Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

July 22, 2008

CHANGE NOTICE NO. 2
OF
CONTRACT NO. 071B4200278
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR	TELEPHONE: Ken Harrison **(800) 637-7807**
Standard Fusee Corp. **Rt 33 St. Michaels Rd.** **Easton, MD 21601** **Kenny@orionsignals.com**	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 373-7374 **Joan Bosheff**
Contract Compliance Inspector: **Fusees and Flares - MSP**	
CONTRACT PERIOD: From: **July 1, 2004**	To: **July 1, 2009**
TERMS **N/A**	SHIPMENT **N/A**
F.O.B. **N/A**	SHIPPED FROM **N/A**
MINIMUM DELIVERY REQUIREMENTS **N/A**	

EXTENDED USE TO ALL LOCAL GOVERNMENTS

NATURE OF CHANGE(S):

Effective immediately, this contract is hereby EXTENDED one year to July 1, 2009.

All other terms, prices, and conditions remain the same.

AUTHORITY/REASON:

Per DMB Purchasing Operations.

TOTAL ESTIMATED CONTRACT VALUE REMAINS: $742,716.00

Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
PURCHASING OPERATIONS
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

August 28, 2007

CHANGE NOTICE NO. 1
OF
CONTRACT NO. 071B4200278
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR	TELEPHONE: Ken Harrison **(800) 637-7807**
Standard Fusee Corp. **Rt 33 St. Michaels Rd.** **Easton, MD 21601**	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 373-7374 **Joan Bosheff**
Contract Compliance Inspector: **Fusees and Flares - MSP**	
CONTRACT PERIOD: From: **July 1, 2004**	To: **July 1, 2008**
TERMS **N/A**	SHIPMENT **N/A**
F.O.B. **N/A**	SHIPPED FROM **N/A**
MINIMUM DELIVERY REQUIREMENTS **N/A**	

EXTENDED USE TO ALL LOCAL GOVERNMENTS

NATURE OF CHANGE(S):

This Contract is EXTENDED until July 1, 2008.

In addition, effective August 27, 2007, price increases per the attached. Also the vendor will deliver to various statewide MSP agencies rather than shipments to a designated warehouse. Minimum shipment remains five (5) gross which may consist of a combination of items.

Note: The buyer has been changed to Joan Bosheff

AUTHORITY/REASON:

Per DMB Purchasing Operations.

TOTAL ESTIMATED CONTRACT VALUE REMAINS: $742,716.00

REVISED
ITEM LISTING
Contract # 071B4200278

Item	Unit	Description	Unit Price
001	Gross	FLARES, FUSEES. Spike end. 30 minute with heavy moisture proof coating. 16" length. 36 pcs/cs. Per attached Federal Bureau of Explosives Specification for Red Highway Fusees, revised January 1972. MSP Code: 5709-1000 Brand: Standard Fusee Corp. (dba Orio) Stock #2730	$135.60
002	Gross	FLARES, FUSEES. Without spike. 30 minute with heavy moisture poof coating. 14-3/4" length. 36 pcs/cs. Per attached Federal Bureau of Explosives Specification for Red Highway Fusees, revised January 1972. MSP Code: 5709-2410 Brand: Standard Fusee Corp. (dba Orio) Stock #0730	$131.60

Contact person for Standard Fusee Corp:

NAME/TITLE: Ken Harrison, Contract Manager
TELEPHONE: (800) 637-7807
FACSIMILE: (410) 822-7759
TOLL FREE #: (800) 637-7807
E-MAIL: kenny@orionsignals.com

Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
ACQUISITION SERVICES
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

July 9, 2004

NOTICE
OF
CONTRACT NO. 071B4200278
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR	TELEPHONE: Ken Harrison **(800) 637-7807**
Standard Fusee Corp. **Rt 33 St. Michaels Rd.** **Easton, MD 21601**	VENDOR NUMBER/MAIL CODE
	BUYER/CA (517) 373-0679 **Patrick Spagnuolo**
Contract Compliance Inspector: **Fusees and Flares - MSP**	
CONTRACT PERIOD: From: **July 1, 2004**	To: **July 1, 2007**
TERMS **N/A**	SHIPMENT **N/A**
F.O.B. **N/A**	SHIPPED FROM **N/A**
MINIMUM DELIVERY REQUIREMENTS **N/A**	

EXTENDED USE TO ALL LOCAL GOVERNMENTS

For use by Michigan State Police

ATTACHEMENTS: Terms, Conditions, Specifications and Item Listing

Estimated Cost of this Contract: $247,572.00
Total Contract Period Estimated Contract Cost: $742,716.00

Form No. DMB 234 (Rev. 1/96)
AUTHORITY: Act 431 of 1984
COMPLETION: Required
PENALTY: Contract will not be executed unless form is filed

STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
ACQUISITION SERVICES
P.O. BOX 30026, LANSING, MI 48909
OR
530 W. ALLEGAN, LANSING, MI 48933

CONTRACT NO. 071B4200278
between
THE STATE OF MICHIGAN
and

NAME & ADDRESS OF VENDOR **Standard Fusee Corp.** **Rt 33 St. Michaels Rd.** **Easton, MD 21601**	TELEPHONE: Ken Harrison **(800) 637-7807** VENDOR NUMBER/MAIL CODE BUYER/CA (517) 373-0679 **Patrick Spagnuolo**
Contract Compliance Inspector: **Fusees and Flares - MSP**	
CONTRACT PERIOD: From: **July 1, 2004**	To: **July 1, 2007**
TERMS **N/A**	SHIPMENT **N/A**
F.O.B. **N/A**	SHIPPED FROM **N/A**
MINIMUM DELIVERY REQUIREMENTS **N/A**	
MISCELLANEOUS INFORMATION: **For use by Michigan State Police** **ATTACHEMENTS: Terms, Conditions, Specifications and Item Listing** **Estimated Cost of this Contract: $247,572.00** **Total Contract Period Estimated Contract Cost: $742,716.00**	

THIS IS NOT AN ORDER: This Contract Agreement is awarded on the basis of our inquiry bearing the ITB No. 071I4001123. Orders for delivery of equipment will be issued directly by the Department of Michigan State Police through the issuance of a Purchase Order Form.

All terms and conditions of the invitation to bid are made a part hereof.

