

Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU)



In FY25, the Army decided that no new investment will go into the Stryker platform after FY26. The Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) had been intended as a NBCRV Stryker-specific upgrade, but the program office is currently developing a testing strategy for a platform-agnostic SSU, which will leverage the sensors that would have gone into the NBCRV SSU Capability Set (CS) 2.2 upgrade. In July 2025, DOT&E removed NBCRV SSU from oversight because the Army is no longer investing in the Stryker platform.

SYSTEM DESCRIPTION

The NBCRV is the Army's mounted chemical, biological, radiological, and nuclear (CBRN) reconnaissance asset available to implement CBRN-related tasks.

The NBCRV is intended to provide Army maneuver commanders with critical information to make decisions in a CBRN environment. NBCRV-equipped units are required to conduct CBRN reconnaissance of route, area, or zone; CBRN survey for contamination identification and mapping; and

CBRN surveillance of operational areas or named areas of interest.

The SSU is intended to address capability limitations, operations and maintenance costs, and obsolescence issues of the current NBCRV. The SSU provides the current NBCRV with a variety of sensors that detect and identify

chemical, biological, and nuclear hazards at standoff, as well as directly outside the vehicle. CS 2.1 includes the following suite of sensors as part of the SSU:

- The Improved Mobile Chemical Agent Detector allows operators to detect and identify chemical agent vapors at standoff.
- The Joint Chemical Agent Detector allows the operators to detect and identify chemical agent vapors directly outside of the vehicle.
- The Compact Stand-off Detection System detects aerosol clouds that are capable of containing biological agents. Units can then fly a Small Unmanned Aircraft System (SUAS), equipped with a Biological Aerial Sensor (BAS), to detect biological agents and collect samples that can be used with other systems to identify potential biological warfare agents.
- The Vehicle Integrated Platform Enhanced RADIAC (VIPER) can warn operators inside the vehicle of potential radiation hazards.
- The Mounted Enhanced RADIAC Long-Range Imaging Network (MERLIN) can detect and identify radiological hazards at standoff, without entering into hazardous radiation zones.

The Army is currently defining CS 2.2, which may include new sensors as well as improvements to CS 2.1 sensors, based on test findings.

MISSION

Army commanders will use the NBCRV SSU's point, standoff, and remote CBRN sensing capabilities to get the time and space to make informed, proactive, risk-based decisions, thus enhancing freedom of movement and freedom of maneuver in large-scale combat operations. SSU-equipped units will perform CBRN reconnaissance (route, area, and zone) on primary and secondary roads and cross-country, CBRN surveys (to determine limits of contamination), and CBRN surveillance, as directed by the maneuver force commander. Units equipped with NBCRV SSU will conduct reconnaissance at maneuver speeds to assess CBRN hazards at a remote distance and increase the size of the reconnaissance and surveillance areas.

PROGRAM OVERSIGHT HISTORY

The NBCRV SSU is an Acquisition Category II program testing an engineering change proposal to the M1135 Stryker NBCRV, a system currently in operations and sustainment. DOT&E originally put NBCRV on oversight in September 2018. In February 2023, DOT&E continued oversight of the NBCRV SSU for the engineering change proposal.

In September 2023, the Army completed testing in accordance with the DOT&E-approved TEMP for CS 2.1, to include an operational demonstration in September 2023. The program also conducted a Soldier Touchpoint in

September 2024. Live fire testing was completed in October 2024.

In FY25, the Army decided that no new investment will go into the Stryker platform after FY26; however, the SSU will still be pursued. The Army has not yet determined which platform the SSU will be on. However, the program will continue testing sensors as a platform-agnostic suite until a platform is chosen. The program is currently reevaluating which sensors will be a part of the SSU for CS 2.2 and what testing will be needed. In July 2025, DOT&E removed the NBCRV SSU program from oversight because the Army is no longer investing in the Stryker platform.