**1 . Date: 11-04-2023Armed ISR / ISTAR - HALE - General - SoftwareGA-ASI Flies MQ-20 Avenger Autonomously Using LEO SATCOM DatalinkURL: https://www.ga.com/ga-asi-flies-mq-20-avenger-autonomously-using-leo-satcom-datalink**

SAN DIEGO – 11 April 2023 – On April 6, 2023, General Atomics Aeronautical Systems (GA-ASI) conducted live, tactical, air combat maneuvers using Artificial Intelligence (AI) pilots to control a company-owned MQ-20 Avenger® Unmanned Aircraft System. Collaborative maneuvers between human and AI pilots were conducted using GA-ASI’s Live, Virtual, Constructive (LVC) collaborative combat aircraft (CCA) ecosystem over a Low Earth Orbit (LEO) satellite communication (SATCOM) provider’s IP-based Mission Beyond Line of Sight (BLOS) datalink. The LEO SATCOM connection was also used to rapidly retrain and redeploy AI pilots while the aircraft was airborne, demonstrating GA-ASI’s ability to update AI pilots within minutes.

This marks the first deployment of a LEO SATCOM provider connections running on an operationally relevant unmanned combat aerial vehicle (UCAV) platform. The team used two L3Harris Technologies RASOR Multi-Functional Processors (MFPs) – one that housed the transceiver card and another that controlled the BLOS Active Electronically Scanned Array (AESA). The test aircraft was outfitted with a Ball Aerospace BLOS AESA system, capable of full duplex operation. The demonstration highlighted GA-ASI’s commitment to operationalizing CCA by fusing innovative future warfare technologies, such as GA-ASI’s AI pilots and LVC ecosystem, and L3Harris and Ball Aerospace BLOS datalink solutions.

“The flight demonstrated GA-ASI’s unmatched ability to fly autonomy on real, tactically relevant, unmanned combat aerial vehicles,” said GA-ASI Senior Director of Advanced Programs Michael Atwood. “It displayed effective BLOS Command and Control through the collaboration between three defense primes. This showcases our rapidly maturing CCA mission system suite and moves us one step closer to providing this revolutionary capability to the warfighter.”

GA-ASI leveraged its end-to-end CCA ecosystem for the flight that fused third-party capabilities, human-on-the-loop control, and autonomy to enable effective human-machine teaming for 21st century conflicts. Operator commands were captured via hands on throttle-and-stick (HOTAS) controls and were sent via LEO SATCOM to AI pilots running Reinforcement Learning (RL) algorithms. AI pilots autonomously tracked and maneuvered around dynamically, and updated entities specified via HOTAS. Operators were provided updates from AI pilots on a cockpit heads-up display and could dynamically re-task via HOTAS as the mission evolved. In addition, data from agent performance was collected and sent to the ground where agents were retrained to improve performance, and then redeployed via LEO SATCOM in a matter of minutes.

This is another in an ongoing series of technology insertion and autonomous flights performed using internal research and development funding to prove out important concepts for UAS.

**2 . Date: 03-12-2024Fixed Wing - Armed ISR / ISTAR - MALE - Contract - Japan Maritime Defense Force Selects SeaGuardians From GA-ASIURL: https://www.ga.com/japan-maritime-defense-force-selects-seaguardians-from-ga-asi**

SAN DIEGO – 03 December 2024 – The Japan Maritime Self-Defense Force (JMSDF) has selected the General Atomics Aeronautical Systems, Inc. (GA-ASI) SeaGuardian® Remotely Piloted Aircraft (RPA) systems for its Long Endurance Unmanned Aerial Vehicle program. This follows JMSDF use of SeaGuardian since May 2023 as part of its Medium-Altitude, Long Endurance (MALE) RPA System Trial Operations Project.

SeaGuardian has been used by JMSDF to conduct various tests including whether unmanned aircraft can supplant some of the missions currently accomplished with manned aircraft. SeaGuardian is a MALE RPA system that can fly for 24 hours or more, depending on the configuration.

