

# Explosive Technologies Group

## Our Mission

Explosive Solutions that Secure the Nation.

## How We Execute Our Mission

We provide unrivaled explosive solutions through data-driven decisions that focus on quality, reliability, and continuous improvement. We execute our mission with an experienced, knowledgeable, and adept team. We meet Nuclear Deterrence and National Security priorities by leveraging modeling and simulations, materials formulation and synthesis, advanced manufacturing, rapid prototyping, customized experimentation and characterization, Mark Quality production, and advanced surveillance.



### We realize our mission through seven organizational departments:

1. Explosive Component Production I
2. Explosive Component Design
3. Explosives R&D
4. Explosive Materials & Operations
5. Explosive Testing, Fabrication & Operations
6. Explosive Component Production II
7. Explosive Technology Maturation & Advanced Programs

### For more information, please contact:

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# Explosive Technologies Group



Sandia  
National  
Laboratories

*"Our mission is to support Nuclear Weapons Strategic Deterrent objectives by delivering explosive components to the stockpile by utilizing diverse technical expertise to solve challenges involving energetic materials."*

## Who We Are



**The Explosive Technologies Group (ETG)** is responsible for thirty-four Laboratories supporting the research, design, qualification, production, surveillance, evaluation, and testing of explosive components, explosive materials and explosive devices in support of **the nuclear deterrence mission**, including broad **national security priorities**. Our workforce and expertise in explosive technologies is unrivaled. Our culture of safety, innovation, and continuous improvement ensures we will be even more capable tomorrow than we are today.

### The Explosive Component Facility (ECF)

provides unique capabilities allowing staff to design, test, and prototype a wide variety of energetic components in support of Sandia's nuclear deterrence stockpile mission. The types of components include actuators, igniters supporting thermal batteries, spin rocket motors, and detonators/timers supporting neutron generators.

## Where We Are



We operate three mission critical remote facilities that perform large-scale explosive and ballistics testing for ND and Strategic Partnership Programs (SPP).

- Terminal Ballistics Facility (TBF)
- Light Initiated High Explosives Facility (LIHE)
- Explosive Machining Facility (EMF)



## What We Do

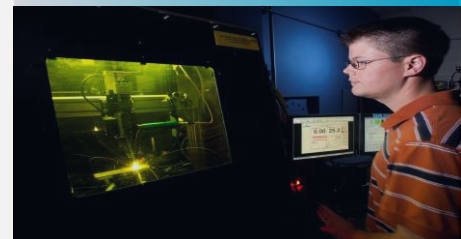
### Research —

Pursue fundamental understanding, characterization, and modeling of explosives for component applications.



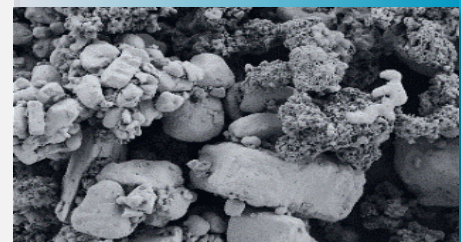
### Design & Production —

ND component design for Performance and safety. deliver high quality, reliable products to the ND stockpile



### Materials —

Development, production, and characterization of energetic materials for components and state of health evaluations.



### Surveillance —

Perform critical assessments of energetic materials throughout their life cycles

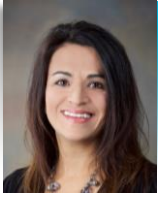


### Explosives Safety and Technology —

Asset for emerging national issues associated with explosives



# Our Management Team



Monica Chavez



Everett Hafenrichter



Douglas Taylor



Jessica Bierner



Shaun Hightower



Marc Montoya



Raymond Carey



Michelle Aragon

## How We Work

### Explosive Component Production I-

Production Agency (PA) for external production of explosive components for the nuclear weapons complex. **(Monica Chavez)**

### Explosive Component Design-

Design Agency (DA) for a broad set of non-nuclear explosive components for all ND systems, including timers, detonators, igniters, actuators, rocket motors, gas generators, indicators, piston motors, primers, and more. **(Everett Hafenrichter)**

### Explosives Research & Development-

Conducts basic science and applied research in explosive materials, advanced manufacturing, and detonation studies and performs modeling of fundamental explosive behavior at the microstructural and meso-scale levels. **(Douglas Taylor)**

### Explosive Materials-

Development, production, and characterization of explosive materials (high explosives, propellants, and pyrotechnics) used in Sandia explosive components for ND and SPP applications. **(Jessica Bierner)**

### Explosives Materials Operations-

Laboratory operations in energetic material processing and characterization, environmental conditioning, non-destructive testing, and component disassembly dedicated to delivery of quality materials and data meeting customer requirements and schedule. **(Shaun Hightower)**

**Explosive Testing, Fabrication, & Operations-** Evaluates the performance of weapons systems, rocket motors, armaments, and ammunition through large-scale explosive and ballistics testing for ND and SPP customers. **(Marc Montoya)**

### Explosive Component Production II-

Produces energetic components that support deliverables for Sandia's nuclear deterrence mission while responsible for a wide scope of activities including production process, development, Energetics Manufacturing Science and more. **(Raymond Carey)**

### Explosive Technology Maturation & Advanced Programs-

Bringing ETG into the future by leveraging partnerships across Sandia through Nuclear Deterrence technology maturation and national security partnerships. **(Michelle Aragon)**



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### To tour the ECF:

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