National Aeronautics and Space Administration

John C. Stennis Space Center

LAGNIAPPE

Volume 4 Issue 7 www.nasa.gov/centers/stennis July 2009

Astronaut Buzz Aldrin's bootprint as photographed on the surface of the moon July 20, 1969.

July 20,1969 'One giant leap'

From the desk of

Gene Goldman

Director
Stennis Space Center

"Paranoia strikes deep; into your life it will creep. Starts when you're always afraid."

(Buffalo Springfield, 1967)

My gray hair gives me one advantage over most of you: I grew up with the human space program. X-15 flights, Werner von Braun, watching Echo in the night sky with Dad, walking as if with weighted shoes to hold one on the moon, drawing rockets, Sheppard and Grissom – all are etched into my first and second grade memories. Third grade brought Glenn's orbits. My childhood was spent looking skyward and dreaming of flight.

Then, we knew what Mercury and Apollo were. We even knew what was accomplished in Gemini, who the astronauts were, and that Cape Kennedy was once Canaveral, and then was again. It was all aimed at the moon, because a young, tragically deceased president had willed the country to go.

We mark the 40th anniversary of the Apollo 11 landing this month. We really should celebrate the entire lunar program. In just over eight years, the nation went from sub-orbital to moonwalks. Out of Florida sea marsh and Mississippi swamps, critical infrastructure grew, and with it the human capability to do wondrous things. We will remember that the world, for a few hours, forgot Vietnam, poverty, and racial strife to ponder the first words, small step and "giant leap for all mankind." Let's also commemorate the earthbound effort that enabled them. It remains one of the greatest achievements of civilization.

The infrastructure still stands, testament to history yet already in use for a third generation of exploration. We remain, "standing on the shoulders of titans," ready to support the next words and steps, hopefully from another planet this time. We follow the trajectories of legends. Let's always strive to celebrate their accomplishments with dedicated work of our own. Let's remember that dreams, prayers, and lives rest in our hands to protect, and let's assure that trust.

We are fortunate to work in a field for which history is written. Deal with the petty as such, and focus on our opportunity. The moon is still unknown ... and there are planets beyond. What discovery will our efforts enable that might change the world?

Dream big; work harder!

Goldman visits with congressional members

John C. Stennis Space Center Director Gene Goldman visited with several members of the U.S. House and Senate from Mississippi and Louisiana during a recent trip to the nation's capital. Goldman traveled to Washington, D.C., with directors of other NASA centers to speak to members of Congress about NASA and Stennis Space Center activities and budgets. Above, Goldman is shown with (l to r): Sen. Roger Wicker, R-Miss.; Rep. Travis Childers, D-Miss., 1st District; Rep. Gregg Harper, R-Miss., 3rd District; and Rep. Steve Scalise, R-La., 1st District.

FULFILLING NASA'S EXPLORATION MISSION

At Stennis, moon again is the goal

In May 1961, the United States was trailing in a "space race" with the then-Soviet Union when President John F. Kennedy rallied a fledgling NASA organization and the nation with a challenge to land humans safely on the moon by decade's end.

The nation met the challenge, thanks, in part, to the rocket engine testing efforts of workers at Stennis Space Center.

In January 2004, the United States was just two weeks away from the first anniversary of one of the space program's darkest moments – the disintegration of the space shuttle Columbia during re-entry from its mission to the International Space Station.

This time, a new president issued a new challenge to the nation – to go back to the moon and beyond. "We will build new ships to carry men forward into the universe, to gain a new foothold on the moon and to prepare for new journeys to the worlds beyond our own," President George W. Bush said.

Once again, if the nation meets the challenge, it will be, in part, as a result of engine testing work at Stennis.

The task will not require the herculean effort of the 1960s when thousands of workers transformed a swampy terrain into a rocket engine testing facility in a few years' time.

Since that time, NASA has established Stennis as the nation's premier rocket engine testing facility. All of the large engines for the nation's manned space program are tested at the south Mississippi site.

However, the Constellation Program – NASA's response to Bush's 2004 agenda – will require some modification of, and addition to, the site.

Workers at Stennis Space Center continue construction of a new 300-foot stand that will be used to test engines that will help humans go back to the moon.

The A-1 Test Stand at Stennis already has been decommissioned from space shuttle main engine testing. It was used to conduct early power pack tests for development of the J-2X engine that will help carry humans back to the moon.

It currently is undergoing modification to prepare for additional power pack and J-2X testing.

In addition, Stennis is constructing a new A-3 stand, the first large test structure to be built at the site since the 1960s. The new stand is different from its largely concrete counterparts. It features a frame of structural steel and will use chemical steam generators to help simulate altitudes of up to 100,000 feet.

