

The proposed sale of this aircraft and support will not alter the basic military balance in the region.

The prime contractors will be Lockheed Martin Aeronautics Company, Fort Worth, Texas, and Pratt and Whitney Military Engines, East Hartford, Connecticut. There are no known offset agreements proposed in connection with this potential sale.

Implementation of this proposed sale will not require the assignment of any additional U.S. Government or contractor representatives to Singapore.

There will be no adverse impact on U.S. defense readiness as a result of this proposed sale.

TRANSMITTAL NO. 20-06

Notice of Proposed Issuance of Letter of Offer Pursuant to Section 36(b)(1) of the Arms Export Control Act

Annex Item No. vii

(vii) Sensitivity of Technology:

1. The F-35B Short Take-Off and Vertical Landing (STOVL) aircraft is a single-seat, single-engine, all-weather, stealth, fifth-generation, multirole aircraft. It contains sensitive technology including the low observable airframe/outer mold line, the Pratt and Whitney F135 engine, AN/APG-81 radar, an integrated core processor central computer, mission systems/electronic warfare suite, a multiple sensor suite, technical data/documentation, and associated software. Sensitive elements of the F-35B are also included in operational flight and maintenance trainers.

a. The Pratt and Whitney F135 engine is a single 40,000-lb thrust class engine designed for the F-35 and assures highly reliable, affordable performance. The engine is designed to be utilized in all F-35 variants, providing unmatched commonality and supportability throughout the worldwide base of F-35 users. The Short Takeoff and Vertical Landing (STOVL) propulsion configuration consists of the main engine, diverter-less supersonic inlet, a three (3) Bearing Swivel Module, Roll Posts and Duct Assembly System, and Lift Fan.

b. The AN/APG-81 Active Electronically Scanned Array (AESA) is a high processing power/high transmission power electronic array capable of detecting air and ground targets from a greater distance than mechanically scanned array radars. It also contains a synthetic aperture radar (SAR), which creates high-resolution ground maps and provides weather data to the pilot, and provides air and ground tracks to the mission system, which uses it as a component to fuse sensor data.

c. The Electro-Optical Targeting System (EOTS) provides long-range detection and tracking as well as an infrared search and track (IRST) and forward-looking infrared (FLIR) capability for precision tracking, weapons delivery, and bomb damage assessment (BDA). The EOTS replaces multiple separate internal or podded systems typically found on legacy aircraft.

d. The Electro-Optical Distributed Aperture System (EODAS) provides the pilot with full spherical coverage for air-to-air and air-to-ground threat awareness, day/night vision enhancements, a fire control capability, and precision tracking of wingmen/friendly aircraft. The EODAS provides data directly to the pilot's helmet as well as the mission system.

e. The Electronic Warfare (EW) system is a reprogrammable, integrated system that provides radar warning and electronic support measures (ESM) along with a fully integrated countermeasures (CM) system. The EW system is the primary subsystem used to enhance situational awareness, targeting support and self-defense through the search,

intercept, location, and identification of inbound emitters and to automatically counter TR and RF threats.

f. The Command, Control, Communications, Computers and Intelligence/Communications, Navigation, and Identification (C4I/CNI) system provides the pilot with unmatched connectivity to flight members, coalition forces, and the battlefield. It is an integrated subsystem designed to provide a broad spectrum of secure, anti-jam voice and data communications, precision radio navigation and landing capability, self-identification, beyond visual range target identification, and connectivity to off-board sources of information. It also includes an inertial navigation and global positioning system (GPS) for precise location information. The functionality is tightly integrated within the mission system to enhance efficiency.

g. The aircraft C4I/CNI system includes two data links, the Multi-Function Advanced Data Link (MADL) and Link 16. The MADL is designed specifically for the F-35 and allows for stealthy communications between F-35s. Link 16 data link equipment allows the F-35 to communicate with legacy aircraft using widely distributed J-series message protocols.

h. The F-35 Autonomic Logistics Global Sustainment (ALGS) provides a fully integrated logistics management solution. ALGS integrates a number of functional areas including supply chain management, repair, support equipment, engine support, and training. The ALGS infrastructure employs a state-of-the-art information system that provides real-time, decision-worthy information for sustainment decisions by flight line personnel. Prognostic health monitoring technology is integrated with the air system and is crucial to predictive maintenance of vital components.

i. The F-35 Autonomic Logistics Information System (ALIS) provides an intelligent information infrastructure that binds all the key concepts of ALGS into an effective support system. ALIS establishes the appropriate interfaces among the F-35 Air Vehicle, the warfighter, the training system, government information technology (IT) systems, and supporting commercial enterprise systems. Additionally, ALIS provides a comprehensive tool for data collection and analysis, decision support, and action tracking.

