

# Gulf Coast Reporters' League

Louisiana

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Florida



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A bi-monthly update of aerospace activities in the Gulf Coast I-10 region

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Pilots in the National Flight Academy program fly simulators called the Triad X-12B.

National Flight Academy photo

## Education

# NFA inspiring future workers

*With the aerospace industry facing a shortage of pilots, maintenance workers and more, the National Flight Academy is piquing the interest of youth in the exciting field...*

### Pensacola, Fla.

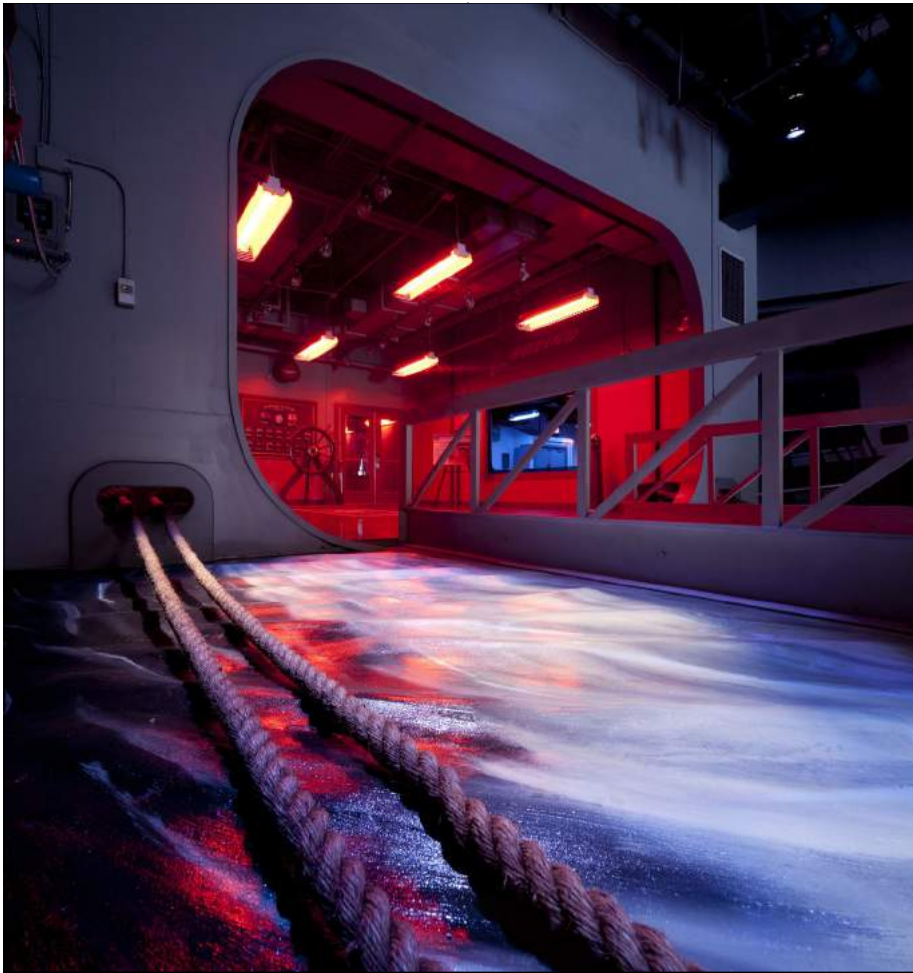
**B**ecoming a pilot for the U.S. Air Force never crossed Jake Marino's mind growing up. He wanted to become a teacher.

Then he attended the National Flight Academy not once, but twice. Those im-

mensive six-day deployments on the aircraft carrier "Ambition" inspired a new career path in the 14-year-old boy.

Marino graduates from Purdue University with a bachelor's degree in professional flight in May. He then travels to Del Rio, Texas, to begin his pilot training June 9 at Laughlin Air Force Base.

"I'm very excited about it," Marino said about his future, after a long day working at NASA's Johnson Space Center. "The missions and being in that (NFA) environment, landing on an aircraft carrier. I really, really enjoyed it."



Entrance students use to begin their deployment on the NFA's 102,000-square-foot carrier "Ambition." *NFA photo*

The Air Force projects a shortfall of 1,000 pilots by 2022, while the U.S. Navy predicts a 10 percent pilot shortage in 2020.

