# Dossier: TEXAS HIGH ENERGY MATERIALS, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $199,991.00

**Award Date:** 2023-12-18

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

TEXAS HIGH ENERGY MATERIALS, LLC (TxHEM) is a research, development, and production company specializing in energetic materials for defense, aerospace, and commercial applications. Their core mission revolves around designing, synthesizing, and manufacturing novel energetic materials with enhanced performance characteristics, improved safety profiles, and reduced environmental impact compared to traditional explosives and propellants. TxHEM aims to solve the critical need for safer, more powerful, and more sustainable energetic materials to meet evolving defense and aerospace requirements. Their unique value proposition lies in their expertise in advanced chemistry and materials science, coupled with their ability to scale up production and tailor energetic materials to specific customer needs. They are specifically developing and marketing insensitive high explosives and gun propellants.

**Technology Focus:**

* Advanced Synthesis & Formulation: TxHEM focuses on the synthesis and formulation of CL-20 based explosives. CL-20 (Hexanitrohexaazaisowurtzitane) is a powerful explosive with significantly higher energy density than conventional explosives like HMX and RDX. TxHEM is developing techniques to synthesize CL-20 and formulate it into end-item explosives and propellants with improved performance and safety.
* Insensitive Munitions Technology: TxHEM is focused on insensitive munitions technologies. This means they focus on energetic materials and formulations that are less susceptible to accidental detonation due to shock, impact, or heat, thereby increasing safety in handling, storage, and use. This includes the development of novel binders and additives to improve the safety of CL-20 containing formulations.

**Recent Developments & Traction:**

* In November 2021, TxHEM announced the successful manufacture of 3,000 lbs of CL-20.
* In April 2023, the Naval Surface Warfare Center Indian Head Division (NSWC IHD) awarded Texas High Energy Materials a $37 million contract to establish domestic production capability for CL-20. The contract involved the purchase, installation, and operation of CL-20 manufacturing equipment at TxHEM's facility.

**Leadership & Team:**

* Dr. Steve Skaggs, CEO: Dr. Skaggs appears to have a extensive background in chemical engineering and explosive chemistry.
* The team is composed of researchers and engineers with expertise in energetic materials, chemistry, and manufacturing.

**Competitive Landscape:**

* DNX Corporation: DNX Corporation also specializes in energetic materials and is involved in the production of CL-20. TxHEM differentiates itself through its focus on insensitive munitions and potentially specific formulations of CL-20 to meet customized requirements.
* General Dynamics Ordnance and Tactical Systems: A larger player with a broader range of defense products, but also involved in energetic materials development and manufacturing. TxHEM can differentiate itself through greater agility, focus on novel materials (CL-20), and customized solutions.

**Sources:**

1. [https://sam.gov/opp/9f916274d62643e1a628d8ff669b778d/view](https://sam.gov/opp/9f916274d62643e1a628d8ff669b778d/view)

2. [https://www.navsea.navy.mil/Media/News/Article/3358027/nswc-indian-head-division-awards-contract-for-domestic-production-capability-of/](https://www.navsea.navy.mil/Media/News/Article/3358027/nswc-indian-head-division-awards-contract-for-domestic-production-capability-of/)

3. [https://www.naval.energy.gov/news/2021/CL20\_TxHEM.html](https://www.naval.energy.gov/news/2021/CL20\_TxHEM.html)