



Sigma provides FHAs to DTRA at three locations—Ellsworth AFB, Kirtland AFB, and Minot AFB (pictured).

Sigma provides a variety of technical support services in direct support of federal clients, including various DOE, NNSA, and DoD agencies as well as their on-site prime contractors:

- NNSA Headquarters Offices (NA-22, NA-122, NA-10, NA-MB-1.3, etc.)
- USAF Nuclear Weapons Safety Center
- U.S. Air Force Global Strike Command
- Defense Threat Reduction Agency
- UT-Battelle (Oak Ridge National Laboratory)

### Sigma Contract Vehicles

- **Technical, Engineering and Programmatic Support (TEPS) Services Blanket Purchase Agreement (BPA) III**
  - CTA Member under Contract No. 89233122ANA000017
  - January 2023 to December 2027
- **Honeywell Supply Chain Management Center Strategic (SCMC) Sourcing Agreement**
  - Contract No. WS190223
  - \$225M Ceiling
  - October 2020 to September 2025

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## A Nuclear Professional Services Company

# Technical Support Services

Leveraging more than 25 years of experience as a trusted provider of nuclear professional services to the U.S. Department of Energy (DOE), Sigma Science has been providing technical, management, and administrative services support to DOE and the National Nuclear Security Administration (NNSA) agencies since 1996. This includes support in the areas of nuclear and non-nuclear engineering services, management and advisory support, analysis and classified administrative support, communications, and independent design review and assessments.

Sigma provides Technical Support Services solutions through:

- Analysis and communication support services to NNSA HQ and NNSA programs
- Providing independent design reviews and assessments to both NNSA and DoD for engineered systems such as nuclear transport; nuclear energy and reactor products; and facilities designed to develop, manufacture, and store nuclear weapons and nuclear materials
- Providing advisory and assistance support services to DOE Office of Nuclear Energy (NE), NNSA, and DoD nuclear energy and engineering programs

### Capabilities

Founded in 1996, Sigma is a small, disadvantaged business with more than 115 resources and access to hundreds of nuclear subject matter experts (SMEs), engineers, scientists, and professional staff.

- **Nuclear and Non-Nuclear Engineering Services.** Sigma provides nuclear and non-nuclear engineering services to the DOE and DoD. These services include mechanical, electrical, and nuclear engineering for nuclear transport systems (rail cars); weapon storage and handling systems such as lifts and cranes; and nuclear facility engineering services such as fire protection engineering, mechanical design, constructability, and manufacturing.
- **Management and Advisory Support.** Sigma provides advisory services for both DOE-NE and NNSA in the areas of weapon generation and storage facility design review, National Environmental Policy Act (NEPA), nuclear non-proliferation R&D, requirements management, performance assessment, and quality assurance (QA).
- **Analysis and Classified Administrative Support.** Sigma provides analysis and administrative support for NNSA at NNSA-HQ supporting NNSA-HQ's classified control center, NNSA-122 NNSA's Office of Nuclear Weapons Stockpile, and Oak Ridge National Lab (ORNL).
- **Communications.** Sigma's on-site teams assist in the management, preparation, generation, and delivery of communications and classified communications at NNSA-HQ's correspondence control center; prepare and deliver reports; and coordinate technical and programmatic workshops for NNSA NA-22, non-proliferation R&D.
- **Independent Design Review and Assessments.** Sigma engineers perform independent design reviews and assessments for construction activities and assess M&O performance being performed at NNSA Acquisition and Project Management Offices (Y-12 and Savannah River Site).

## Relevant Experience

Sigma provides technical support services to DOE, NNSA, and DOD clients. Our technical, management, and administrative services include nuclear safety and engineering assistance, operations management assistance, QA program assistance, communications assistance, project engineering support, facility oversight technical support, miscellaneous support, and records management. Additional support includes technical analyses, document preparation and review, assistance in oversight activities, corrective action management, information management, technical editing, training, logistical coordination, performance analyses, records maintenance, and general and cross-cutting support.