Meanwhile, Boeing released a report in 2016 that predicted 42 percent of the pilots who now fly for major United States airlines will reach the mandatory retirement age of 65 in the next 10 years.

### Flight Academy future

Marino is the kind of outcome envisioned by Naval Aviation Museum leaders Rear Adm. Skip Furlong, Capt. Bob Rasmussen, Vice Adm. Gerald Hoewing, and Vice Adm. Jack Fetterman and Capt. J.J. Coonan, both of whom are deceased.

They first conceived of teaching science, technology, engineering and math, or STEM, at the National Flight Academy.

Their mission: Using principles of flight to teach STEM, preparing today's youth to become tomorrow's leaders and creating a competitive workforce for the 21st century.

Today, the National Flight Academy still teaches STEM. But as it has developed during the past six years, it has introduced a new component -- job training.

This year, it unveils its new virtual reality program to teach aviation maintenance to youth.

It also offers a "3-Day Cruise" during six spring break weeks in March and April. Participants in 5th through 12th grade can explore various aviation careers, such as aviation maintenance, cybersecurity, air traffic control and aerospace engineering. Additionally, they receive exposure to a variety of concepts including meteorology, aerodynamics, mathematics, bathymetry,

physics, basics of flight, ballistics and search and rescue fundamentals.

NFA officials said they want to do their part to supplement the ongoing massive effort on the Gulf Coast to prepare young people for growing, high-paying aerospace and aviation jobs in the region. Private company, government and education leaders have introduced a wide-range of programs, including piloting drones and aviation maintenance.

Triumph Gulf Coast has already approved more than \$12.1 million to school districts, vocational schools and colleges in Northwest Florida for job training in flight-related fields.

Triumph funding comes from BP for its 2010 Deepwater Horizon oil spill. Oil damaged the unique white sandy beaches. BP and Florida agreed to a \$2 billion payment for 18 years with \$1.5 billion earmarked for economic development projects for Bay, Escambia, Franklin, Gulf, Santa Rosa, Okaloosa, Walton and Wakulla counties.

Don Gaetz, who chairs the Triumph board and served as the Florida Senate president, said he believes building a workforce pipeline is crucial to the future of the region.

"We want students to be qualified for the jobs they are trained for," Gaetz said.

### Aircraft maintenance

For the first time during its March 14-16 "Spring Break Cruise," the National Flight Academy unveiled its virtual reality program that teaches students how to repair aircraft.

A shortage of 189,000 aviation maintenance technicians in North America alone will exist by 2037, Boeing forecasted.

That's why NFA worked with VizTech USA to develop a realistic Hangar Bay, where planes and helicopters receive maintenance.

Scenarios include following pre- or post-flight checklists on aircraft. Another allows students to get their hands on different types of aircraft engines and change out various parts. In addi-



tion, students must learn to maneuver planes ready for flight onto an elevator that brings them back to the top deck of the aircraft carrier.

“It teaches teamwork and paying attention to details,” said Cody Grogan, NFA’s software development projects manager.

The first youth to try the virtual reality program worked in teams of four to back the X-12B Triad, which looks like a stealth fighter, onto the elevator and back on ship’s deck. They had to complete the task in 10 minutes.

The NFA students outfitted themselves in big black goggles, so they could see the detailed Hangar Bay. They also had remote controls in both hands that looked like cup holders. These helped them walk, look around the bay and maneuver the pushback tug to move the jet.

Onlookers can watch the groups on a big-screen TV. After failing miserably, the groups vastly improved the second time around. The initially quiet foursomes began peppering each other with tips and instructions. The better the communication, the better the groups did the task. None completed it, however.

One particularly vocal student was 13-year-old Vincenzo Kauffman from



Students using the aviation maintenance virtual reality program pipe instructions to each other.

NFA photo

Pensacola Beach. He nearly got the plane on the elevator in the time that was allotted.

“I enjoy stuff like this,” he said afterward. “After a couple of minutes you feel like you’re actually in it. It really highlighted the importance of communicating so everyone gets the message.”

Christina Wells backed the virtual plane into the Hangar Bay wall. De-

spite crashing, the 13-year-old said that she had fun.

“I’ve never really been interested in this before,” said Wells, who liked how the X-12B Triad looked in virtual reality. “This was really cool. It made me think about doing it.”

Heidi McBride works in aviation maintenance for Ansell & Brown Aviation at Ferguson Airport in Pensacola. The National Flight Academy has invited her to speak to their students several times.

