

Joint Chemical Agent Detector (JCAD)

Protects U.S. forces by detecting, identifying, quantifying, alerting, and reporting the presence of nerve, blister, and blood agents.



DESCRIPTION AND SPECIFICATIONS

The Joint Chemical Agent Detector (JCAD) is a multi-mission, chemical agent point detector currently in development to replace all current such systems in the U.S. inventory. Equipped with a pre-concentrator, it will be capable of accumulating and reporting miosis-level concentrations of one chemical agent while providing a rapid-alert response indication to high-concentration exposures from multiple agents.

JCAD may be used as a surface contamination survey instrument to pre-sort vehicles, equipment, and personnel to determine decontamination requirements and verify the effectiveness of decontamination operations. It will also be used to monitor terrain during chemical surveys.

Installed on military ground vehicles, aircraft, naval ships, and at military installations, JCAD can be operated from various external platform power sources. In rotary and fixed-wing aircraft, JCAD will monitor the cargo/cockpit areas and cargo during on- and off-load operations. In aircraft configurations, JCAD will alert prior to miosis levels to allow sufficient time for protective measures.

Hand-held or worn in a pouch attachable to a warfighter's load-bearing equipment, it will store up to 72 hours of cumulative dosages and chemical alarms in its onboard memory for hazard-level reporting or download. JCAD provides for external data interface via an RS-232 port.

JCAD interfaces with the user through a digital, graphic liquid crystal display, user-selectable audio, and LED alert mechanism. Its communication protocol complies with the Joint Technical Architecture and the Joint Warning and Reporting Network (JWARN) interface requirements specification. The JCAD detector unit will weigh less than two pounds (0.9 kilograms), including the internal battery weight. JCAD will operate on internal battery power using rechargeable or non-rechargeable cells. It will operate under a variety of

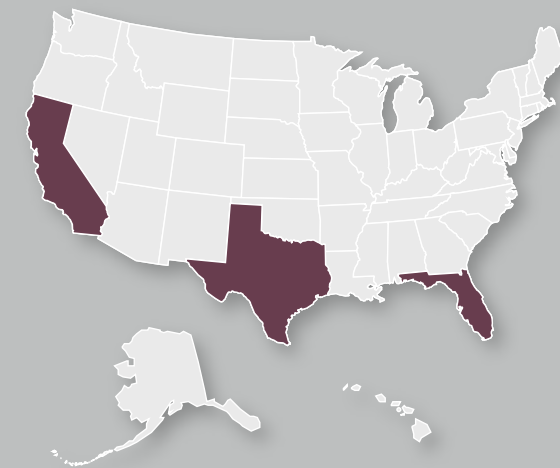
external power sources as well as in a wide range of temperatures, altitudes, and environmental conditions, including blowing sand, rain, freezing rain, salt fog, and salt spray.

PROGRAM STATUS

- **FY04** Program restructured to follow an incremental acquisition strategy

PROJECTED ACTIVITIES

- **FY05** Government evaluation of current commercial chemical agent detectors to fulfill Increment 1 requirements



CONTRACTORS

SAIC (San Diego, CA)
 BAE Systems (Austin, TX)
 Envirocon USA, Inc (Port Orange, FL)
 Smith's Detection (Watford, United Kingdom)

INVESTMENT COMPONENT

Modernization

ACQUISITION PHASE

- System Development and Demonstration