FOR THE VENDOR:	**FOR THE STATE:**
Standard Fusee Corp. Firm Name	Signature
Authorized Agent Signature	**Jeffrey A. White, Buyer/Manager** Name
Authorized Agent (Print or Type)	**Tactical Purchasing, Acquisition Services** Title
Date	Date

BPO NO. 071B4200278
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SECTION I - REQUIREMENTS

I-A INTRODUCTION

This Contract is for *Fusees/Flares*

I-B REQUIREMENTS

A. CONTRACTOR CAPABILITIES

1. STAFFING AND SUB-CONTRACTORS

The Contractor must be able to provide appropriate staff to properly service the Contract.

2. SECURITY

This Contract may require frequent deliveries to State of Michigan facilities. The contractor shall maintain measures to ensure the security and safety of these buildings. This shall include, but is not limited to, performance of security background checks on all personnel assigned to State of Michigan facilities (i.e. delivery people). Upon request by the State, the contractor shall provide the results of all security background checks.

The State may decide to also perform a security background check. If so, the contractor will be required to provide to the State a list of all delivery people that will service State of Michigan facilities, including name and date of birth (social security number of driver license number would also be helpful).

The Contractor and its subcontractors shall comply with the security access requirements of individual State facilities.

3. RECYCLING/ENVIRONMENTAL AWARENESS

Please note that Contractors are encouraged to offer bids for products containing recovered materials suitable for the intended use. By doing so, the contractor warrants the product(s) as at least functionally equivalent to the contract specifications. "Recovered material" is defined as post-consumer waste (any product generated by a business or consumer which have served their intended end use, and which have been separated or diverted from solid waste for the purpose of collection, recycling, and disposition), and secondary waste (industrial by-products as in wastes generated after completion of a manufacturing process that would normally not be reused).

The contractor shall identify any mercury containing products being bid and shall provide mercury-free alternatives, when available.

B. PRODUCT QUALITY

1. SPECIFICATIONS

Definite Specifications - All commodities and/or services to be furnished hereunder shall conform to the specifications as noted in the "Invitation To Bid" and/or copies of specifications attached.

Fusees/flares shall meet the requirements of the “Bureau of Explosives Specifications for Red Railway Fusees, revised January 1972” (attached). Fusees/flares **SHALL** have UL Approval.

C. SERVICE

1. ORDERING/CUSTOMER SERVICE

The contractor shall have the capacity to receive orders electronically, by phone, facsimile, and by written order. The Contractor shall provide a statewide toll-free phone number for phone orders. Contractor shall have internal controls, approved by Acquisition Services, to insure that orders are placed by authorized individuals with the State. The Contractor shall verify orders which have quantities that appear to be abnormal or excessive.

The Contractor shall have an accessible customer service department with an individual specifically assigned to State of Michigan accounts. The Contractor shall have experienced sales representatives make timely personal visits to State accounts. The Contractor’s customer service personnel must respond to State agency inquiries promptly. The Contractor shall provide a statewide toll-free number for customer service calls.

2. TRAINING

At the request of the Contract Administrator, the Contractor shall provide in-service training to agency personnel on products, installation, and product safety issues. The Contractor shall also provide agency training jointly with the State as needed during the period covered by the contract at no additional charge.

3. REPORTING

The contractor shall be able to provide various reports, when requested by the State. Examples include itemized report of total items (commodities and services) purchased by all agencies or individual agencies, open invoice reports, delivery compliance reports, quantity reports, service compliance reports, etc.

D. DELIVERY

1. TIME FRAMES

All orders shall be delivered within ten (10) calendar days after receipt of order.

2. MINIMUM ORDER

The minimum order is for pre-paid delivery is five (5) gross which may consists of a combination of items. Orders less than five (5) gross maybe subject to freight charges.

3. F.O.B. POINT

Prices shall be quoted "F.O.B. Delivered" with transportation charges prepaid on all orders of five (5) gross or more to the State which may consists of a combination of items. Other F.O.B. terms will not be accepted.

Freight Charges - Should an agency order below the minimum order requirement of a Contract, or should a vendor quote F.O.B. Shipping Point on one-time purchases, one of the following carriers must be used by the Contractor for shipping products. Orders being shipped from or to in the State of Michigan or the States of Illinois, Indiana, Ohio, and Wisconsin, use Alvan Motor Freight (Tel: (800) 632-4172, attention Earl Batenburg); orders being shipped from or to ALL other states, use Roadway Express, Inc. (Tel: (800) 253-3193, attention David Lewis).

United Parcel Service (UPS) must be used in instances where the weight of the shipment is less than 150 lbs., or where shipments could be separated into smaller parcels such as three (3) 50 lb. packages. Also if the shipment weighs less than 150 lbs. but costs $3000 or more, it must be sent by the appropriate carrier listed above.

If the Contractor fails to follow these shipping instructions, the State shall pay the carrier used and deduct the difference from the Contractor's invoice for the amount which was charged and the amount which would have been charged if the requested carrier had been used.

4. PACKAGING

The pack sizes indicated on the Item Listing represent the sizes currently used by the industry. The contractor is requested to provide packaging that most closely meets these packaging sizes.

Packaging and containers, etc., shall be in accordance with supplier's commercial practice and shall meet the requirements of Department of Transportation (D.O.T.) and rail and motor carrier freight classifications in effect at time of shipment, which will permit application of the lowest freight rate.

5. PALLETIZING

Shipments shall be palletized whenever possible and shall conform to the following:

- Manufacturers standard 4-way shipping pallets are acceptable.
- Maximum height: 5'6"; including pallet.
- Maximum weight: 3500 pounds; including pallet.
- Pallets are to be securely banded or shrink-wrapped.
- The cost of palletizing must be included in the unit price.

SECTION II - GENERAL CONTRACT PROVISIONS

II-A GENERAL

This Contract is for Fusees/Flares for the State of Michigan. Exact quantities to be purchased are unknown, however the Contractor will be required to furnish all such materials and services as may be ordered during the CONTRACT period. Quantities specified if any, are estimates based on prior purchases, and the State is not obligated to purchase in these or any other quantities. Orders for delivery will be issued directly to the Contractor by various State Agencies on the Purchase Order Contract Release Form.

This is a Unit Price Contract.

Attached is a listing of State agencies and/or locations who may order from the Contract. The listing shall not limit participation of additional agencies/locations as the need may develop at the same prices, terms and conditions. Orders may also be issued by local units of government (see attached Non-State Agency Statement).

II-B ISSUING OFFICE

The Contract is issued by Acquisition Services, State of Michigan, Department of Management and Budget, hereinafter known as Acquisition Services, for the Michigan State Police, hereinafter known *as* MSP. Where actions are a combination of those of Acquisition Services and the State agencies, the authority will be known as the State.