She likes NFA’s virtual reality program emphasizing aircraft repair.

“I wanted to be a teacher,” said McBride. “Then someone put a wrench in my hand. I liked pulling things apart and putting them back together again. You never know what you love doing until you’re given the chance to experience it.”

**Ambition sparks interest**

Aerospace and aviation fields have benefitted ever since the National Flight Academy launched its aircraft carrier, Ambition.

The theme-park like ship earned its realistic design from the creative and innovative minds of high-tech experts from the University of West Florida,



Students direct fighter pilots on their mission, just as they would on a real aircraft carrier.

NFA photo



NFA's virtual reality program teaches aviation maintenance.

NFA photo

TEQ Games at Universal Studios, the Disney Imagineers, and David Nixon Productions.

Boring? No way.

The \$34 million facility has attracted girls and boys in grades 7 through 12, since May 2012 to learn STEM skills. They do this through missions that teach aerodynamics, propulsion, navigation, communications, flight physiology and meteorology, along with core values, teamwork and leadership skills.

In its first year, 488 students experienced the immersive, high-tech, game-play flight missions. The number of students, called Ambition Experimental Pilots, or AXP's, has gone up each year, reaching 3,478 last year.

In all, 13,881 AXP's have attended the STEM flight program from all 50 states, 22 countries and four U.S. territories. Up to 260 youth can attend each session.

During the six-day program in Pensacola, Students "board" the 102,000-square-foot, four-story Ambition that

### Where to start

Register for the six-day STEM program on the NFA website at [www.NationalFlightAcademy.com](http://www.NationalFlightAcademy.com), call 850-458-7836 or call toll-free at 877-552-3632.

Programs start Sunday and run on a weekly basis from May 26 through August 11. Check-in occurs from 10 a.m. to Noon. Registration for students entering grades 7 through 12 costs \$1,250.

includes real-life looking areas.

There are: a Mess Deck where everyone eats; Berthing Spaces to sleep in; Joint Intelligence Centers where missions are planned; Joint Operations Centers where the missions are controlled; Ready Rooms where air-crews receive in-

struction; and the Hangar Bay which stores about 30 X-12B Triad flight simulators, which can reach virtual speeds of mach 3 and altitudes of 90,000 feet.

Squadrons compete to finish missions, such as humanitarian efforts, search and rescues, or flying to different bases.

"They stay engaged," said Riannon Boven, a business development officer. "They stay in the moment and learn as much as they can."

### STEM results

The National Flight Academy has compiled a STEM report card every year on its participants. The latest report for 2018 shows that students have, on average, improved their skills by the end of their six-day deployment by more than 20 percent.

The latest results show improvement by 25.4 percent in critical thinking and

problem solving; 24.9 percent in creativity and initiative; 26.6 percent in communications and social interaction; 25.4 in collaboration and leadership; and 26.8 percent in information and technology literacy.

"We want to ignite their passion for STEM," Boven said.

Hannah Ritz, manager of administration at NFA, also wants young people to know about all the careers they could choose.

"We just want them to look at all the different fields," Ritz said. "There are really a lot of opportunities for kids nowadays, more than just college. College may be the way to achieve their dream. But there may be other ways to get there."

- Duwayne Escobedo





## Military

# New simulators a huge advancement

*New simulators, a new outlying field, and plans by the county for an aviation park nearby make the future look bright for Naval Air Station Whiting Field...*

### Milton, Fla.

It will take a year for all of them to arrive, but the new high-tech simulators going to Naval Air Station Whiting Field promise to provide students with the most realistic flight experience ever without having to leave the ground - on a par with the simulators used for fixed-wing aircraft.

The first of the new simulators, a Level 6, was unveiled in late February to dozens of Navy, corporate and media participants in a ribbon-cutting ceremony at Building 2946, unofficially called the old T-34 sim area - even though there have been no T-34 simulators for at least five years. The building has undergone a renovation to handle the new simulators.

"This simulator represents a significant technology advancement and upgrade to naval aviator training tools," said Cmdr. Aaron Beattie, Training Air Wing 5 rotary simulator integration lead officer. "It improves our ability to train student aviators in night vision environments and the simulator displays are a vast improvement over the 1980s technology our current simulators afford."