Engineers at Stennis' E Complex already are testing the generators to be used. Once they are built and installed on the A-3 stand, high-altitude tests can be conducted on the J-2X engine.

Those tests are critical. Because the Constellation Program calls for humans to escape low-Earth orbit and go back to the moon, the J-2X engine must be able to fire in space.

The tests done at Stennis will make sure it will do just that.

Some 4 million pounds and 16 stages of structural steel work has been completed on the 300-foot-tall A-3 stand. Workers are on schedule, and activation testing on the new stand is set to begin in early 2011. Testing on the J-2X engine is scheduled to begin on the modified A-1 Test Stand that spring.

From that point, the mission and the goal is the same as it was four decades earlier – to deliver humans to the moon and return them safely to Earth.

Shuttle missions to end in 2010

Only seven missions remain before NASA's Space Shuttle Program is scheduled to conclude in the fall of 2010. The remaining missions scheduled for the program are:

STS-128

Launch Target: Aug. 7, 2009, at 7:49 a.m.
Shuttle: Discovery
Duration: 13 days
Crew: Mission Commander Rick Sturckow; Pilot Kevin Ford; Mission Specialists John "Danny" Olivas, Christer Fuglesang/European Space Agency, Patrick Forrester, Jose Hernandez and Nicole Stott/Expedition 20/21.
Mission: Deliver the multipurpose logistics module and the lightweight multipurpose experiment support structure.

STS-129

Launch Target: Nov. 12, 2009, at 3:22 p.m.
Shuttle: Atlantis
Duration: 11 days
Crew: Commander Charles Hobaugh; Pilot Barry Wilmore; Mission Specialists Robert Satcher, Michael Foreman, Randy Bresnik and Leland Melvin.
Mission: Deliver EXPRESS Logistics Carriers 1 and 2.

STS-130

Launch Target: Feb. 4, 2010, at 5:20 a.m.
Shuttle: Endeavour
Duration: 12 days
Crew: Commander George Zamka; Pilot Terry Virts; Mission Specialists Bob Behnken, Nicholas Patrick, Kathryn Hire and Steve Robinson.
Mission: Deliver Node 3, named Tranquility, and the Cupola, a robotic control station with six windows around its sides and another in the center that provides a 360-degree view around the station.

STS-131

Launch Target: March 18, 2010, at 12:08 p.m.
Shuttle: Atlantis
Duration: 12 days
Crew: Commander Alan Poindexter; Pilot Jim Dutton; Mission Specialists Rick Mastracchio, Clay Anderson, Dorothy Metcalf-Lindenburger, Stephanie Wilson and Naoko Yamazaki/Japanese Aerospace and Exploration Agency.
Mission: Deliver a multipurpose logistics module filled with science racks to be transferred to laboratories on the International Space Station.

STS-132

Launch Target: May 14, 2010, at 2:05 p.m.
Shuttle: Discovery
Duration: 11 days
Crew: Commander Ken Ham; Pilot Tony Antonelli; Mission Specialists Stephen Bowen, Karen Nyberg, Garrett Reisman and Piers Sellers.
Mission: Deliver an integrated cargo carrier and Russian-built mini research module to the International Space Station.