GA-ASI has strengthened its Maritime Wide Area Surveillance (MWAS) for Japan with Optix+, which gathers information from the SeaGuardian sensors, as well as other data sources, displaying the full picture of surveillance information for its operator. This functionality makes it easy to task and direct its Intelligence, Surveillance and Reconnaissance (ISR) information in real time. GA-ASI’s Optix+ software suite rapidly correlates and exploits collected data into an easily shared common operational picture. Having multi-source correlated data enables automatic detection of anomalous behaviors over waters.

SeaGuardian features two multi-mode maritime surface-search radars with an Inverse Synthetic Aperture Radar (ISAR) imaging mode, an Automatic Identification System (AIS) receiver, and a High-Definition – Full-Motion Video sensor equipped with optical and infrared cameras as well as electronic intelligence receivers. This sensor suite enables real-time detection and identification of surface vessels over thousands of square nautical miles and provides automatic tracking of maritime targets and correlation of AIS transmitters with radar and electronic intelligence tracks.

**3 . Date: 27-01-2025Market - Reforming Defense Acquisitions To Promote Global SecurityURL: https://www.ga.com/reforming-defense-acquisitions-to-promote-global-security**

SAN DIEGO – 27 January 2025 – For more than 30 years, General Atomics Aeronautical Systems, Inc. (GA-ASI) has invented, innovated and delivered disruptive new defense technologies in support of the United States and its allies, redefining the future of global security in the process. This position as the world leader in unmanned aerial systems gives us unique insights into the policy and regulatory challenges America faces when adopting revolutionary new capabilities and technologies.

We remain a vocal advocate for reform within the U.S. defense acquisition system and support recent calls for ideas and engagement on the topic. To further this dialogue, GA-ASI recently submitted a letter to the new Department of Government Efficiency (DOGE) outlining several steps we believe to be instrumental in reformation efforts.

A copy of that letter is provided below, to generate additional public discussion on the current state of operations and the path forward.

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24 January 2025

Dear Mr. Musk,

This is an exciting time in Washington, DC and across the nation. General Atomics Aeronautical Systems (GA-ASI), the leader in unmanned aerial systems, is eager to work with the DOGE on the important task of reforming defense acquisition to enhance its efficiency and contribution to national security. GA-ASI, an industry upstart and disruptor, led the world in the design and development of unmanned aerial vehicles, and touched off a revolution in military affairs. All of this was accomplished despite significant friction and resistance from the establishment. We continue to feel this resistance as we seek to break new ground with technologies that will ensure the U.S. and allied forces maintain a decisive operational edge in an increasingly dangerous world.

We propose to apply our decades of experience with defense acquisition to address the policies, procedures, and organizational oddities that hinder timely delivery of critical capabilities to warfighters. Within GA-ASI’s own export market, poor US Government (USG) policy and sluggish bureaucratic decision-making has opened the door for competitors like China, Turkey, and Israel to win important international customers. Sales lost to these competitors while we waited on some USG action means less funding available for re-investment into R&D and modernized manufacturing infrastructure.

Bold leadership is needed. Past reform efforts, often supervised by the very organizations most in need of reform, have failed. DOGE has the potential to drive meaningful change, and we are ready to help where we can.

As you search for efficiencies within the USG’s defense acquisition system, let me flag a few areas that deserve special attention. We can provide more detailed descriptions and recommendations upon request.

We look forward to collaborating with you in your important new role.

Sincerely,

Linden Blue

Chief Executive Officer

General Atomics Aeronautical Systems Inc.

