

# FLIGHT TEST PLANNING

*Safety in Planning and Conduct of Missile Flight Testing*

APT personnel have planned and conducted tests at most U.S. national ranges as well as several international ranges. Missile flight tests are planned by combining knowledge of test requirements (documented through our systems analysis work) with constraints imposed by instrumentation and range safety. This planning approach expands the allowable test envelope and enhances the ability to test critical performance parameters.

*APT Research brings extensive test range experience to the planning and conduct of missile flight testing.*

## Test Range Experience

- Reagan Test Site
- White Sands Missile Range
- Western Test Range/VAFB
- Eastern Test Range/PAFB
- Pacific Missile Range Facility
- Kodiak Launch Complex
- Israeli Test Range
- Yuma Proving Ground
- Space Port Canada
- Primex Small Arms Range

## Support Areas

- Flight Test Scenario Development/ Risk Assessment
- Launch Console Operations
- Test Planning Documentation
- Universal Documentation System (UDS)
- Instrumentation Planning
- Data Collection
- Safety Tracking
- Safety Office Interface/Approvals
- Waiver Development/Coordination
- Test Execution Concept of Operations (CONOPS)
- Test Execution Procedures



## Capabilities

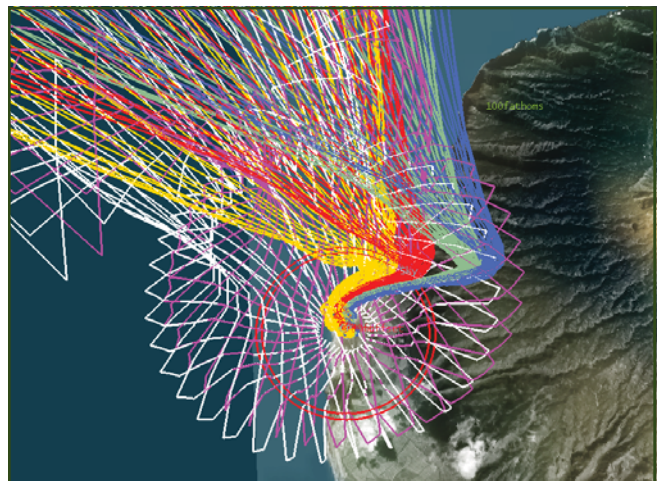
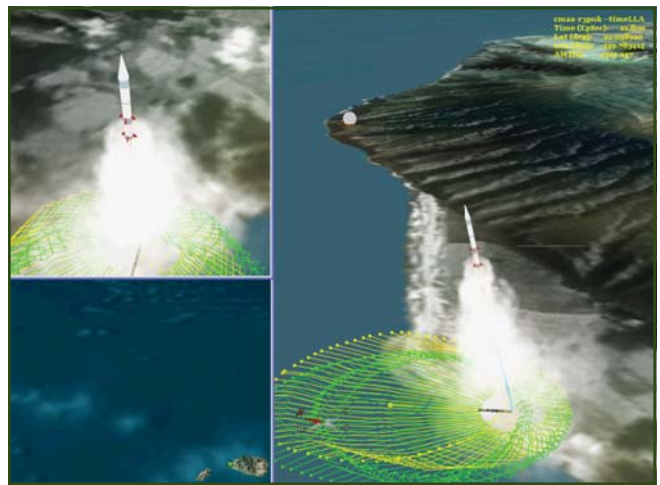
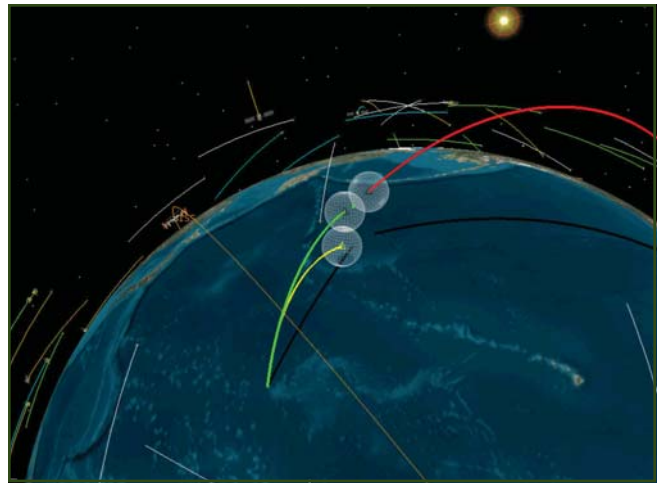
- Test Execution
- Test Requirements Traceability
- Test Program Feasibility
- Trajectory/Scenario Development
- National Range UDS Document Development
- Space Asset Risk Assessment

## Range Users Supported

- Missile Defense Agency (MDA)
- Ground-Based Midcourse Defense (GMD)
- Theater High Altitude Area Defense (THAAD)
- Space & Missile Defense Command (SMDC)
- Critical Measurements Countermeasures (CMCM)
- Arrow Interceptor
- LV-2 Target System
- Hera Target System
- Anti-Satellite Systems
- Space Tracking & Surveillance System (STSS)
- Airborne Laser Testbed (ALTB)
- Near-Field Infrared Experiment (NFIRE)

# Accomplishments

- Test execution support to MDA programs and elements
  - NFIRE
  - STSS
  - ALTB
  - THAAD
- Launch area hazard assessment for LV-2 at Meck Island
- Cooperative development of 3-stage GBI trajectory from Meck Island
- Development of test procedures and documents
- Feasibility evaluation of CMCM flight test scenarios
- Risk assessment of candidate scenarios from:
  - Flight Termination
  - Payload Malfunction
  - Successful Intercept
  - Collisions with Space Assets
  - Orbital Debris
- Development of Integrated Launch Exclusion Tables



## APT Point of Contact

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