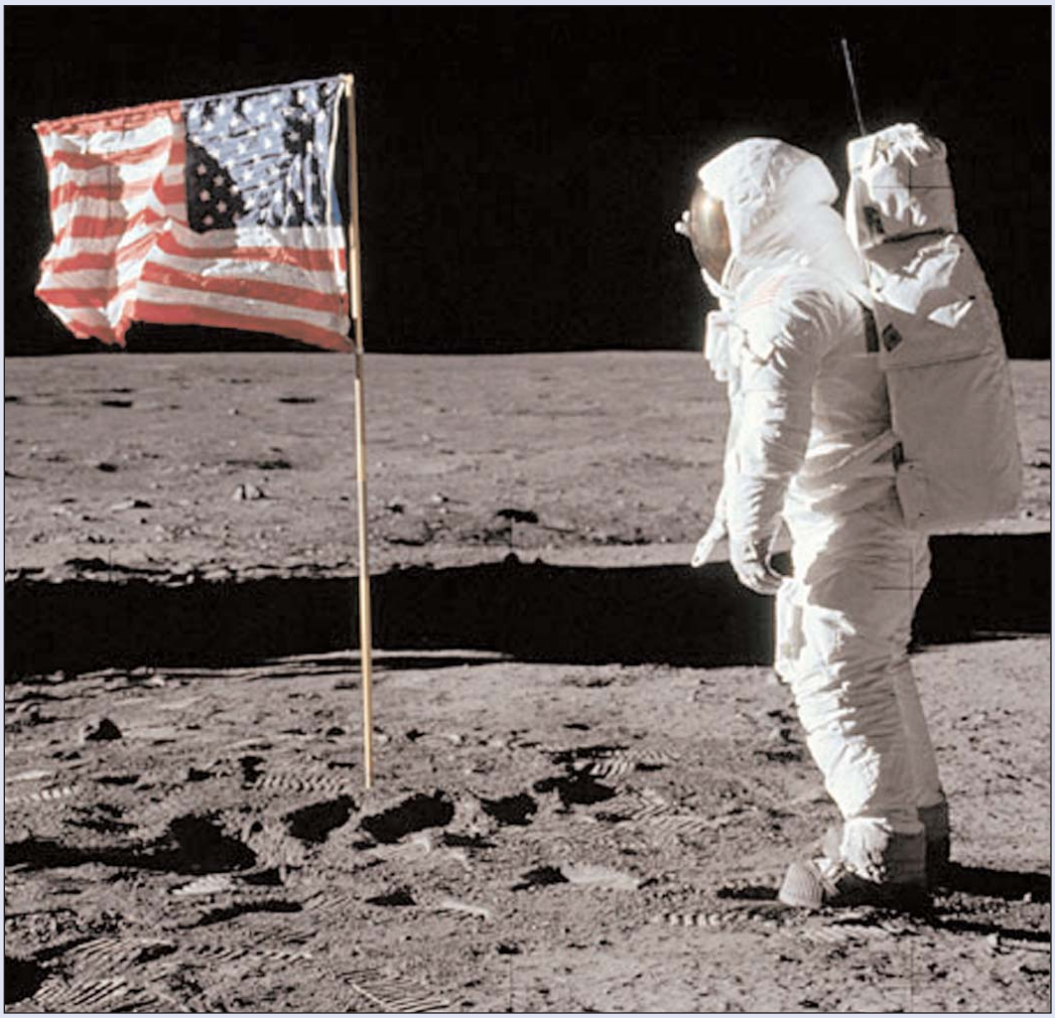
STS-133

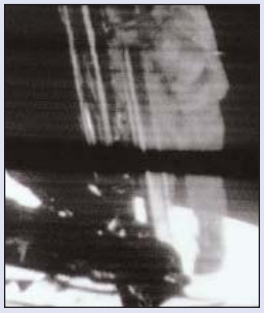
Launch Target: July 29, 2010, at 7:45 a.m.
Shuttle: Endeavour
Duration: 12 days
Crew: To be determined
Mission: Deliver EXPRESS Logistics Carrier 3 and a multipurpose logistics module.

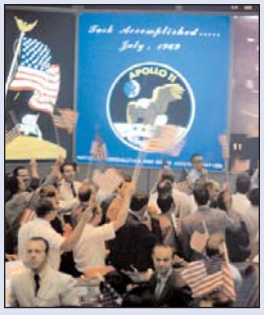
STS-134

Launch Target: Sept. 16, 2010, at noon.
Shuttle: Discovery
Duration: 12 days
Crew: To be determined
Mission: Deliver EXPRESS Logistics Carrier 4 and the Alpha Magnetic Spectrometer to the space station.

Apollo 11 – still a time of wonder







Astronaut Buzz Aldrin salutes the American flag he and Neil Armstrong planted on the surface of the moon July 20, 1969. At right, photos tell the story of the historic Apollo 11 mission from launch to moon landing, to the first televised step onto the moon, to the mission control center celebration, to the successful return home spashdown.

"Believe not
that the heroic age is no more,
since to that age is only requisite
the heroic purpose
and the heroic soul."

Horace Greeley

July 20, 1969 – Fulfilling an amazing dream

When Neil Armstrong stepped onto the surface of the moon late in the night of July 20, 1969, it might have been "one small step for a man," but it was no small feat for hundreds of men and women who had dedicated seven frantic years to fulfilling an amazing dream.

The numbers included everyone at NASA's John C. Stennis Space Center (then known as the Mississippi Test Facility) – and rightfully so. Engines tested and proven flight-worthy at the south Mississippi facility carried Armstrong and fellow astronauts Buzz Aldrin and Michael Collins on their historic journey into space.

The saga began in the Oval Office on April 20, 1961, just eight days after Soviet cosmonaut Yuri Gagarin became the first human to enter space. As American advisers mulled the proper response, then-President John F. Kennedy penned a memorandum that began with a simple question – "Do we have a chance of beating the Soviets by putting a laboratory in space, or by a trip around the moon, or by a rocket to land on the moon, or by a rocket to go to the moon and back with a man?"

Just one month later, addressing a joint session of Congress, Kennedy issued the challenge: "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to Earth."

