valves must be exposed and visible at all times. **FUEL SUPPLY PIPE, TUBING, HOSES, AND FITTINGS** - All fuel supply pipe, tubing, hoses, valves, and fittings shall be rated for the type of fuel being used and the maximum operating pressure of the effect. •

All LP-Gas Hoses that will be operated in excess of 5 psi shall be designed for a working pressure of at least 350 psi and shall be continuously marked by the manufacturer to indicate its maximum operating pressure and compatibility with LP-Gas. • Air or pneumatic line are not acceptable as fuel hose. LP gas degrades rubber hose not specifically designed for use with that fuel. This results in the hose cracking from the inside out, potentially leading to a catastrophic failure. •

HOSE CLAMPS are prohibited on LP-Gas hoses. All hose connections shall be factory made, or constructed with a crimped fitting specifically designed for that purpose. • All valves should be designed for use with LP-gas. Plumbing fixtures are prohibited from being used in a pressurized segment. • All LP-Gas metallic piping and fittings that will operate at a pressure greater than 125 psi shall be a minimum of schedule 80. • All metallic tubing joints shall be flared (soldered joints are prohibited).

FUEL ACCUMULATORS - Accumulator tanks for use with flammable or liquefied gas shall be designed, manufactured, and tested in accordance with the ASME Boiler Pressure Vessel Code or the Department of Transportation (DOT) for the pressure of the gas in use. • If the gas supply pressure exceeds the maximum allowable operating pressure (MAOP) of the accumulator, a regulator shall be installed between the fuel supply and the accumulator to reduce the pressure below the accumulator’s MAOP. A

pressure relief valve shall also be installed in the accumulator with a start-to-leak setting at or below the MAOP and a rate of discharge that exceeds the flow rate of the supply container.

• **Flame Effects must never be left unattended.** The winds and weather are highly variable, and may create havoc in a poorly monitored installation, including fires or explosions. Any Flame Effect found running unattended will be shut down. Egregious or repeat offenses will result in the confiscation or disabling of the effect.

SAFE CLEARANCE AND PERIMETER

You must register all flame effects with the CATS team.

Always use precautions in the area you're setting up your propane tanks in... (Caution tape, fencing, barricade's, something protecting people from walking in your tank area and possibly knocking over your system when not running ... Or when running...)

If you are using a high PSI system please secure your whole system before using...

Always ensure if you are ejecting a 30' flame you have clearance... (Even if the flame is not touching the tree. It does not mean you are not scorching it...) So please be aware of your surroundings and flame control...

Please be aware of the intense heat of some flame effects and consider the crowd on how they would be affected...

All valves must be shut off, including tank when not in use... (Always drain your lines)

Wind is a huge factor in flame effects... Your flame goes flat... SHUT IT DOWN!!! If it is too windy wait till it is not !!!

A safety plan will need to be in place and included in your set up...

If your system is inspected and considered unsafe because it is lacking correct pieces or safety precautions then a C.A.T.S members will inform you that it is unusable why, and tell you that it is not allowed to be used.

If you fail to comply with this or the C.A.T.S team, your system will be disabled or confiscated until the end of the event

Event Requirements

To receive approval to use Flame Effects for art projects, the Fire Safety Liaison must attend a technical walk-through meeting with a member of CATS the day prior to its use. If this meeting is missed by the Liaison, the artist or theme camp will not be allowed to operate the Flame Effects.

Emergency Plan Of Action

Any artist, theme camp or Mutant Vehicle using Open Fire, Flame, or flame effects must develop an Emergency Plan of Action. If an art installation or performance has received approval and is scheduled, this plan should be submitted prior to the inspection.

Daily Safety Check

A Daily Safety Check of all Flame Effects fuels, materials, hoses, pumps, wicking, pressure of tanks, etc. will be mandatory before daily/nightly art installation/performance begins. If a safety hazard has been identified, the Fire Safety Liaison will halt the art installation/performance until such safety matters are resolved.

Transportation and Storage of Liquid Propane

Transport of over 400lbs of LP requires DOT permit. Not being permitted and in a properly marked vehicle could result in fines, arrest or death. LP cylinders should always be transported in an upright position. Liquid propane can corrupt the o-ring causing a leak. Florida law states that LP cylinders should be transported in open vehicles and not in enclosed vehicles. This is in case of a leak your hatchback will fill with gas and potentially explode. Be smart and travel safe.

For larger Flame Effects a safety perimeter and clearance from other art or flammables may be needed. Please read the Guidelines for Safety Perimeters.

I'd like to credit DaveX, Phyrebolt, Jaclyn Corum, Burning Man and others for their help with these guidelines.