Acquisition Services is the sole point of contact in the State with regard to all procurement and contractual matters relating to the commodities and/or services described herein. Acquisition Services is the only office authorized to change, modify, amend, alter, clarify, etc., the specifications, terms, and conditions of the Contract. Acquisition Services will remain the SOLE POINT OF CONTACT throughout the procurement process. All communications covering this procurement must be addressed to:

Department of Management and Budget
Acquisition Services
Patrick Spagnuolo
2nd Floor, Mason Building
P.O. Box 30026
Lansing, Michigan 48909
(517) 373-0679
spagnuolop@michigan.gov

II-C CONTRACT COMPLIANCE INSPECTOR

Upon receipt at Acquisition Services of the properly executed Contract Agreement(s), an individual from MSP may be authorized to administer the contract on a day-to-day basis during the term of the Contract. However, administration of the Contract implies no authority to change, modify, clarify, amend, or otherwise alter the terms, conditions, and specifications of such Contract(s). That authority is retained by Acquisition Services.

II-D CONTRACT TERM

The term of this Contract will be 3 (three) years and will commence with the issuance of a Contract. This will be July 1, 2004 to July 1, 2007. At the sole option of the State, the Contract may be extended for up to 2 (two) additional years. Contractor performance, quality of products, price, and the Contractor's ability to deliver on time are some of the criteria that will be used as a basis for any decision by Acquisition Services to extend the Contract.

II-E ENTIRE AGREEMENT AND ORDER OF PRECEDENCE

The following documents constitute the complete and exclusive agreement between the parties. The following order of precedence shall apply (in descending order):

A. Any contract resulting from the State's ITB No. 071I4001123
B. Any addenda to that ITB.
C. The Contractor's response to that ITB.

The State of Michigan shall not be bound by any part(s) of the bidder's response to the ITB which contained information, options, conditions, terms, or prices neither requested nor required in the ITB. In the event of any conflicts between the specifications, terms and conditions indicated by the State and those indicated by the Contractor, those of the State take precedence. The contract supercedes all proposals or other prior agreements, oral or written, and all other communications between the parties relating to this subject.

II-F NO WAIVER OF DEFAULT

The failure of a party to insist upon strict adherence to any term of the Contract shall not be considered a waiver or deprive the party of the right thereafter to insist upon strict adherence to that term or any other term of the Contract.

II-G REVISIONS, CONSENTS, AND APPROVALS

The Contract may not be modified, amended, extended, or augmented except by a writing executed by the parties hereto, and any breach or default by a party shall not be waived or released other than in writing signed by the other party.

II-H SEVERABILITY

Each provision of the Contract shall be deemed to be severable from all other provisions of the Contract and, if one or more of the provisions of the Contract shall be declared invalid, the remaining provisions of the Contract shall remain in full force and effect.

II-I SURVIVOR

Any provisions of the Contract that impose continuing obligations on the parties including, but not limited to the Contractor's indemnity and other obligations shall survive the expiration or cancellation of the Contract for any reason.

II-J GOVERNING LAW

This Contract shall in all respects be governed by, and construed in accordance with, the laws of the State of Michigan. Any dispute arising herein shall be resolved in the State of Michigan.

II-K RELATIONSHIP OF THE PARTIES (INDEPENDENT CONTRACTOR)

The relationship between the State and the Contractor is that of client and independent Contractor. No agent, employee, or servant of the Contractor or any of its subcontractors shall be or shall be deemed to be an employee, agent, or servant of the State for any reason. The Contractor will be solely and entirely responsible for its acts and the acts of its agents, employees, servants and subcontractors during the performance of this Contract.

II-L HEADINGS

Captions and headings used in the Contract are for information and organization purposes. Captions and headings, including inaccurate references, do not, in any way, define or limit the requirements or terms and conditions of this Contract.

II-M INCURRING COSTS

The State of Michigan is not liable for any cost incurred by the Contractor prior to signing of the Contract. The State fiscal year is October 1st through September 30th. The Contractor(s) should realize that payments in any given fiscal year are contingent upon enactment of legislative appropriations. Total liability of the State is limited to terms and conditions of the Contract.

II-N NEWS RELEASES

News releases (including promotional literature and commercial advertisements) pertaining to the ITB and/or this Contract or project to which it relates shall not be made without prior written State approval, and then only in accordance with the explicit written instructions from the State. No results of the activities associated with the ITB and/or this Contract are to be released without prior written approval of the State and then only to persons designated.

II-O CONTRACTOR RESPONSIBILITIES

The Contractor will be required to assume responsibility for all contractual activities, whether or not that Contractor performs them. Further, the State will consider the Contractor to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the anticipated Contract. If any part of the work is to be subcontracted, the Contract must include a list of subcontractors, including firm name and address, contact person and a complete description of work to be subcontracted. The State reserves the right to approve subcontractors and to require the Contractor to replace subcontractors found to be unacceptable. The Contractor is totally responsible for adherence by the subcontractor to all provisions of the Contract. Any change in subcontractors must be approved by the State, in writing, prior to such change.

II-P PERFORMANCE REVIEWS

Acquisition Services in conjunction with MSP may review with the Contractor their performance under the Contract. Performance reviews shall be conducted quarterly, semi-annually or annually depending on Contractor's past performance with the State. Performance reviews shall include, but not limited to, quality of products/services being delivered and provided, timeliness of delivery, percentage of completion of orders, the amount of back orders, status of such orders, accuracy of billings, customer service, completion and submission of required paperwork, the number of substitutions and the reasons for substitutions, and other requirements of the Contract.

Upon a finding of poor performance, which has been documented by Acquisition Services, the Contractor shall be given an opportunity to respond and take corrective action. If corrective action is not taken in a reasonable amount of time as determined by Acquisition Services, the Contract may be canceled for default. Delivery by the Contractor of unsafe and/or adulterated or off-condition products to any State agency is considered a material breach of Contract subject to the cancellation provisions contained herein.

II-Q AUDIT OF CONTRACT COMPLIANCE

The Contractor agrees that the State may, upon 24-hour notice, perform an audit at Contractor's location(s) to determine if the Contractor is complying with the requirements of the Contract. The Contractor agrees to cooperate with the State during the audit and produce all records and documentation that verifies compliance with the Contract requirements.

II-R SAFETY AND ACCIDENT PREVENTION

In performing work under this Contract on State premises, the Contractor shall conform to any specific safety requirements contained in the Contract or as required by law or regulation. The Contractor shall take any additional precautions as the State may reasonably require for safety and accident prevention purposes. Any violation by the Contractor of such safety requirements, rules, laws or regulations shall be a material breach of the Contract subject to the cancellation provisions contained herein.