j. The F-35 Training System includes several training devices to provide integrated training for pilots and maintainers. The pilot training devices include a Full Mission Simulator (FMS) and Deployable Mission Rehearsal Trainer (DMRT). The maintainer training devices include an Aircraft Systems Maintenance Trainer (ASMT), Ejection System Maintenance Trainer (ESMT), Outer Mold Line (OML) Lab, Flexible Linear Shaped Charge (FLSC) Trainer, F135 Engine Module Trainer, and Weapons Loading Trainer (WLT). The F-35 Training System can be integrated, where both pilots and maintainers learn in the same Integrated Training Center (ITC). Alternatively, the pilots and maintainers can train in separate facilities (Pilot Training Center and Maintenance Training Center).

k. Other subsystems, features, and capabilities include the F-35's low observable airframe, Integrated Cure Processor (ICP) Central Computer, Helmet Mounted Display System (HMDS), Pilot Life Support System, Off-Board Mission Support (OMS) System, and publications/maintenance manuals. The HMDS provides a fully sunlight readable, binocular display presentation of aircraft information projected onto the pilot's helmet visor. The use of a night vision camera integrated into the helmet eliminates the need for separate Night Vision Goggles (NVG).

The Pilot Life Support System provides a measure of Pilot Chemical, Biological, and Radiological Protection through use of an On-Board Oxygen Generating System (OBOGS); and an escape system that provides additional protection to the pilot. OBOGS takes the Power and Thermal Management System (PTMS) air and enriches it by removing gases (mainly nitrogen) by adsorption, thereby increasing the concentration of oxygen in the product gas and supplying breathable air to the pilot. The OMS provides a mission planning, mission briefing, and a maintenance/intelligence/tactical debriefing platform for the F-35.

2. The Reprogramming Center is located in the U.S. and provides F-35 customers a means to update F-35 electronic warfare databases.

3. If a technologically advanced adversary were to obtain knowledge of the specific hardware and software elements, the information could be used to develop countermeasures, which might reduce weapon system effectiveness or be used in the development of a system with similar or advanced capabilities.

4. A determination has been made that Singapore can provide substantially the same degree of protection for the sensitive technology being released as the U.S. Government. This proposed sale is necessary to further the U.S. foreign policy and national security objectives outlined in the Policy Justification. Moreover, the benefits to be derived from this sale, as outlined in the Policy Justification, outweigh the potential damage that could result if the sensitive technology were revealed to unauthorized persons.

5. All defense articles and services listed on this transmittal have been authorized for release and export to the Government of Singapore.

TRIBUTE TO BRIDGETT FREY

Mr. VAN HOLLEN, Mr. President, I rise to recognize an outstanding member of my staff who is moving on to pursue other opportunities, my long-time communications director, Bridgett Frey.

Bridgett joined my office at the start of 2009, when President Barack Obama was first inaugurated and I was serving in the House of Representatives. Things were so busy then that her interview took place in a hallway in the Capitol. She may have recognized that as a sign of things to come, but I am grateful she took the job anyway.

Through the decade that has followed, Bridgett has been a dedicated staffer and trusted adviser. Regardless of the issue of the day—from local issues like Federal grant funding and helping struggling auto dealers, to national issues like healthcare reform and economic policy, to international issues like Russian election interference and North Korean sanctions—she helped ensure that my office communicates clearly and effectively about our work in Congress. She has worked tirelessly to inform the public about the policy changes we have achieved and those we still hope to accomplish.

Whenever I took on a new challenge, Bridgett was there to help. She led communications in my personal office, as well as working with Speaker

PELOSI's team to help freshman communications directors learn the ropes of Capitol Hill when I was assistant to the Speaker. She then took on a new challenge and dual role when I became ranking member of the House Budget Committee. From budget battles to the not-so-Super Committee, she was always up to the task. She took a leave of absence to help in my 2016 campaign for the Senate and then moved across the Capitol to run the communications operation in my Senate office. She has approached all of it with intelligence, sharp instincts, sound judgment, and a sense of humor.

Bridgett has built a reputation for being hard-charging and forthright, and reporters respect her responsiveness and honesty. She has coordinated closely with all aspects of my team, helping to drive both policy work and State outreach efforts, as well as with countless offices in both the House and the Senate. She has always provided me with honest and thoughtful advice and counsel. She has an uncanny instinct for getting to the heart of any issue.

As Bridgett seeks new challenges outside our office, I know she will continue to grow in her professional career. It stems from a love of politics that she got from her father and an ethos of hard work from her mother. I deeply appreciate her many years of dedicated service to the people of Maryland and the Congress. Our entire team will miss her, but we all extend our warmest wishes as she takes on new adventures.

ADDITIONAL STATEMENTS

TRIBUTE TO TIM McALLISTER

• Mr. DAINES. Mr. President, this week I have the honor of recognizing Tim McAllister, a 96-year-old veteran who served in World War II. Tim is currently the oldest veteran living in Judith Basin County.