NAS Whiting will receive 10 new simulators, three Level 6 and seven Level 7, along with a central control unit that will allow instructors to link machines to simulate formation flying and allowing students to communicate with one another.

The Level 7 devices are on contract for delivery beginning next month and ending in February 2020, with the central control station scheduled for ac-



Navy and corporate officials along with the media recently got a look at the new simulators. *NAS Whiting Field photo*

ceptance in July 2019.

"The new training applications these simulators provide will increase the students' field of view, night vision and all weather training - features we couldn't do before in the previous simulator," Beattie said.

The full-motion Level 7 simulators all will be housed in Building 2005, unofficially called the helicopter simulator building. The combination of Level 6 and 7 simulators will increase NAS Whiting Field's training capacity, Navy officials said.

Simulators will give a student the feel of actually flying through the use of a realistic cockpit and a wide screen that displays what a pilot would see in actual flight, all while remaining safely on the ground. The idea is to allow students to make mistakes in the simulator, rather than in the unforgiving environment of actual flight.

A two-seater that can be flown from either position, the simulator prepares students to acquire a range of skills, including the ability to handle in-flight emergencies and handle unexpected

weather. If they make a mistake, the worst that can happen is a red screen.

The more realistic the simulator, the better the experience for the student. The stationary Level 6 has seat queuing vibration and a field of view 180 degrees by 40 degrees. The Level 7 simulators are full-motion with a field of view that's 220 degrees by 65 degrees.

The simulators can mimic any time of day and give students challenging weather and air traffic situations. One of the key capabilities in the upgrade will be the central control station. It will allow instructors to link all 10 simulators in a single virtual environment. Significantly, student aviators will be able to fly aircraft in formation and in an instrument training environment, with the added feature of student aviators being able to communicate with one another to more closely simulate their flying experience.

The new simulators are a major step forward for training. The ones that students have been using are 40-year-old simulators, modified over the years to keep up with technological changes.

The result has been simulators that are each a bit different. They have reached their limit of adaptability.

The *Pensacola News Journal* reported that Navy Cmdr. Kenny Kerr joked that the old flight simulators are like Frankenstein's monster. The new ones are "a huge leap forward," he said.

Media participants at the ribbon-cutting got a chance to try out the new Level 6 TH-57 Sea Ranger helicopter simulator. On this day, Marine Maj. Ron Chino, rotary wing training officer for Chief of Naval Air Training, was sitting in the right seat as he demonstrated the simulator. One of the first things a student learns is how to hover in the TH-57. Step by step a student is able to focus on one aspect of flight at a time, including keeping it level.

The graphics displayed on the screen represent NAS Whiting and its outlying fields. The recently opened Site X in Santa Rosa County has not yet been included, but the old OLF 8, which is now owned by Escambia County and targeted for development, is still represented. One of the scenarios shows Pensacola Bay with an amphibious assault ship so students can practice landing and taking off at sea. Scenarios can change at the punch of button.

The simulator can be used in either the TH-57B variant or the TH-57C variant, the current model of the training helicopter.

The new simulators were provided by Flight Safety Systems International of Denver, Frasca International of Urbana, Ill., and Aechelon Technology of San Francisco. The simulators are owned by the contractors, who charge the Navy for a set amount of instruction hours. The simulators were provided under an \$11 million budget item for Navy classroom and simulator helicopter training, officials said.

"Our mission is to provide unparalleled training to our student aviators," said Hector Zarate, president of FlightSafety Service Corp. "We're thrilled to have been given an oppor-

(Continued on page 7)



Clockwise from top, Bell 407 GXi, Leonardo TH-119, and Airbus H-135. Photos from company websites.

## Navy launches trainer competition

The Navy has formally launched a competition to replace its fleet of TH-57B/C Sea Ranger training helicopters for a contract of more than \$900 million to provide 130 helicopters over a five-year period for the Advanced Helicopter Training System, named TH-XX.

The Navy is looking for a commercially available aircraft, and the proposal is expected to draw at least three proposers: Bell, Leonardo Helicopter and Airbus Helicopter. The Naval Air Systems Command (NAVAIR) is expected to award a single firm-fixed-price contract during the first quarter of fiscal year 2020 - sometime between October and December 2019. It would be through a base and up to four options, according to the Request for Proposals. The entire fleet would be purchased by 2023.

