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## **EXPLOSIVE SAFETY FOR OPERATORS**

### **2 DAYS, 2 INSTRUCTORS**

After participating in the course, the participant should be aware of the government safety and reporting requirements as well as understand best practices. To get the maximum from this course, student participation is necessary.

#### GENERAL OVERVIEW

- Laboratory & Scale up
- Chemical toxicity and sensitivity
- Compatibility Testing
- Instrumentation & Equipment Maintenance –  
Cleaning, Maintenance and Repair
- Hot Work Permits
- Remote Operations
- Personnel Protection
- Access and Equipment Controls
- General Explosives Area Controls
- Smoking, Matches, Lighters and Metal Articles
- Access to Explosives Areas

#### LABORATORY OPERATIONS

- Safety Shields
- Heating Operations
- Low Concentration of Explosives in Solution
- Explosives Sample Control

#### EXPLOSIVES AND PERSONNEL LIMITS AND CONTROL

#### PERSONAL PROTECTIVE CLOTHING

#### ELECTRICAL ISSUES

- Bonding and Grounding of Equipment

- Electrical Equipment and Wiring
- Location/Operation Electrical Hazard Classification
- Electrical Equipment and Instrumentation
- Equipment Maintenance and Testing
- Electrical Breakdown of Explosive/Propellant Devices/Assemblies

#### SAFETY CONSIDERATIONS BY PROCESS

- Heating, Drying, and Thermal Conditioning
- Pressing
- Extruding
- Machining
- Dry Screening
- Blending
- Melting
- Assembly and Disassembly
- Inspection
- Synthesis
- Formulation
- Contamination Prevention

#### TESTING

- Test Planning
- Test Firing
- Gun Firings
- Ballistic, Environmental, Physical Property and Sensitivity Testing
- Test Failures and Misfires

#### MATERIALS HANDLING AND TRANSPORT

- Bare Explosives
- Carts or Hand Trucks
- Mechanical Handling Equipment
- Material Receipt

#### EXPLOSIVES STORAGE

- Storage Magazine Facilities
- Storage Magazine Operations Storage Review Program
- Storage Compatibility
- Containers

#### DECONTAMINATION, CLEANING, WASTE COLLECTION

- Vacuum Collection of Explosives Dusts
- Drains and Sumps
- Explosives Slurries
- Metal Scrap
- Explosives Recovery and Reuse
- Waste Disposal

## EMERGENCY CONTROL

Placarding and Fire Symbols  
Explosives Emergency Control Plans

## QUANTITY-DISTANCE CRITERIA

Hazard Classes and Class Division  
Establishing Quantity of Explosives and Distances  
Fire Protection

## WRITING THE STANDARD OPERATING PROCEDURES

Requirements & Types of Procedures  
Before Operation  
Supervisory Responsibility  
Preparation  
Approval  
Control  
Audits & Reviews

## REFERENCE DOCUMENTS

*\*Safety/accident examples will be described as we cover these topics. Class members will be encouraged to bring up concerns or examples from their own experiences.*

### **Disclaimers**

1. Safety responsibility rests with the Army and individuals involved in Army activities. HERE is not responsible for any mishaps that may occur at Picatinny.
2. HERE attempts to make useful points about explosive practice and safety through examples of experiences of other organizations, and does not advocate specific changes to safety practices or policies at Picatinny Arsenal. Any such changes will be based solely on decisions by Picatinny management and staff.