



Theatre Ballistic Missile Defense Targets



Space Vector has been supporting the Theatre Ballistic Missile Defense (TBMD) targets program (Hera) since 1992. The Hera program provided the United States Army with a total of twenty-five target vehicles. A variety of configurations offered THAAD and PAC-3 threat like ballistic missile targets. The Hera target is a two-stage vehicle consisting of modified second and third stage motors (SR19/M57) from the Minuteman II ICBM with an instrumented ballistic reentry vehicle.

Space Vector provided the design, analysis, fabrication, assembly, test and delivery of 25 flight sets including spares of the four major vehicle sections that consisted of:

- Guidance and Control Section
- Motor Adapter
- Piledriver Control Section
- Aft Skirt with and without tail fins and roll stabilization system

Various engineering services were provided during the development phase of the program including:

- Electrical and mechanical interface design
- Structural analysis and load testing
- Thermal protection system design and analysis
- Pneumatic system sizing and simulation
- Component and system level acceptance and qualification testing
- Ground and launch support equipment design and analysis
- Reliability analysis

In addition, Space Vector provided launch support personnel, program management and quality assurance to the Hera targets program.



Piledriver Control Section



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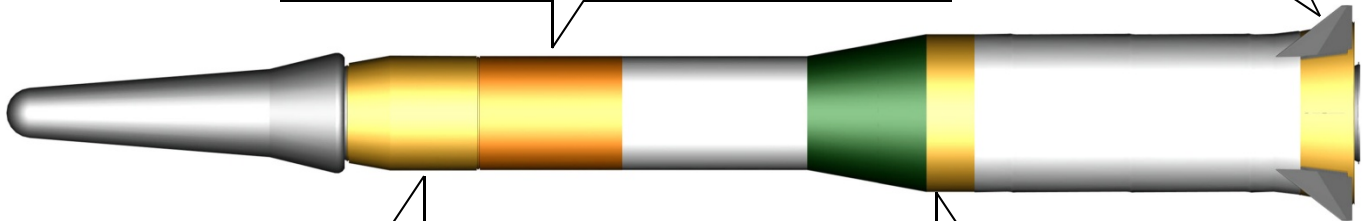
Key vehicle hardware provided by Space Vector

Motor Adapter

- FTS Electronics
- NCU Junction Box
- Pneumatic Separation Sys.
- Ballast Plates*
- CCS Pressure Vessel Assy*
- Skin/Ring Structure
- Reentry Ablative Coating*

Aft Skirt

- Skirt Structure
- Tail Fins (4)*
- Roll Stabilization System*



Guidance and Control Section (GCS)

- Pneumatic Separation System
- Reaction Control System
- Telemetry Signal Conditioner
- NiCd Battery Packs
- Skin/Ring Structure
- Reentry Ablative Coating*
- C-Band Transponder with Antennas (3)
- Multi-Branch Cable Harnesses

Pile Driver Control Section (PCS)

- FTS Electronics
- Connector Separation Assembly
- CCS Regulator and Thrusters*
- Reentry Fins (4)*
- Internal Ablative Coating

* As required

Space Vector Developed Support Equipment:

- Vehicle Transporter Erector
- Module Lifting Slings
- Lab View Based Module Test Stations
- Load Test Fixture
- Handling Carts
- Vibration Plates
- Booster Simulators (SR19 / M57)



3 Nozzle Thruster



Booster Simulator



SR19 Skirt and Fins