II-S WORKPLACE SAFETY AND DISCRIMINATORY HARASSMENT

In performing services for the State pursuant to this Contract, the Contractor shall comply with Department of Civil Service Rules 2-20 regarding Workplace Safety and 1-8.3 regarding Discriminatory Harassment. In addition, the Contractor shall comply with Civil Service Regulations governing workplace safety and discriminatory harassment and any applicable state agency rules on these matters that the agency provides to the Contractor. Department of Civil Service Rules and Regulations can be found on the Department of Civil Service website at www.michigan.gov/mdcs.

II-T ASSIGNMENT

The Contractor shall not have the right to assign the Contract or to assign or delegate any of its duties or obligations under the Contract to any other party (whether by operation of law or otherwise), without the prior written consent of the State. Any purported assignment in violation of this Section shall be null and void. Further, the Contractor may not assign the right to receive money due under the Contract without the prior written consent of the Director of Acquisition Services.

II-U DELEGATION

The Contractor shall not delegate any duties or obligations under the Contract to a subcontractor other than a subcontractor named and approved in the bid unless the Director of Acquisition Services has given written consent to the delegation.

II-V DISCLOSURE

All information in a bidder's proposal and this Contract are subject to the provisions of the Freedom of Information Act. 1976 Public Act No. 442, as amended, MCL 15.231, et seq.

II-W TAXES

A. Sales Tax: For purchases made directly by the State of Michigan, the State is exempt from State and Local Sales Tax. Prices shall not include such taxes. Exemption Certificates for State Sales Tax will be furnished upon request.

B. Federal Excise Tax: The State of Michigan may be exempt for Federal Excise Tax, or such taxes may be reimbursable, if articles purchased under this Contract are used for the State's exclusive use. Certificates exclusive use for the purposes of substantiating a tax-free, or tax-reimbursable sale will be sent to the Contractor upon request. If a sale is tax exempt or tax reimbursable under the Internal Revenue Code, prices shall not include the Federal Excise Tax.

C. Contractors are expected to collect and pay all applicable federal, state, and local employment taxes for all persons involved in the resulting Contract. Also, bidders shall maintain appropriate payroll information on a system that can produce any reports that may be needed by Acquisition Services.

II-X PRICE ADJUSTMENTS

Prices quoted are the maximum for a period of 365 days from the date the Contract becomes effective.

Prices are subject to change at the end of each 365-day period. Such changes shall be based on changes in actual costs incurred. Documentation of such changes must be provided with the request for price change in order to substantiate any requested change. Acquisition Services reserves the right to consider various pertinent information sources to evaluate price increase requests (such as the CPI and PPI, US City Average, as published by the US Department of Labor, Bureau of Labor Statistics). Acquisition Services also reserves the right to consider other information related to special economic and/or industry circumstances, when evaluating a price change request. Changes may be either increases or decreases, and may be requested by either party. Approved changes shall be firm for the remainder of the contract period unless further revised at the end of the next 365-day period.

Requests for price changes shall be RECEIVED IN WRITING AT LEAST TEN DAYS PRIOR TO THEIR EFFECTIVE DATE, and are subject to written acceptance before becoming effective. In the event new prices are not acceptable, the CONTRACT may be cancelled. The continued payment of any charges due after September 30th of any fiscal year will be subject to the availability of an appropriation for this purpose.

II-Y ADDITIONAL PRODUCTS/SERVICES

The State reserves the right to add an item(s) that is not described on the item listing and is available from the Contract vendor. The item(s) may be included on the Contract, only if prior written approval has been granted by Acquisition Services.

II-Z CONTRACTOR'S LIABILITY INSURANCE

The Contractor is required to provide proof of the minimum levels of insurance coverage as indicated below. The purpose of this coverage shall be to protect the State from claims which may arise out of or result from the Contractor's performance of services under the terms of this Contract, whether such services are performed by the Contractor, or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

The Contractor waives all rights against the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents for recovery of damages to the extent these damages are covered by the insurance policies the Contractor is required to maintain pursuant to this Contract. The Contractor also agrees to provide evidence that all applicable insurance policies contain a waiver of subrogation by the insurance company.

All insurance coverages provided relative to this Contract/Purchase Order is PRIMARY and NON-CONTRIBUTING to any comparable liability insurance (including self-insurances) carried by the State.

The Insurance shall be written for not less than any minimum coverage herein specified or required by law, whichever is greater. All deductible amounts for any of the required policies are subject to approval by the State.

The State reserves the right to reject insurance written by an insurer the State deems unacceptable.

BEFORE THE CONTRACT IS SIGNED BY BOTH PARTIES OR BEFORE THE PURCHASE ORDER IS ISSUED BY THE STATE, THE CONTRACTOR MUST FURNISH TO THE DIRECTOR OF ACQUISITION SERVICES, CERTIFICATE(S) OF INSURANCE VERIFYING INSURANCE COVERAGE. THE CERTIFICATE MUST BE ON THE STANDARD "ACCORD" FORM. THE CONTRACT OR PURCHASE ORDER NO. MUST BE SHOWN ON THE CERTIFICATE OF INSURANCE TO ASSURE CORRECT FILING. All such Certificate(s) are to be prepared and submitted by the Insurance Provider and not by the Contractor. All such Certificate(s) shall contain a provision indicating that coverages afforded under the policies WILL NOT BE CANCELLED, MATERIALLY CHANGED, OR NOT RENEWED without THIRTY (30) days prior written notice, except for 10 days for non-payment of premium, having been given to the Director of Acquisition Services, Department of Management and Budget. Such NOTICE must include the CONTRACT NUMBER affected and be mailed to: Director, Acquisition Services, Department of Management and Budget, P.O. Box 30026, Lansing, Michigan 48909.

The Contractor is required to provide the type and amount of insurance checked (☑) below:

☑ 1. Commercial General Liability with the following minimum coverages:
$2,000,000 General Aggregate Limit other than Products/Completed Operations
$2,000,000 Products/Completed Operations Aggregate Limit
$1,000,000 Personal & Advertising Injury Limit
$1,000,000 Each Occurrence Limit
$500,000 Fire Damage Limit (any one fire)

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the Commercial General Liability policy.

☑ 2. If a motor vehicle is used to provide services or products under this Contract, the Contractor must have vehicle liability insurance on any auto including owned, hired and non-owned vehicles used in Contractor‘s business for bodily injury and property damage as required by law.

