

directed over open land toward ground targets with natural features (e.g., mountains, hills, buttes) or earthen berms as a backstop. Lower-power lasers could also be fired from the System Integration Laboratory (SIL) at the Birk Flight Test Facility to range targets for atmospheric testing. Appropriate automatic hard-stop limits and beam path restrictors would be incorporated into the test design to ensure that laser energy does not extend beyond natural features and backstops. Additionally, the proposed ground test area would be cleared of personnel prior to initiating test activities. The ground-testing activities could also be conducted using a ground-based simulator within Building 151 at Edwards AFB. No open range testing of the HEL (COIL) would be conducted. Ground testing of the HEL would be conducted at Edwards AFB within Building 151 and the SIL using a ground-based simulator or an enclosed test cell. In the event that ground testing is not possible at Edwards AFB, ground testing of the ARS, BILL, TILL, and SHEL systems only could be conducted at Kirtland AFB or Holloman AFB/WSMR.

**Flight-Testing Activities.** Flight tests at ranges associated with WSMR (including FAA-controlled airspace and airspace utilized by Fort Bliss), Edwards AFB (R-2508 Airspace Complex), and Vandenberg AFB (Western Range) would be used to test the ARS, BILL, TILL, SHEL, and HIL systems.

The ABL tests would include acquisition and tracking of targets at short-range as well as high-energy tests. These tests would be conducted against instrumented diagnostic target boards carried by balloons, missiles, or aircraft. Missiles would incorporate a flight-termination system, when required, to ensure that debris would be contained on the range in the event the target must be destroyed during flight. Proteus aircraft (a manned aircraft with a target board attached) and Missile Alternative Range Target Instrument (MARTI) drops (balloon with a target board attached) would be utilized for testing of the lower-power laser systems (i.e., ARS, BILL, TILL, and SHEL). MARTI drops would also be used for testing the HEL.

The MARTI is a diagnostic target for ABL that is similar in size and geometry to a ballistic missile. The basic construction consists of a shell of aluminum with aluminum fins attached, coated with paint selected to represent the properties of the paint on ballistic missiles (no fuel would be onboard). The balloon would rise to an approximate height of 100,000 feet and may pass over private and BLM-managed lands, depending on wind

conditions aloft. When the balloon is over the target drop box and at the desired altitude the MARTI payload would be released. The MARTI would free-fall to 50,000 feet allowing approximately 55 seconds of engagement time, allowing multiple engagements on each drop. A nominal three engagements per MARTI drop are planned. Approximately 60 pounds of flare attached to the MARTI would burn during the entire ABL engagement to provide an infrared source for the ARS. The flare would be exhausted prior to the MARTI reaching the ground. After the ABL engagement is complete, a parachute system would be deployed to slow down and recover the complete MARTI unit for reuse.

During flight tests with the ABL aircraft, up to two "chase aircraft" may be utilized to monitor test activities. The ABL aircraft would fly at an altitude of 35,000 feet or higher. The laser systems would be directed above horizontal in an upward direction to minimize potential ground impact or potential contact with other aircraft. The energy from the HEL would heat the missile's booster components and cause a stress fracture, which would destroy the missile.

Missile debris would be contained within the range boundaries. The geometry of the tests would preclude operation of the laser except at an angle that is above the horizon. The onboard sensors and laser clearinghouse data would be used to confirm that no other aircraft or satellites are within the potential path of the beam, although controlled airspace would be utilized during ABL test activities and would be verified cleared. Airborne diagnostic testing would revalidate and expand on-the-ground test activities, confirm computer model predictions, and enable complete system tests.

**No-Action Alternative.** The No-Action Alternative is to proceed with ABL testing activities as addressed in the 1997 FEIS and associated ROD.

#### NEPA Process

The Notice of Intent (NOI) to prepare an SEIS for ABL Program test actions was published in the **Federal Register** on March 22, 2002, initiating the public scoping process. Public scoping meetings were held in April 2002 in communities perceived to be affected by the ABL tests. The Notice of Availability (NOA) of the ABL Draft SEIS was published in the **Federal Register** in September 2002. This initiated a public review and comment period for the Draft SEIS. Four public hearings were held in October 2002 in the same locations as the public scoping

meetings. Comments on the Draft SEIS were considered in the preparation of the Final SEIS. A Department of Defense NOA for the Final SEIS was published in the **Federal Register** on June 16, 2003. An Environmental Protection Agency NOA for the Final SEIS was published on July 3, 2003, initiating an additional 30-day comment period. Comments were considered in the decision process, culminating in this ROD.

#### Environmental Issues

The proposed activities addressed in the SEIS do not change the scope, quantity, or quality of the actions analyzed in the 1997 FEIS; therefore, only the following resources were analyzed in the SEIS for potential impacts: airspace, hazardous materials and hazardous waste management, health and safety, air quality, noise, biological resources, cultural resources, and socioeconomic. Environmental issues identified during the analysis are summarized below. The complete SEIS is available at the following Web site: [http://www.afcee.brooks.af.mil/ec/eiap/eis/abl/ABL\\_F-SEIS\\_Apr\\_03.pdf](http://www.afcee.brooks.af.mil/ec/eiap/eis/abl/ABL_F-SEIS_Apr_03.pdf).

**Environmental Effects of the Proposed Action.** The current regional airspace restrictions would continue due to ABL testing activities. Flight-testing activities occurring within FAA-controlled airspace would be coordinated with the FAA prior to conducting test activities. Hazardous materials used and hazardous waste generated during ABL testing activities would be managed in accordance with applicable federal, state, DOD, and Air Force regulations regarding the use, storage, and handling of hazardous materials, hazardous waste, and hazardous chemicals identified under the hazardous Materials Management Plan. ABL testing activities would involve ground-level and in-flight lasing. Performance of ABL testing activities in accordance with appropriate safety measures would reduce the potential for health and safety impacts. There would be short-term, negligible increases in pollutant emissions due to ground- and flight-testing activities. The minimal increases would not delay regional progress toward attainment of any air quality standard. The negligible increases in pollutants would not exceed the *de minimus* threshold of any regional air basin. Due to the location of the ground-test activities and the altitude of the flight-test activities, no residential areas would be exposed to continuous noise levels exceeding 65 decibels (dBA). Because ABL testing activities would be conducted in accordance with the applicable regulations and existing