

# **Code for High Power Rocketry**

## **Tripoli Rocketry Association**

This High Power Rocketry Safety Code is the product of many years of effort on behalf of the hobby by those who care about it and whose prime interest is safety. It is not a perfect standard, but adequate. This minimum requirement, if followed, will preserve the hobby in a safe environment for all who participate and for spectators. Tripoli's Prefectures and other launch sponsors should be aware that wisdom should dictate what is safe and what is not at each launch site. With this standard as the minimum, it will be your responsibility to regulate your own launches within reason. You should be cautious not to over-restrict the activity. Our members, who sometimes travel great distances to attend launches, will expect this Safety Code to be the standard at Tripoli sanctioned launches.

This version of the safety code will appear much terser than prior versions. This version is intended to *augment* **NFPA 1127 Code for High Power Rocketry** with codes that are specific to Tripoli. The foundation of the Tripoli High Power Safety Code is NFPA 1127 as that has been adopted by many Authorities Having Jurisdiction and define the minimum set of codes required. Tripoli codes cannot relax NFPA codes; we can only add codes that are intended to increase safety at our sanctioned launches.

### **General Requirements**

#### **1-1 Scope**

- 1-1.1** This code shall apply to safe operation of High Power rocket launches. It will also address some aspects of safe rocket design, and construction, as well as limitations of motor power, for use by the certified user for education, recreation and sporting use.

#### **1-2 Purpose**

- 1-2.1** The purpose of this code shall be to establish guidelines for reasonably safe operation of high power rocket at Tripoli sanctioned/insured launches; both "commercial" as well as Research (covered in a separate code).

- 1-3 Definitions** For the purposes of this code, the following terms shall be defined as stated in this section. Some of these may be redundant from NFPA 1127.

**High Power Rocket Flier (HPR Flier).** A TRA member or a member of an approved, insured rocketry organization that is 18 years old or older.

**Launch Director (LD):** A Level 2 or Level 3 flier who has overall administrative responsibility for the launch.

**Named Insured:** Individuals that are not Tripoli Members but are members of groups that have been submitted to, and approved by the Tripoli Insurance Liaison.

**Participants.** Persons that are either:

- **HPR Fliers.**
- **Model Rocket Fliers.**
- **Invited Guests** of fliers.
- **Spectators.** General population of non-fliers, and non-invited guests.

**Range Safety Officer (RSO).** A Level 2 or Level 3 flier whose responsibility and duty during the operation of high power rockets is to confirm a rocket's compliance with the applicable provisions of this code, be confident that the rocket will fly in a safe manner, designate the areas of the launch site, and oversee the safety of all spectators and participants..

**Sanctioned Launch.** Also called *Insured Launch*. Any launch of a rocket that meets *ALL* of the following constraints:

1. Responsible person of launch shall be member of Tripoli in good standing.
2. Follows the appropriate Tripoli Safety Code.
3. Legal: All AHJ (e.g. FAA waiver) requirements/regulations met and any required permits secured.
4. Landowner permission/constraints.

**Shall.** Indicates a mandatory requirement.

**Should.** Indicates a recommendation or that which is advised but not required.

**Spectator.** A nonparticipant whose primary purpose is to view a high power rocket launch.

**Spectator Area.** An area designated where spectators view a high power rocket launch.

**Tripoli (TRA).** Tripoli Rocketry Association, Inc.

### **Requirements for High Power Rocket Operation**

**1 Operating Clearances.** A person shall fly a high power rocket only in compliance with:

- a. This code;
- b. *Federal Aviation Administration Regulations*, Part 101 (Section 307,72 Statute 749, Title 49 United States Code, Section 1348, "Airspace Control and Facilities," Federal Aviation Act of 1958); and
- c. Other applicable federal, state, and local laws, rules, regulations, statutes, and ordinances.
- d. Landowner permission.

**2 Participation, Participation and Access at Tripoli Launches shall be limited to the following:**

- 2-1** HPR Fliers may access and conduct flights from the High Power Launch Area and/or Model Rocket Launch Area.
- 2-2** Non-Tripoli Members age 18 and over that are students of an accredited educational institution may participate in joint projects with Tripoli members. These individuals are allowed in the High Power Launch Area and/or Model Rocket Launch Area if escorted by a Tripoli member. The maximum number of non member participants shall not exceed five (5) per Tripoli Member.
- 2-3** Non-Tripoli Members that are members of a Named Insured Group may participate in joint projects with Tripoli members. These individuals are allowed in the High Power Launch Area and/or Model Rocket Launch Area if escorted by a Tripoli member. The maximum number of non member participants shall not exceed five (5) per Tripoli Member.
- 2-4** Tripoli Junior Members that have successfully completed the Tripoli Mentoring Program Training may access and conduct flights from the High Power Launch Area while under the direct supervision of a Tripoli Senior member in accordance with the rules of the Tripoli Mentored Flying program. The Tripoli Senior member may provide supervision for up to five(5) individuals that have successfully completed the Tripoli Mentoring Program Training at a time in the High Power Launch Area.
- 2-5** Children younger than 18 years of age may conduct flights from the Model Rocket Launch Area under the direction of a HPR Flier.
- 2-6 Attendance by Invited Guests and Spectators**
  - 2-6.1** An invited guest may be permitted in the Model Rocket Launch Area and preparation areas upon approval of the RSO.
  - 2-6.2** An Invited Guest may be allowed in the High Power Launch Area if escorted by a HPR Flier. A HPR Flier may escort and be accompanied by not more than five (5) non-HPR fliers in the High Power Launch Area. The HPR flier escort is required to monitor the actions of the escorted non-HPR fliers, and the escort is fully responsible for those actions and for the safety of those escorted.
  - 2-6.3** Spectators, who are not invited guests, shall confine themselves to the spectator areas as designated by the RSO and shall not be present in the High Power Launch Area or Model Rocket Launch Area.

**Referenced Publications**

The following documents or portions thereof are referenced within this code. The edition indicated for each reference is the current edition as of the date of the NFPA issuance of this document.

**3-1 NFPA Publications.** *National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101*

NFPA 1122, *Code for Model Rocketry.*

NFPA 1125, *Code for the Manufacture of Model Rocket Motors.*

NFPA 1127, *Code for High Power Rocketry*

**3-2 Government Publications.** Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.

*Federal Aviation Administration Regulations, from the Code of Federal Regulations. Federal*

**3-3 TRA Publications.** Tripoli Rocketry Association, Inc., P. O. Box 87, Bellevue NE 68005.

*Articles of Incorporation and Bylaws*

*High Power Rocketry Safety Code*

*Tripoli Motor Testing Committee (TMT), Testing Policies*

**Appendix A - Additional Tripoli Rulings**

**A-1** NFPA 1127 was adopted by the Tripoli Board of Directors as the Tripoli Safety Code. (*Tripoli Report*, April 1994, Tripoli Board Minutes, New Orleans, 21 January 1994, Motion 13.) Since this adoption, the code has gone through some revisions. Such is the way with codes – they are constantly undergoing change to improve and update them when safety prompts, or when the federal regulations change or are reinterpreted

**A-2** All Tripoli members who participate in Association activities shall follow the Tripoli Certification Standards.

**A-3** Any Board action(s), with regard to safety, made previous to or after publication of this document shall be a part of the Tripoli Safety Code.

**A-4** Increased descent rates for rocket activities conducted at the Black Rock Desert venue are acceptable if needed to insure a controlled descent to remain inside the FAA approved Dispersion Area.

**A-5** A rocket motor shall not be ignited by using:

- a. A switch that uses mercury.
- b. “Pressure roller” switches

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