The Navy is also requiring a digital health and usage monitoring system (HUMS) for ground-based display of information to aid in predictive

maintenance and reduce sustainability cost. The HUMS system should store data generated from 24 continuous flying hours and provide diagnostics and health monitoring of drivetrain components, rotor components, engines and engine performance, absorbers, hydraulic systems, electrical systems, hydro-mechanical and electro-mechanical systems, and for structural usage monitoring/regime recognition, according to the RFP.

The Sea Ranger, an aircraft based on the Bell Jet Ranger 206, was procured by the Navy between 1981 and 1985. The Jet Ranger is a staple in civilian aviation circles, and drew the interest of the Navy during the Vietnam War. It was first procured in 1968.

Leonardo is expected to propose its TH119 single-engine trainer, Airbus Helicopters its H135 light twin and Bell, the maker of the TH-57, is expected to offer the 407GXi.

- *Gulf Coast Reporters League*



TH-57 lands at new Site X OLF. Navy photo

tunity to be a part, and making students ready to defend the nation - that's what this is all about."

For the past 30 years, Training Air Wing Five has trained all United States Navy, Marine Corps, and Coast Guard helicopter pilots at Naval Air Station Whiting Field. In 1981, the Navy transitioned to the instrument rated TH-57C Sea Ranger platform, which included flight simulators. Those original simulators have been used to train pilots since that time.

In December 2014, the Navy decided to upgrade the TH-57 simulators with new devices as part of a larger goal of modernizing the entire helicopter ground training system.

About 500 helicopter pilots earn their naval flight wings at Whiting every year. Whiting trains all Navy, Marine and Coast Guard pilots, as well as pilots from allied nations, using the TH-57 Sea Ranger. Sixty percent of all Navy and Marine Corps primary flight training worldwide also takes place at Whiting, which has three helicopter training squadrons.

The Pentagon is planning to replace the TH-57 by 2023, and at least three defense contractors - Bell, Leonardo and Airbus - are expected to vie for the contract to provide the training helicopters for the Navy.

- David Tortorano

**Army aviation**

The Army trains aviators at Fort Rucker, to the northeast of Milton in Southeast Alabama.

Student aviators there use the TH-67 Creek, a Bell Model 206B, and the UH-72 Lakota, built by Airbus Helicopters in Columbus, Miss.

**Whiting: Key to military pilot training**

Naval Air Station Whiting Field is one of the Navy's two primary pilot training bases and the busiest aviation complex in the world.

It accounts for more than 1 million flight operations annually, more than Atlanta-Hartsfield, the busiest civilian airport in the United States.

Established in 1943, the 4,000-acre complex is north of Milton in Santa Rosa County. It's comprised of two main airfields, the North Field and South Field, and 12 outlying landing fields, including the new Site X, encompassing almost 18,000 acres across four counties in Southeast Alabama and Northwest Florida.

It's the home of Training Air Wing Five, which has three primary fixed-wing and three advanced helicopter squadrons to train aviators from the Navy, Marine Corps, Coast Guard, Air Force, and allied nations. The wing has 148 T-6 Texan II aircraft for fixed-wing training and 113 TH-57 helicopters for rotary wing training. Some 1,200 student aviators are trained each

year, including more than 500 helicopter aviators. Combined there are some 1 million annual flight operations.

The wing is responsible for 120,000 to 160,000 flight hours annually, an estimated 43 percent of the Chief of Naval Air Training Command's total flight time.

More than 60 percent of all primary flight training is performed at Whiting Field, along with 100 percent of advanced U.S. Navy, Marine Corps and Coast Guard rotary winged training. Roughly 15 percent of all Navy flight hours are performed at NAS Whiting Field annually and about 11 percent of the Navy, Marine Corps and Coast Guard flight time worldwide.

The county over the years has purchased easements surrounding the base to ensure it is never threatened by encroachment. It was one of those land purchases that led to the development of Whiting Aviation Park.

- Gulf Coast Reporters League

**Park construction to begin soon**

Construction could begin late this summer or early fall on Whiting Aviation Park, just outside Naval Air Station Whiting Field.

The plan for the 300-acre park is to create an aviation maintenance, repair and overhaul depot for major and minor work for military and civilian aircraft.

The aviation park idea has been around since 2002, but it wasn't until July 2018 that Triumph Gulf Coast, a non-profit that distributes recovery money from the 2010 BP oil spill, gave preliminary approval for a grant of \$8.5 million for the park, contingent upon completion of a term sheet. That's been done and a contract is now in hand. Moffett/Nicholas is the engineering firm that will perform the design phase.

