

Infantry Squad Vehicle (ISV)

Executive Summary

- The Program Executive Office, Combat Support and Combat Service Support (PEO, CS&CSS), approved the Infantry Squad Vehicle (ISV) program to enter Milestone C (MS C) low-rate initial production (LRIP) in June 2020.
- The Army awarded the ISV LRIP contract to General Motors Defense.
- DOT&E provided the ISV Operational Assessment (OA) to support the PEO ISV MS C decision.
- The ISV Program Office completed development of the ISV MS C Test and Evaluation Plan (TEMP) to reflect the T&E for the production and deployment phase. The Army did not submit the ISV TEMP for OSD approval prior to MS C. The Army plans to have the TEMP approved by the start of developmental testing.
- The Army Test and Evaluation Command (ATEC) plans to conduct the ISV IOT&E in August 2021 at Fort Bragg, North Carolina.



System

- The ISV is the program of record that evolved from the Army Ground Mobility Vehicle. The ISV provides mobility on the battlefield for a nine-soldier light Infantry Squad with their associated equipment. The vehicle has a payload requirement of 3,200 pounds to support the Infantry Squad conducting 72-hour operations.
- The ISV has a maximum vehicle curb weight of 5,000 pounds to meet the requirement for external transport by the UH-60. The vehicle is required to be external and internal transportable by a CH-47F helicopter and airdropped by C-17 and C-130 aircraft.

engagement, security, deterrence, and decisive action missions. Airborne and air assault Brigade Combat Teams employ the ISV during austere and offset entry operations to provide rapid cross-country mobility to conduct initial entry and offensive operations.

Major Contractor

General Motors Defense – Detroit, Michigan

Mission

Infantry Brigade Combat Team commanders employ the ISV to provide mobility and logistics support capability to conduct

Activity

- ATEC conducted schedule-driven developmental testing (DT) of three vendors' prototype ISV from December 2019 through January 2020.
- In January 2020, the ISV Program Office conducted the ISV Soldier Touchpoint 2 (STP2) at Fort Bragg, North Carolina. The program manager assessed the performance of three vendors' ISV when operated by Army rifle squads accomplishing selected infantry tasks during STP2. General Motors Defense, Oshkosh Corporation/Flyer Defense, and Science Application International Corporation (SAIC)/Polaris

provided ISV test articles. The STP2 was not an operational test. DOT&E did not approve the STP2 test plan.

- The ISV Program Office completed development of the ISV MS C TEMP to reflect the T&E for the production and deployment phase. The Army did not submit the ISV TEMP for OSD approval prior to the MS C decision. The Army plans to submit the TEMP before the start of developmental testing.
- In June 2020, DOT&E provided the ISV MS C OA to support the PEO for the ISV MS C decision.

FY20 ARMY PROGRAMS

- The PEO CS&CSS approved the ISV program to enter MS C LRIP in June 2020.
- The Army awarded the ISV LRIP contract to General Motors Defense.
- ATEC plans to conduct the ISV IOT&E in August 2021 at Fort Bragg, North Carolina.

Assessment

- Based on performance demonstrated in STP2 and DT, the ISV provides enhanced off-road mobility capability and enables infantry units to be less predictable in their movement necessary to accomplish airborne; air assault; offensive; and engagement, security cooperation, and deterrence (ESD) missions. The ISV expands a light infantry unit's area of operations. Squads equipped with ISVs accomplished nine movement tasks consisting of 50 miles each during the STP2. All ISVs were capable of carrying a nine-soldier infantry squad with their personal weapons and equipment during movement.
- The ISV has not demonstrated the capability to carry the required mission equipment, supplies, and water for a unit to sustain itself to cover a range of 300 miles within a 72-hour period. The lack of internal space to carry soldiers with their rucksacks in seats, mission-essential equipment, and sustainment loads may create a logistics and operational burden. This limits the type and duration of missions for which an ISV may be effective. Units operating for long duration will need to conduct mission planning, cross-level equipment across the unit, or may require additional ISVs to sustain operations.
- The Army did not conduct airborne, air assault, offense, defense, and ESD missions during the STP2. All ISVs have the capability for internal transport by C-17 and CH-47F in support of airborne missions. Based on DT, all ISVs meet the weight and dimension requirements to fit inside a C-17 and CH-47F, and meet the 5,000-pound weight limit to permit sling loading with CH-47F and UH-60 helicopters. The Army

plans to test and evaluate the ability of an ISV-equipped unit to accomplish these missions during IOT&E.

- Units equipped with ISVs lack reliable communication capability using hand-held radios and manpack radios over the distances of 62 to 300 miles required to accomplish missions. The ISV does not have a requirement for a mounted communication capability. During the STP2, each squad depended on their squad radios while employing ISVs. Communication between the squad leader, soldiers, and the platoon leader was intermittent and not reliable.
- General Motors Defense ISV demonstrated the highest reliability amongst the three vendors in DT. The General Motors Defense ISV demonstrated a 585 mean miles between operational mission failure (MMBOMF) versus the user requirement of 1,200 MMBOMF.
- All vendors' ISVs are cramped and soldiers cannot reach, stow, and secure equipment as needed, degrading and slowing mission operations. During the STP2, soldiers on all ISVs could not readily access items in their rucksacks without stopping the movement, dismounting, and removing their rucksacks from the vehicle.
- The ISV does not have an underbody and ballistic survivability requirement. The ISV-equipped unit will be susceptible to enemy threats and actions. All ISVs have some design features to reduce a unit's vulnerability to enemy detection such as speed, and a small, low profile design that minimize their visual detectability. In order for the ISV-equipped unit to avoid threats and traverse terrain that is covered and concealed, the ISV will give up some of its inherent speed advantage.

Recommendation

1. The Army should develop a plan to address recommendations identified in the DOT&E MS C OA before initial production of the ISV.