**4 . Date: 18-05-2023Armed ISR / ISTAR - MALE - General - SeaGuardian Used by USN in Support of Integrated Battle ProblemURL: https://www.ga.com/seaguardian-used-by-usn-in-support-of-integrated-battle-problem**

Series of ASW and MUM-T Exercises Showcase Advantages of UAS

SAN DIEGO – 18 May 2023 – In support of the U.S. Navy’s (USN) Integrated Battle Problem 2023 (IBP-23) exercise in May, General Atomics Aeronautical Systems, Inc. (GA-ASI) conducted a series of Anti-Submarine Warfare (ASW) exercises cooperatively with the USN Helicopter Maritime Strike Squadrons (HSM) 38, 49, 71, and 75. GA-ASI flew a company-owned MQ-9B SeaGuardian® Unmanned Aircraft System (UAS) under a USN Flight Clearance. The HSM squadrons flew the MH-60R Seahawk helicopter flown out of Naval Air Station North Island off the coast of San Diego, Calif., on April 24-25, 2023.

The exercise was focused on Manned-Unmanned Teaming (MUM-T) to conduct Cooperative ASW in the Southern California Offshore ASW range. During the two-day event, MH-60s dropped sonobuoys to detect a mobile training target. Using the combined SeaGuardian and MH-60R teaming concept, correlation and location of the target was expeditiously achieved and tactical reports – known as TACREPs – were then transmitted to Commander, Task Force (CTF) 34 Theater ASW Center at Naval Station Pearl Harbor via the MQ-9B crew. The CTF then directed a coordinated constructive “kill” of the simulated submarine with notional torpedoes dropped from the MH-60s. The ASW payload on the SeaGuardian uses the latest version of General Dynamics Mission Systems’ Sonobuoy Processor.

“These advanced tactics, techniques, and procedures utilizing MUM-T further reinforce the advantages to unmanned aircraft in combat with less risk to force,” said GA-ASI Vice President of DoD Strategic Development Patrick Shortsleeve. The IBP-23 exercise is the third time GA-ASI’s MQ-9B SeaGuardian has supported this annual event. These exercises generate warfighting advantages for the Fleet by providing the operational environment to work through tactics, techniques, procedures, and command and control to refine and enhance warfighting. The Fleet IBP series is led by Commander, U.S. Pacific Fleet and executed by Commander, U.S. 3rd Fleet and will continue throughout May 2023.

**5 . Date: 06-03-2023Armed ISR / ISTAR - MALE - Contract - AFSOC Selects MQ-9B SkyGuardian for UAS Family of Systems ConceptURL: https://www.ga-asi.com/afsoc-selects-mq-9b-skyguardian-for-uas-family-of-systems-concept**

GA-ASI to Deliver Three Aircraft to First U.S. Customer

SAN DIEGO – 06 March 2023 – General Atomics Aeronautical Systems, Inc. is proud to announce a new contract with U.S. Air Force Special Operations Command (AFSOC) to provide three MQ-9B SkyGuardian® remotely piloted aircraft systems to its first U.S. customer.

AFSOC’s acquisition of MQ-9B builds on more than 20 years as a GA-ASI partner and more than 14 years flying the MQ-9A Reaper, operating more than 40 aircraft in harsh environments around the world.

MQ-9B will feature a key role in developing AFSOC’s new Adaptive Airborne Enterprise (A2E) concept, which envisions AFSOC projecting air power for special operations forces from beyond the horizon, using a family of large UAS and expendable, small UAS from permissive to denied environments.

“We’re very excited to continue our great partnership with AFSOC well into the future,” said David R. Alexander, president of GA-ASI. “MQ-9B is the ideal platform for inserting air-launched effects into potentially hostile environments. The MQ-9B’s combination of range, endurance, reduced manpower footprint, and overall flexibility will make it a true centerpiece of AFSOC’s future family of advanced UAS systems.”

MQ-9B represents the next generation of UAS, having demonstrated airborne endurance of more than 40 hours in certain configurations, automatic takeoffs and landings under SATCOM-only control, as well as a GA-ASI-developed Detect and Avoid System, among other upgrades. Its development is the result of a company-funded effort to deliver a UAS that can meet the stringent airworthiness certification requirements of various global military and civil authorities.