Tim is a humble man who speaks quietly about his military service. In fact, he spends more time reflecting on the service of his two brothers, both of whom were soldiers in the D-Day invasion at Normandy. Tim's military service took him to the South Pacific, where he was engaged in the liberation of the Philippines with the American Division in the region of Cebu City.

Tim's impact on the community is pronounced. This past November, Tim wasn't able to attend the Veterans Day celebration at the local elementary school, and his presence was missed. Because of his absence, students in first and second grade at the school made a massive card to thank him for his service and delivered it to his home. This small act of kindness was very meaningful to Tim.

Tim's roots in Montana run strong and deep. His father rode the range with the legendary Charlie M. Russell. Tim carried on those western values

from his father and developed a love for ranching and horses. Tim truly understands and loves the Montana way of life.

I am proud of Tim for his service to our country and his tremendous impact on his community. I am confident his legacy of service will live on for generations to come, and I am honored to recognize him today.●

TRIBUTE TO CALVIN BAKER

• Ms. MCSALLY. Mr. President, in April of 1981, President George H.W. Bush said "think about every problem, every challenge, we face. The solution to each starts with education." These words were true then, and they are just as true today. Education is the bedrock of our society, and it allows our country to advance.

It is difficult to think of someone who exemplifies President Bush's words more than Vail School District Superintendent Calvin Baker. I have been privileged to get to know Cal and his wife Nancy over the last many years. I also live in Vail School District—VSD—so I have seen the impact he has made in our community firsthand.

Cal moved back to Arizona in 1987 to become the principal of the only school in the Vail School District, serving 500 students. He was appointed as the superintendent of the district in 1988 and has been at the helm ever since. During his nearly 33 years of service to students and families in our community, Cal led the growth to now 22 schools serving over 14,000 students. The growth was not by accident. Families want to move to VSD so their kids can experience the world-class educational experience thanks to Cal's extraordinary leadership and success.

As with any organization, leadership matters, and for effective leadership, character matters. Calvin Baker sets the example of integrity, selfless service, and humility for all to follow. He is truly a good man.

In his tenure, Cal built an impressive team of educators and support staff and created a culture of innovation, parent involvement, and dedication to students. Cal's vision for success was based on the principle that education is a community effort. He has been the glue that kept our growing and diverse community together united with a common goal of educational excellence. In a recent letter Cal sent to parents in his district, he said, "I encourage each of you to invest deeply in your child's education and our local schools. It is that investment that is the 'secret sauce' of Vail's success."

Calvin Baker is a trailblazer on innovation in education for so many other districts in the State and country to follow. Empire High School was the first school in the United States to eliminate textbooks in favor of computers. He pioneered the Beyond Textbooks program that combines Vail's successful instructional methodology

with an online delivery system. Cal didn't just want Vail students to benefit from this effective approach. Now, 115 school districts across Arizona and six other States use this program, some of which have become top performing districts in their States.

Baker's creative and visionary leadership didn't stop there. When enrollment in the district surpassed capacity, he developed a year-round track system to ensure educational standards were high while new infrastructure was planned and built. Under his leadership, Vail schools are consistently labeled as "A+" by the Arizona Department of Education.

Calvin Baker's legacy is immense and immeasurable. It will continue on with the thousands of children in a generation who received an amazing education in Vail School District under his leadership, propelling them on a path of opportunity for their futures. Cal is the longest serving superintendent of any school district in Arizona and has left an indelible mark on education for Arizona and the country. Appropriately, Pima County passed a resolution naming December 20 as Calvin Baker Appreciation Day, an honor in which Cal is more than deserving.

Last year, Cal confronted another challenge when he was diagnosed with multiple myeloma. His example of faith, grit, and courage as he faced the diagnosis and treatment continues to be an inspiration to us all.

I want to personally thank Cal for his service and wish him, Nancy, and their whole family all the best in his much-deserved retirement.●

MESSAGES FROM THE PRESIDENT

Messages from the President of the United States were communicated to the Senate by Ms. Roberts, one of his secretaries.

EXECUTIVE MESSAGES REFERRED

In executive session the Presiding Officer laid before the Senate messages from the President of the United States submitting sundry nominations which were referred to the appropriate committees.

(The messages received today are printed at the end of the Senate proceedings.)

MESSAGE FROM THE HOUSE

At 10:02 a.m., a message from the House of Representatives, delivered by Mrs. Cole, one of its reading clerks, announced that the House passed the following bills, in which it requests the concurrence of the Senate:

H.R. 2881. An act to require the President to develop a strategy to ensure the security of next generation mobile telecommunications systems and infrastructure in the United States and to assist allies and strategic partners in maximizing the security of next generation mobile telecommunications systems, infrastructure, and software, and for other purposes.