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the vehicle liability policy.

☑ 3. Worker’s disability compensation, disability benefit or other similar employee benefit act with minimum statutory limits. NOTE: (1) If coverage is provided by a State fund or if Contractor has qualified as a self-insurer, separate certification must be furnished that coverage is in the state fund or that Contractor has approval to be a self-insurer; (2) Any citing of a policy of insurance must include a listing of the States where that policy’s coverage is applicable; and (3) Any policy of insurance must contain a provision or endorsement providing that the insurers’ rights of subrogation are waived. This provision shall not be applicable where prohibited or limited by the laws of the jurisdiction in which the work is to be performed.

II-AA INDEMNIFICATION

A. General Indemnification

To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State, its departments, divisions, agencies, sections, commissions, officers, employees and agents, from and against all losses, liabilities, penalties, fines, damages and claims (including taxes), and all related costs and expenses (including reasonable attorneys' fees and disbursements and costs of investigation, litigation, settlement, judgments, interest and penalties), arising from or in connection with any of the following:

1. any claim, demand, action, citation or legal proceeding against the State, its employees and agents arising out of or resulting from (1) the product provided or (2) performance of the work, duties, responsibilities, actions or omissions of the Contractor or any of its subcontractors under this Contract.

2. any claim, demand, action, citation or legal proceeding against the State, its employees and agents arising out of or resulting from a breach by the Contractor of any representation or warranty made by the Contractor in the Contract;

3. any claim, demand, action, citation or legal proceeding against the State, its employees and agents arising out of or related to occurrences that the Contractor is required to insure against as provided for in this Contract;

4. any claim, demand, action, citation or legal proceeding against the State, its employees and agents arising out of or resulting from the death or bodily injury of any person, or the damage, loss or destruction of any real or tangible personal property, in connection with the performance of services by the Contractor, by any of its subcontractors, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable; provided, however, that this indemnification obligation shall not apply to the extent, if any, that such death, bodily injury or property damage is caused solely by the negligence or reckless or intentional wrongful conduct of the State;

5. any claim, demand, action, citation or legal proceeding against the State, its employees and agents which results from an act or omission of the Contractor or any of its subcontractors in its or their capacity as an employer of a person.

B. Patent/Copyright Infringement Indemnification

To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State, its employees and agents from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys' fees and disbursements and costs of investigation, litigation, settlement, judgments, interest and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that such action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Contractor or its subcontractors, or the operation of such equipment, software, commodity or service, or the use or reproduction of any documentation provided with such equipment, software, commodity or service infringes any United States or foreign patent, copyright, trade secret or other proprietary right of any person or entity, which right is enforceable under the laws of the United States. In addition, should the equipment, software, commodity, or service, or the operation thereof, become or in the Contractor's opinion be likely to become the subject of a claim of infringement, the Contractor shall at the Contractor's sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if such option is not reasonably available to the Contractor, (ii) replace or modify the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if such option is not reasonably available to Contractor, (iii) accept its return by the State with appropriate credits to the State against the Contractor's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

C. Indemnification Obligation Not Limited

In any and all claims against the State of Michigan, or any of its agents or employees, by any employee of the Contractor or any of its subcontractors, the indemnification obligation under the Contract shall not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Contractor or any of its subcontractors under worker's disability compensation acts, disability benefits acts, or other employee benefits acts. This indemnification clause is intended to be comprehensive. Any overlap in subclauses, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other subclause.

D. Continuation of Indemnification Obligation

The duty to indemnify will continue in full force and affect not withstanding the expiration or early termination of the Contract with respect to any claims based on facts or conditions, which occurred prior to termination.

II-BB CONTRACT DISTRIBUTION

Acquisition Services shall retain the sole right of Contract distribution to all State agencies and local units of government unless other arrangements are authorized by Acquisition Services.

II-CC ACCOUNTING RECORDS

The Contractor and all subcontractors shall maintain all pertinent financial and accounting records and evidence pertaining to the Contract in accordance with generally accepted principles of accounting and other procedures specified by the State of Michigan. Financial and accounting records shall be made available, upon request, to the State of Michigan, its designees, or the Michigan Auditor General at any time during the Contract period and any extension thereof, and for three years from expiration date and final payment on the Contract or extension thereof.

II-DD NON-DISCRIMINATION CLAUSE

In the performance of a Contract or purchase order, the Contractor agrees not to discriminate against any employee or applicant for employment, with respect to their hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex, height, weight, marital status, physical or mental handicap or disability. The Contractor further agrees that every subcontract entered into for the performance of any Contract or purchase order resulting herefrom will contain a provision requiring non-discrimination in employment, as herein specified, binding upon each subcontractor. This covenant is required pursuant to the Elliot Larsen Civil Rights Act, 1976 Public Act 453, as amended, MCL 37.2201, et seq, and the Persons With Disabilities Civil Rights Act, 1976 Public Act 220, as amended, MCL 37.1101, et seq, and any breach thereof may be regarded as a material breach of the Contract or purchase order.

II-EE CANCELLATION

The State may cancel this Contract without further liability or penalty to the State, its departments, divisions, agencies, offices, commissions, officers, agents, and employees for any of the following reasons:

1. Material Breach by the Contractor. In the event that the Contractor breaches any of its material duties or obligations under the Contract, which are either not capable of or subject to being cured, or are not cured within the time period specified in the written notice of breach provided by the State, or pose a serious and imminent threat to the health and safety of any person, or the imminent loss, damage or destruction of any real or tangible personal property, the State may, having provided written notice of cancellation to the Contractor, cancel this Contract in whole or in part, for cause, as of the date specified in the notice of cancellation.

   In the event that this Contract is cancelled for cause, in addition to any legal remedies otherwise available to the State by law or equity, the Contractor shall be responsible for all costs incurred by the State in canceling the Contract, including but not limited to, State administrative costs, attorneys fees and court costs, and any additional costs the State may incur to procure the services required by this Contract from other sources. All excess re-procurement costs and damages shall not be considered by the parties to be consequential, indirect or incidental, and shall not be excluded by any other terms otherwise included in the Contract.

   In the event the State chooses to partially cancel this Contract for cause charges payable under this Contract will be equitably adjusted to reflect those services that are cancelled.

   In the event this Contract is cancelled for cause pursuant to this section, and it is therefore determined, for any reason, that the Contractor was not in breach of contract pursuant to the provisions of this section, that cancellation for cause shall be deemed to have been a cancellation for convenience, effective as of the same date, and the rights and obligations of the parties shall be limited to that otherwise provided in the Contract for a cancellation for convenience.