Funding will be used to improve 40 acres of industrial park land outside the fence adjacent to the Navy base. The Triumph money will be used for infrastructure - electric, water, sewer, storm water retention and more.

Economic development officials hope the park will help Whiting's military training missions by providing the option of having work on aircraft done nearby instead of flying planes elsewhere.

The park is industrial zoned. Details of the agreement for use of the 6,000-foot runway are still being worked out. The runway has tower capabilities thanks to the military training mission at Whiting.

- Gulf Coast Reporters League





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## Lost, found

For years as a reporter, I never used a recording device. When I finally did, it was a backup for my hand-written notes.

But when I went to see the new simulators at Naval Air Station Whiting Field, I used a recorder and, for the first time, took no notes.

I was already home in Gulf Breeze when I realized I lost it. I called Julie Ziegenhorn, PAO at Whiting, and told her if she came across it, let me know. I had no real hope. Not long after that, she called back and said they found it. To save me from driving all the way back, she met me at a convenience store on her way home that very day.

I told Julie it was above and beyond. She saved that newsletter story. Thanks!

*David Tortorano*

*Editor*

*April 5, 2019*

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## Analysis

# Assembly footprint growing

Slowly but surely, this region is becoming a hotbed for aircraft assembly. First there was the Fire Scout unmanned system in Moss Point, Miss., then the A320 jetliner assembly line in Mobile, Ala., and soon the A220, also in Mobile.

But go two hours west of New Orleans along Interstate 10 and work is underway on a helicopter assembly line at the Lafayette (La.) Regional Airport.

Swiss company Kopter Group chose the 14.7-acre site to assemble the SHO9. The company will make a \$4.2 million capital investment to modify and equip the 84,700-square-foot helicopter assembly building that was the former Bell Helicopter facility. It will lease the state-funded building.

Kopter will have 120 employees and will begin hiring later this year, with formal helicopter assembly activity and deliveries scheduled to begin in 2021. Production will ramp up to an anticipated annual volume of 100 helicopters by 2025.

Suppliers include Kaman, Garmin, Parker Aerospace, Collins Aerospace, and Honeywell. U.S.-sourced components will represent at least 50 percent of the aircraft value.

Meanwhile, in Alabama, HPM of Birmingham, which is managing all aspects of the design and construction of the new A220 assembly complex at the Mobile Aeroplex - as well as the expansion of the current A320 facilities - selected several design-build teams for the projects.

BL Harbert International of Birmingham teamed with the design firm FSB to handle design-build services for four additional hangar bays. Completion date is 3Q 2019.

H.O. Weaver and Sons of Mobile was chosen to for site preparation, including creation of access routes and installation of security fencing, ramps, and signage.

Brasfield & Gorrie of Birmingham teamed with design firm BRPH of Huntsville for design-build services for the building of the new A220 final assembly line and existing logistic center expansion. Completion is targeted for mid-2020.

The first employees of the new Airbus A220 assembly line reported for work in March. The employees will get a month of training locally then will go to Mirabel, Quebec, Canada, to train for three months with workers on the A220 assembly line there, the only other location building the jetliner.

In other news from the Mobile Aeroplex, the new downtown Mobile airport is just a few weeks away from opening. The new \$6 million, 22,000-square-foot terminal being built on Michigan Avenue will have five ticket counters. There are also plans to expand at the end of summer. The first passenger flight is slated for next month.

Commercial flights are primarily at Mobile Regional Airport, but the Mobile Airport Authority is in the process of shifting the flights to the downtown location.

**Speaking of airports**, how about a spaceport? the Hancock County Port and Harbor Commission has decided to seek a spaceport license for Stennis International Airport (HSA), just outside NASA's Stennis Space Center in the town of Kiln.

RS&H Inc., which previously did a feasibility study, was commissioned to complete an application to obtain a Launch Site Operator License from the Federal Aviation Administration Office of Commercial Space Transportation.

The FAA has developed regulations that enable airports to host operations of reusable launch vehicles that take off and land like aircraft. Several kinds of such vehicles are currently under development.

The license application will establish regions over the Gulf of Mexico where the launches could be conducted safely and ensure the airport has the infrastructure required to support those launch operations.



**David Tortorano**