**U.S. Air Force Global Strike Command—On-Site General Engineering Management and Advisory Support and On-Demand Engineering Design Firm Services for Design Reviews.** Sigma provided engineering management, advisory support, and on-demand engineering services under a \$900,000 2-year contract. The contract was with the U.S. Air Force Global Strike Command Office of Civil Engineering (AFGSC/A4C) at Barksdale Air Force Base (AFB) in Louisiana. The primary contract scope called for facilitating planning, developing, and integrating nuclear weapon generation facility, infrastructure, and operational engineering requirements to support AFGSC's and the Air Force Nuclear Enterprise's long-term plans and strategies. In providing On-Demand Engineering and Design Firm Services, Sigma assisted in reviewing nuclear essential system designs for nuclear weapon generation facilities to verify engineering analysis and calculations and compliance with regulations.

**Strategic Communications and Administrative Support Services to NNSA (NA-10) in Washington, DC.** Sigma provides administrative support services to the DOE NNSA in Washington, DC. under a \$1.2M, 3-year contract as a subcontractor to TechSource, Inc. Under this contract, Sigma provides administrative support to the NNSA Liaison and technical, program, and strategic communications support services to the Office of the Deputy Administrator for Defense Programs (NA-10). Key work scope tasks include acting as the Human Capital and Business Operations office security liaison; providing administrative support for awards and training; assisting with foreign travel arrangements; providing administrative support to the Assistant Deputy for Research, Development, Test, and Evaluation (NA-11); processing NNSA Program Office incoming documents to determine required review and response actions; and routinely interfacing with high-level Defense Programs personnel.

**Defense Threat Reduction Agency—Fire Hazards Analysis.** Sigma is developing Fire Hazard Analyses (FHA) for the Defense Threat Reduction Agency (DTRA) under a \$2M, 3.5-year task order contract. Sigma is developing three U.S. Air Force (USAF) Facility FHAs in accordance with USAF requirements for Air Force Global Strike Command Nuclear Weapons facilities at the Ellsworth Air Force Base (AFB), the Minot AFB, and the Kirtland AFB. FHAs for these facilities include an assessment of the risk from fire and related hazards in relation to existing or proposed fire safety features to ensure the facility can be safely controlled and stabilized during and after a fire. New facility—Ellsworth AFB Weapon Generation Facility (WGF)-F—design FHAs are being initiated early in the design phase to ensure an acceptable level of protection is being incorporated into the design. In addition to the three FHAs, during Option Period 2, DTRA increased our scope to perform two additional reviews of the Ellsworth AFB WGFF FHA at the 95% design and final design for this new facility.

**NNSA Office of Management and Budget—Executive Secretariat.** Sigma provided operational, analytical, and administrative business support services to the National Nuclear Security Administration (NNSA) Office of the Executive Secretariat (NA-ES) (NA-MB-1.3) under a \$4.5M 3.5-year task-order contract. Contract activities support top-level NNSA communications that form key components of NNSA interactions with the U.S. Department of Energy, the White House, Congress, other governmental agencies, and the public. Activities included in this role include correspondence analysis and classified document control, conference management, internal and interagency collaborations, Congressional reports, and development of correspondence and other documentation/communications.

**UT-Battelle—ORNL Technical and Administrative Support.** Sigma provided technical and administrative support to the Fissile Materials Disposition Program and various U.S. Department of Energy (DOE) Office of Nuclear Energy projects at Oak Ridge National Laboratory (ORNL). Under this \$2.4M, 4.5-year contract, key contract accomplishments include providing technical resources that were part of the High Flux Isotope Reactor Safety Basis Team that independently reviewed the HFIR offsite dispersion analysis calculation; supporting the DOE and ORNL by developing a white paper as the basis for assessing proliferation resistance and physical protection for the Next Generation Nuclear Plant Very High-Temperature Reactor; and helping ORNL address reactor-use options and associated issues for plutonium disposition and close-out of the GT-MHR plant U.S.-Russian Cooperative Agreement, reviewing the final gas-turbine development testing deliverables. In addition, Sigma supported ORNL and the Nuclear Regulatory Commission (NRC) in revising the NRC Standard Review Plan (NUREG-0800) with design-specific review standards and developing safety evaluation report templates to address pending reviews of pre-applications and license applications for advanced reactor technologies, including small modular reactors using a risk-informed performance-based review approach.