2. Cancellation For Convenience By the State. The State may cancel this Contract for its convenience, in whole or part, if the State determines that such a cancellation is in the State's best interest. Reasons for such cancellation shall be left to the sole discretion of the State and may include, but not limited to (a) the State no longer needs the services or products specified in the Contract, (b) relocation of office, program changes, changes in laws, rules, or regulations make implementation of the Contract services no longer practical or feasible, and (c) unacceptable prices for additional services requested by the State. The State may cancel the Contract for its convenience, in whole or in part, by giving the Contractor written notice 30 days prior to the date of cancellation. If the State chooses to cancel this Contract in part, the charges payable under this Contract shall be equitably adjusted to reflect those services that are cancelled.

3. Non-Appropriation. In the event that funds to enable the State to effect continued payment under this Contract are not appropriated or otherwise made available. The Contractor acknowledges that, if this Contract extends for several fiscal years, continuation of this Contract is subject to appropriation or availability of funds for this project. If funds are not appropriated or otherwise made available, the State shall have the right to cancel this Contract at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of cancellation to the Contractor. The State shall give the Contractor written notice of such non-appropriation or unavailability within 30 days after it receives notice of such non-appropriation or unavailability.

4. Criminal Conviction. In the event the Contractor, an officer of the Contractor, or an owner of a 25% or greater share of the Contractor, is convicted of a criminal offense incident to the application for or performance of a State, public or private Contract or subcontract; or convicted of a criminal offense including but not limited to any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, attempting to influence a public employee to breach the ethical conduct standards for State of Michigan employees; convicted under State or federal antitrust statutes; or convicted of any other criminal offense which in the sole discretion of the State, reflects upon the Contractor's business integrity.

5. Approvals Rescinded. The State may terminate this Contract without further liability or penalty in the event any final administrative or judicial decision or adjudication disapproves a previously approved request for purchase of personal services pursuant to Constitution 1963, Article 11, section 5, and Civil Service Rule 7. Termination may be in whole or in part and may be immediate as of the date of the written notice to Contractor or may be effective as of the date stated in such written notice.

II-FF NOTICE AND RIGHT TO CURE

In the event of a curable breach by the Contractor, the State shall provide the Contractor written notice of the breach and a time period to cure said breach described in the notice. This section requiring notice and an opportunity to cure shall not be applicable in the event of successive or repeated breaches of the same nature or if the State determines in its sole discretion that the breach poses a serious and imminent threat to the health or safety of any person or the imminent loss, damage or destruction of any real or tangible personal property.

II-GG ELECTRONIC FUNDS TRANSFER

Electronic transfer of funds is available to State contractors. Vendors are encouraged to register with the State of Michigan Office of Financial Management so the State can make payments related to this Contract electronically at www.cpexpress.state.mi.us.

II-HH MODIFICATION OF CONTRACT

Acquisition Services reserves the right to modify this contract at any time during the contract term. Such modification may include changing the locations to be serviced, additional locations to be serviced, method or manner of performance of the work, number of days service is to be performed, addition or deletion of tasks to be performed, addition or deletion of items, and/or any other modifications deemed necessary. Any changes in pricing proposed by the Contractor resulting from the proposed changes are subject to acceptance by the State. Changes may be increases or decreases. IN THE EVENT PRICES ARE NOT ACCEPTABLE TO THE STATE, THE CONTRACT SHALL BE SUBJECT TO COMPETITIVE BIDDING BASED UPON THE NEW SPECIFICATION.

II-II UNFAIR LABOR PRACTICES

Pursuant to 1980 Public Act 278, as amended, MCL 423.231, et seq, the State shall not award a Contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled pursuant to Section 2 of the Act. A Contractor of the State, in relation to the Contract, shall not enter into a Contract with a subcontractor, manufacturer, or supplier whose name appears in this register. Pursuant to Section 4 of 1980 Public Act 278, MCL 423.324, the State may void any Contract if, subsequent to award of the Contract, the name of the Contractor as an employer, or the name of the subcontractor, manufacturer or supplier of the Contractor appears in the register.

II-JJ FORM, FUNCTION, AND UTILITY

If the Contract is for use of more than one State agency and if the good or service provided under this Contract do not the meet the form, function, and utility required by a State agency, that agency may, subject to State purchasing policies, procure the good or service from another source.

II-KK CONTRACT PAYMENT SCHEDULE

The specific payment schedule for the Contract(s) will be mutually agreed upon by the State and the Contractor(s). The schedule should show payment amount and should reflect actual work done by the payment dates, less any penalty cost charges accrued by those dates. As a general policy statements shall be forwarded to the designated representative by the 15th day of the following month.

II-LL PROHIBITED PRODUCTS

The State will not accept salvage, distressed, outdated or discontinued merchandise. Shipping of such merchandise to any State agency, as a result of an order placed against the Contract, shall be considered default by the Contractor of the terms and conditions of the Contract and may result in cancellation of the Contract by the State. The brand and product number offered for all items shall remain consistent for the term of the Contract, unless Acquisition Services has approved a change.

II-MM RECYCLED CONTAINERS

Contractors are encouraged to offer products packaged in containers using recovered materials suitable for the intended use. 'Recovered material' is defined as post-consumer waste (any products generated by a business or consumer which have served their intended end use, and which have been separated or diverted from solid waste for the purpose of collection, recycling, and disposition) and 'secondary waste' (industrial by-products and wastes generated after completion of a manufacturing process that would normally not be reused).

II-NN RIGHT TO KNOW ACT (Act 80 of 1986)

The "Right to Know Act" is intended to provide protection and information to employees who encounter hazardous substances in the workplace. To comply with this act, it is necessary that you fulfill the following:

Labels on all incoming containers of hazardous chemicals must (1) clearly State the identity of the contents, (2) display appropriate hazard warning(s), (3) include first aid information, and (4) list the name and address of the chemical manufacturer, importer, or other responsible party.

Material Safety Data Sheets must be included with shipment of chemical or hazardous material to the receiving State agency. It is necessary to send this document only on the first shipment for each chemical formulation or hazardous material ordered by a specific agency except when there has been a change in the formulation of the specified chemical or hazardous material, in which case, a revised material safety data sheet shall accompany the first shipment of the changed formulation. It is the responsibility of the shipping vendor to maintain this record. The receiving agency will not accept first shipment unless the above is complied with. It is recommended that OSHA Material Safety Data Sheet No. 174 be used.