MQ-9B has garnered significant interest from customers throughout the world. After the UK Ministry of Defence selected MQ-9B SkyGuardian for its upcoming Protector program, the Belgian Ministry of Defense signed a contract for SkyGuardian. The Japan Coast Guard is currently operating MQ-9B in the SeaGuardian® configuration, which the Japan Maritime Self-Defense Force (JMSDF) also recently selected for its Medium-Altitude, Long-Endurance (MALE) RPAS Trial Operation Project beginning in April.

**6 . Date: 27-02-2023Armed ISR / ISTAR - MALE - Pitch - GA-ASI Selected for Japan Maritime Self-Defense Force MALE RPAS ProjectURL: https://www.ga-asi.com/ga-asi-selected-for-japan-maritime-self-defense-force-male-rpas-project**

Trial Operation Using SeaGuardian® RPA Scheduled to Begin in April 2023

SAN DIEGO – February 27 2023 – General Atomics Aeronautical Systems, Inc. (GA-ASI), the global leader in Remotely Piloted Aircraft Systems (RPAS), is pleased to be selected to support the Japan Maritime Self-Defense Force (JMSDF) Medium-Altitude, Long-Endurance (MALE) RPAS Trial Operation Project. The project will feature GA-ASI’s MQ-9B SeaGuardian® and will begin in April 2023.

SeaGuardian will be used to conduct various tests to review adaptability to support JMSDF’s manned-unmanned teaming missions and its level of manpower reduction. The Japanese government announced that Japan Coast Guard and JMSDF will be exchanging the data obtained by the MQ-9Bs operated for each of the government’s branches.

“We’re pleased to support the JMSDF’s trial operation with our SeaGuardian UAS,” said GA-ASI President David R. Alexander. “We know there is a need in Japan and worldwide for affordable long-endurance airborne surveillance in the maritime domain.”

SeaGuardian features a multi-mode maritime surface-search radar with an Inverse Synthetic Aperture Radar (ISAR) imaging mode, an Automatic Identification System (AIS) receiver, and a High-Definition – Full-Motion Video sensor equipped with optical and infrared cameras. This sensor suite enables real-time detection and identification of surface vessels over thousands of square nautical miles and provides automatic tracking of maritime targets and correlation of AIS transmitters with radar tracks.

SkyGuardian® and SeaGuardian® are revolutionizing the long-endurance RPAS market by providing true all-weather capability and are built to achieve Type Certification based on STANAG-4671 (NATO standard) airworthiness compliance. This feature, along with GA-ASI’s operationally proven collision avoidance radar, enables flexible operations in civil airspace.

**7 . Date: 14-07-2023General - GA-ASI’s Unmanned Aircraft Cross 8 Million Flight HoursURL: https://www.ga-asi.com/ga-asi-unmanned-aircraft-cross-8-million-flight-hours**

New MQ-9B SkyGuardian®/SeaGuardian Models Add More Than 4,000 Hours

SAN DIEGO – 14 July 2023 – General Atomics Aeronautical Systems, Inc. (GA‑ASI) today announced that its family of Unmanned Aircraft Systems (UAS), which includes the Predator®, Reaper, Gray Eagle, Avenger®, and MQ-9B SkyGuardian®/SeaGuardian® lines, has surpassed eight million flight hours. GA-ASI aircraft have completed 566,000 total missions in nearly 40 countries around the world.

Adding to the total are 13 MQ-9B SkyGuardian/SeaGuardian UAS that have flown more than 4,000 flight hours, including the new Protector RG Mk1 being delivered to the United Kingdom’s Royal Air Force. The first three Protectors are currently undergoing Integrated Test, Evaluation, and Acceptance trials. In addition, MQ-9Bs are being operated by the Japan Coast Guard (JCG) and Japan Maritime Self-Defence Force (JMSDF), as well as supporting various U.S. Navy exercises.

“GA-ASI continues to be a leader in developing reliable, cost-efficient, and sustainable unmanned aircraft systems that perform advanced operations for our customers around the world,” said GA-ASI CEO Linden P. Blue. “Eight million flight hours is another achievement on our list of historic firsts, which demonstrates our relentless commitment to quality.”