II-OO ASSIGNMENT OF ANTITRUST CAUSE OF ACTION

For and in consideration of the opportunity to submit a quotation and other good and valuable consideration, the bidder hereby assigns, sells and transfers to the State of Michigan all rights, title and interest in and to all causes of action it may have under the antitrust laws of the United States or this State for price fixing, which causes of action have accrued prior to the date of payment and which relate solely to the particular goods, commodities, or services purchased or procured by this State pursuant to this transaction.

II-PP QUALITY ASSURANCE

The State reserves the right to periodically test products which have been received to verify compliance with specifications. If laboratory analysis shows that the product does not meet specifications or fails to perform satisfactorily at any time, the Contractor shall be responsible for:

1. All costs of testing and laboratory analysis.
2. Disposal and/or replacement of all products which fail to meet specifications.
3. All costs of repair and/or replacement of equipment deemed to have been damaged by substandard products as determined by the State.

II-QQ INSPECTION

All goods are subject to inspection and testing. In the event goods are defective in material or workmanship, or otherwise fail to meet the requirements of the Contract, the State shall have the right to reject the goods or retain the goods and correct the defects. The Contractor shall pay the State for expenses incurred in correcting defects. Rejected goods will be held for 45 days after delivery. The Contractor must arrange for the return of said goods, including paying for handling, packing, and transportation costs. The State has the authority to dispose of the goods without further liability to the State in the event the Contractor fails to make arrangements within the specified time period.

NON-STATE AGENCY STATEMENT:

Act Number 431 of the Public Acts of 1984 permits the State of Michigan, Department of Management and Budget, to provide purchasing services to local units of government and school districts. As a result of the enactment of this legislation, the Extended Purchasing Program has been developed. This program extends the use of State contracts to program members. The governmental agency must enter into an agreement with the State of Michigan to become authorized to participate, thus ensuring that local units of government secure a greater return for the expenditure of public funds. It is the policy of Acquisition Services, Department of Management and Budget, that the final approval to utilize any such Contract in this manner must come from the Contract vendor.

In such cases, Contract vendors supply merchandise at the established State of Michigan Contract prices and terms. Inasmuch as these are non-State agencies, all purchase orders will be submitted by, invoices will be billed to, and payment will be remitted by the authorized Extended Purchasing member on a direct and individual basis in accordance with Contract terms.

Therefore, it is required that all bidders indicate, by checking the appropriate box below, whether they will (first box) or will not (second box) honor orders on any Contract resulting from this Request for Quotation from State of Michigan authorized Extended Purchasing members. It is the responsibility of the Contractor to ensure the non-State agency is an authorized Extended Purchasing member prior to extending the State Contract price.

BIDDER MUST CHECK ONE BOX BELOW

[X] Commodities and/or services on this Request for Quotation will be supplied to State of Michigan departments and agencies, and authorized Extended Purchasing Program members in accordance with the terms and prices quoted. Upon request, a complete listing of eligible participants in the Extended Purchasing Program will be provided if this option is selected.

[ ] Commodities and/or services on the Request for Quotation will not be supplied to State of Michigan authorized Extended Purchasing members. We will supply to State of Michigan departments and agencies only.

Standard Fusee Corp.
Vendor Name

C. Jay McLaughlin, President
Authorized Agent Name (print or type)

_____
Authorized Agent Signature

REVISED
ITEM LISTING
Contract # 071B4200278

Item	Unit	Description	Unit Price
001	Gross	FLARES, FUSEES. Spike end. 30 minute with heavy moisture proof coating. 16" length. 36 pcs/cs. Per attached Federal Bureau of Explosives Specification for Red Highway Fusees, revised January 1972. MSP Code: 5709-1000 Brand: Standard Fusee Corp. (dba Orio) Stock #2730	$125.58
002	Gross	FLARES, FUSEES. Without spike. 30 minute with heavy moisture poof coating. 14-3/4" length. 36 pcs/cs. Per attached Federal Bureau of Explosives Specification for Red Highway Fusees, revised January 1972. MSP Code: 5709-2410 Brand: Standard Fusee Corp. (dba Orio) Stock #0730	$119.60

Contact person for Standard Fusee Corp:

NAME/TITLE: Ken Harrison, Contract Manager
TELEPHONE: (800) 637-7807
FACSIMILE: (410) 822-7759
TOLL FREE #: (800) 637-7807
E-MAIL: kenny@orionsignals.com

SHIP-TO LOCATIONS
Contract # 071B4200278

Michigan State Police
Distribution Center
714 South Harrison Road
East Lansing, Michigan 48823

Michigan State Police
Detroit Post
1200 Sixth Street
Detroit, Michigan 48226

Michigan State Police
Metro South Post
12111 Telegraph Road
Taylor, Michigan 48180

Michigan State Police
Richmond Post
36725 Division Road
Richmond, Michigan 48062

Michigan State Police
Ypsilanti Post
1501 South Huron Drive
Ypsilanti, Michigan 48197

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BUREAU OF EXPLOSIVES

SPECIFICATIONS FOR RED RAILWAY OR RED HIGHWAY FUSES

SECTION I

General Requirements

1. The fusee shall consist of a tube of suitable material containing flare composition together with a suitable means of ignition by friction with or without a means of support while burning. If such means of support is used it shall be of a type approved by the Bureau of Explosives.

2. The tube shall be colored red to indicate its burning color.

3. Directions for use, date of manufacturer and the name of the manufacturer shall be printed legibly on the tube of the fusee. Coding is permitted on Highway Fusees when approved by the Bureau. The Directions for use shall include the following instructions printed in capital letters:

"ALWAYS POINT FUSEE AWAY FROM FACE AND BODY WHILE IGNITING AND AFTERWARDS. AFTER IGNITING HOLD 5 SECONDS BUT NOT MORE THAN 10 SECONDS BEFORE DROPPING."
(Last sentence required only for railway fusees).

For ten minutes or longer fusees, letters of above quoted instructions must not be less than 12 point type.

4. If the fusees are to be marked in compliance with Bureau of Explosives specifications, the manufacturer must have sample fusees examined and tested at least once in each calendar year by the Bureau of Explosives to determine compliance with these specifications.

5. Samples shall be selected by a Bureau Inspector from production. One gross required for complete examination.

6. The fusee shall meet all specification requirements and pass all tests.

SECTION II

Specific Requirements

1. Fusees with a nominal burning time not exceeding 10 minutes shall not exceed 14 in. overall length or 1-1/8 in. outside diameter. Fusees with a nominal burning time not exceeding 5 minutes shall not exceed 9 in. overall length or 1-1/3 in. outside diameter, exclusive of handle.

2. The base of the fusee shall be closed by means of a disc or plug except that other designs may be used if approved by the Bureau of Explosives. The efficiency of the closure shall not be impaired when the fusee is dropped freely through a vertical distance of 20 ft. onto concrete (The angle of impact being 20 deg.) Bending of the spike, if any, shall not be considered as failure.

3. The entire rim of the head of the fusee shall be free from ignition compound.

4. The head of the fusee shall be protected by a removable cap not less than 1-3/4 in. long, which is so constructed that it is mechanically impossible for the inner surface of the cap to cause ignition or impair the efficiency of the ignition compound under normal conditions of handling.

5. The cap shall be securely fastened to the body of the fusee in such a manner as to minimize the likelihood of accidental detachment. Cap or fastenings must not cover or obscure required printed matter.

6. The cap shall be so constructed that after detachment it forms a device for lighting the ignition composition by friction.

7. The ignition composition and the scratch surface shall be protected from accidental exposure or ignition.

8. The completed fusee shall be of strength sufficient to prevent it from breaking when a weight is applied for 5 minutes in accordance with the following test:

(a) The fusee is placed on two supports having a flat bearing surface of 1/4 in. width set 6 in. apart and a weight of 60 lb. applied at a point equidistant from the two supports through a looped wire under which is centrally placed a 1-in. wide half ring section of rigid metal tube not over 1-1/4 in. in diameter.

Where the length of fusee does not permit the above test, the following method shall be used:

(b) The fusee is placed on two supports having a flat bearing surface of 1/4 in. width set 4 in. apart and a weight of 120 lb. applied at a point equidistant from the two supports through a looped wire under which is centrally placed a 1-in. wide half ring section of rigid metal tube not over 1-1/4 in. in diameter.

9. Not more than 20 per cent of the fusees tested shall be extinguished when dropped from a height of 30 feet onto railroad ballast after being ignited and held for 10 seconds. This test is not required for 15, 20 and 30 minute highway fusees.

10. (a) The ignition compound shall be waterproof and shall be capable of withstanding immersion in water at 70 deg. F for 10 minutes without impairing efficiency to the extent that the fusee cannot be fully ignited by the usual means. When conducting this test the ignition cap shall be removed. The body of the fusee shall be immersed horizontally so that the upper portion of the tube shall be 2 inches below the surface of the water. When the body of the fusee is removed excess water shall be removed from the ignition mix (by wiping or other means).

(b) This test to be conducted the same as 10(a) except the striking cap is to remain on the fusee. The excess water shall be removed from the striking surface of the cap and the ignition mix.

11. The ignition or head composition shall be securely fastened to the fusee and shall withstand friction of the scratch cap without breaking or becoming detached in whole or in significant part from the fusee.

12. The cap shall be removed from the fusee and it shall be ignited in the prescribed manner. After being held for 10 seconds in air, and while still being held, it shall be slowly submerged in water in a vertical position head down for a period of one minute. The depth of the water above the head of the fusee shall be at least 4 inches and the temperature shall be 70 deg F. Continued burning under water for the full one-minute period shall qualify the fusee under this test. Not more than 20 per cent of the fusees tested shall be extinguished. It is not required that the fusee continue to burn when removed from the water.

13. The fusee shall not chimney in such a manner as to materially obscure the flame when placed at an angle of 20 deg. from the vertical (ignition end up).

14. The composition of the fusee shall be such that spontaneous ignition does not occur when the moistened composition is exposed to a temperature of 212 deg. F. for 72 consecutive hours.

15. Flare color composition containing sulphur shall not contain more than .5% of any chlorate.

16. No fusees containing any amount of chlorate shall contain ammonium salts.

17. The ignition temperature of the igniter composition and flare color composition shall be not lower than 350 deg. F. when determined by either of the following methods:

(a) After separation, the compositions shall be placed in separate loosely covered beakers which shall be placed for one hour in an oven maintained at a temperature of 350 deg. F. The compositions shall not ignite or explode during this period.

(b) A brass block 1" x 1-1/2" x 10" is used. Two rows of eight holes, 3/8" diameter by 3/4" deep, are bored with centers about 1/2" from and along the two long edges of the block. The rows start 3" from both ends of the block and are spaced evely in the center 4 inches. A hole for a thermometer is bored longitudinally through the exact center of the body of the block. The block is used over a shield and is heated by a burner fitted with a "fishtail". The procedure is as follows: about one gram portions of the flare and ignition compositions (separately) are placed in several of the holes and tamped lightly with a glass rod. The "approximate ignition temperature" is determined by heating the block at about 10 deg. F. per minute until the composition ignites or to 350 deg. F. if no ignition occurs. To determine the actual ignition temperature the block is heated to 25 - 30 deg F below the "approximate ignition temperature" determined above or to 320 deg. F. (which ever is lower) and the mixture placed in the holes and tamped. The temperature is then raised to the ignition temperature or to a maximum of 350 deg. F. The composition shall not ignite or explode during this period.

18. The completed fusee shall withstand incubation at 167 deg. F. for 48 hours without ignition or significant decomposition.

SECTION III

Performance Requirements

1. Burning Time:

Burning time is calculated immediately upon ignition of the fusee.

When ignited and placed at an angle of 20 degrees to the vertical (ignition end up) or in a horizontal position, fusees shall burn within the following limits:

Type	Minimum	Maximum
5 minute	5 minutes	6-1/2 minutes
10 minute	10 minutes	13 minutes
15 minute	15 minutes	18 minutes
20 minute	20 minutes	23 minutes
30 minute	30 minutes	33 minutes

2. Color:

The color of the light from burning red fusees shall show values in terms of the I.C.I. Standard Observer and Coordinate System of not less than 0.61 for the X-coordinate and not more than 0.34 for the Y-coordinate for any of the determinations made during the positive flame emitting period.

3. Intensity:

Except for the first 45 seconds and the last 15 seconds of burning time which need not be considered, the mean intensity of the light emitted from a burning fusee shall be not less than 70 candles and shall not be less than 50 candles for more than any 25 consecutive seconds. This test to be conducted with fusee placed at an angle of 20 degrees from the vertical (ignition end up) and sloping directly away from the photometer. The photometer shall be level with the flame and not less than 24 inches therefrom.

Revised January 1972

Additional copies may be obtained from:
Bureau of Explosives
Association of American Railroads
American Railroads Building
1920 "L" Street N.W.