The exact aircraft and customer that achieved the milestone is unknown, as it’s estimated that more than 50 Predator-class Medium-Altitude, Long-Endurance (MALE) RPA are airborne worldwide every moment of every day.

GA-ASI aircraft average 40,000 hours per month, supporting programs with the U.S. Air Force, U.S. Army, U.S. Marine Corps, NASA, the Italian Air Force, the UK Royal Air Force, the French Air Force, the United Arab Emirates Armed Forces, the Spanish Air Force, the Royal Netherlands Air Force, the Indian Navy, the Polish Air Force, JCG, JMSDF, and others, with more customers coming online soon. Missions include helping protect ground units on the battlefield, supporting first responders in the wake of natural disasters, and providing critical ISR around the world. These aircraft systems continue to maintain some of the highest mission-capable rates in the U.S. Air Force and U.S. Army aircraft inventories.

GA-ASI has produced more than 1,000 aircraft and nearly 500 Ground Control Stations (GCS) in more than three decades of business. In addition to UAS and GCS, GA-ASI produces Processing, Exploitation, and Dissemination (PED) systems, as well as sensor payloads that deliver radar and video imagery, detect moving targets on the ground and over water, and provide Signals Intelligence (SIGINT) on signals of interest. GA-ASI has also developed a Detect and Avoid (DAA) system to facilitate the safe integration of unmanned aircraft systems into civil airspace in addition to combat environments.

The Predator-series family includes Predator A and Predator XP, Predator B/MQ-9A Reaper, Predator B Extended Range (ER), Guardian, Gray Eagle, Gray Eagle ER, Predator C Avenger/ER, and MQ-9B SkyGuardian/SeaGuardian.

**8 . Date: 21-08-2023Armed ISR / ISTAR - MALE - Contract - Netherlands Increases Order of MQ-9A from GA-ASIURL: https://www.ga-asi.com/netherlands-increases-order-of-mq-9a-from-ga-asi**

RNLAF Doubles Order from 4 to 8 Aircraft

SAN DIEGO – 21 August 2023 – The Royal Netherlands Air Force (RNLAF) will double the number of MQ-9A Remotely Piloted Aircraft they will procure, taking the total order from four to eight aircraft. The first four MQ-9A Block 5 Reapers and associated Ground Control Stations were delivered to the RNLAF in 2022. MQ-9A is designed and developed by General Atomics Aeronautical Systems, Inc. (GA-ASI).

“We are doubling the number of MQ-9A Reapers so we can increase our maritime and overland intelligence, reconnaissance, surveillance (ISR) capacity,” said Lieutenant-Colonel Jan Ruedisueli, commander of the RNLAF’s 306 squadron that operate the new MQ-9A Reapers. “The MQ-9As will receive external pods for Electronic Intelligence, a communications relay, a Maritime Radar, and also be armed in the future.”

The delivery of the MQ-9As, their Ground Control Stations, and support equipment is part of a USAF Foreign Military Sale to the RNLAF.

“We’re thrilled that the first set of Dutch Reapers have made such a positive impact on the RNLAF,” said GA-ASI President David R. Alexander. “With this new set of capabilities, the Netherlands will have the most capable set of MQ-9 Block 5 aircraft in the world. They have customized the Dutch MQ-9As to meet the Netherlands’ expanding mission set.”

MQ-9A Block 5 has endurance of up to 27 hours, is capable of speeds up to 240 KTAS and can operate up to 40,000 feet. It has a 3,850-pound (1,746-kilogram) payload capacity that includes 3,000 pounds (1,361 kilograms) of external stores. It provides a long-endurance, persistent surveillance capability with Full-Motion Video and Synthetic Aperture Radar/Moving Target Indicator/Maritime Radar. An extremely reliable aircraft, MQ-9A Block 5 is equipped with a fault-tolerant flight control system and triple redundant avionics system architecture. It is engineered to meet and exceed manned aircraft reliability standards.