So began the acid test for a fledgling National Aeronautics and Space Administration, not yet three years old.

It would be a remarkable story of national accomplishment.

Scrambling to catch up in a Soviet-American space race, NASA officials fought through setbacks and tragedies to build the Saturn V rocket, the largest launch vehicle ever and the chosen craft for carrying humans to the moon.

On Nov. 9, 1967, the Saturn V was launched on an all-or-nothing unmanned test to determine if the stages would perform as needed to get to the moon. The flight was a resounding success – and the race to the moon quickened.

On Dec. 21, 1968, Apollo 8 headed to the moon.

Astronauts traveled three days to Earth's natural satellite and orbited the moon 10 times, gaining the first glimpse of its dark side. On Christmas Eve, the largest television audience of that time viewed Earth from outer space and listened as the astronauts read the first several verses of the book of Genesis.

The stage was set for humans to visit the moon.

Several months later, it was white-knuckle time at NASA's mission control center as the Apollo 11 lunar module made its lunar landing. Not quite seven hours later, at 9:56 p.m. on July 20, 1969, millions – hundreds of millions – of world citizens watched ghostlike black-and-white images from another world as Armstrong descended a few ladder rungs and put the first human footprint in the powdery dust of the moon's surface.

What began as a 30-word challenge of unimaginable dimension culminated with an 11-word pronouncement of wonder: "That's one small step for a man, one giant leap for mankind."

America's dream had been realized.

The magnitude of the accomplishment may be hard to understand today, in a time of shuttle missions and space station experiments, Hubble Telescope images and inter-

planetary probes. Such things are common now, expected, taken for granted.

It was not so then.

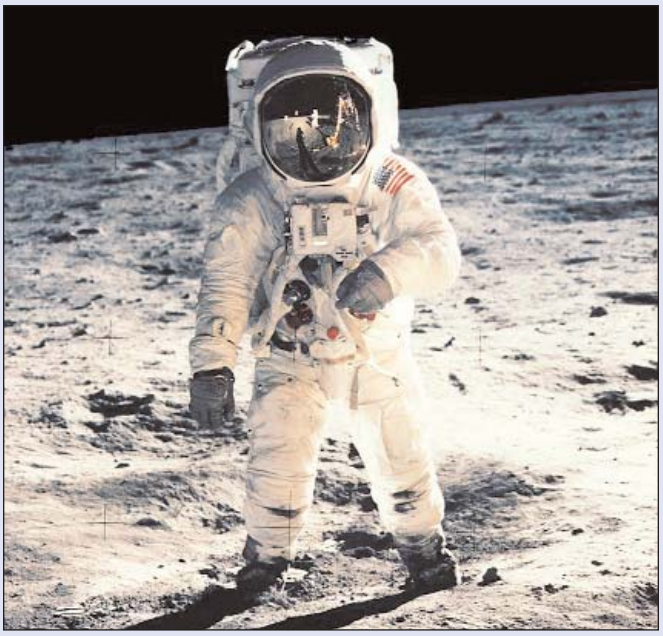
Then, it was unprecedented – and its success was a testament to hundreds upon hundreds of individuals from all walks of life who overcame engineering, technical, communications and mechanical difficulties. Perhaps no place better symbolizes NASA's commitment and achievement during that time than John C. Stennis Space Center.

In 1962, what now is the nation's premier rocket engine testing facility was 138,000 acres of unwelcoming terrain. However, NASA leaders had a vision no less daunting than Kennedy's – to convert the mosquito-infested, rain-inflicted, rough landscape into a top-grade testing site.

They were not to be deterred, not even by the devastating arrival of Hurricane Betsy in 1965. Beginning in 1963, timber was cleared, test stands were constructed, canals were dug. Thousands of workers swarmed the area, racing the clock to build what was needed.

Then, just three years after work began, on April 23, 1966, engineers at Stennis lit the fire on a Saturn rocket stage for the first time. The sound exploded the early morning stillness – and America was on its way to the moon.

By the time Armstrong set foot on the lunar surface, Stennis engineers had conducted test after test to prove the massive Saturn rocket engines would perform as needed. They had built a rocket engine testing team from the ground up. They were the pioneers. They blazed the trail.



Buzz Aldrin poses for a moon portrait. A reflection of fellow astronaut Neil Armstrong as he takes the photo can be seen in Aldrin's helmet visor.

Their stories have been told again and again. Tributes have been offered. However, the truest significance of the Stennis story can be recounted simply.

In the work performed, the Stennis team carried the very lives of the astronauts in their hands. Every manned Apollo mission was flown with engines tested and proven at the Mississippi site.

Not one failed.

An Apollo 11 mission photo taken as the astronauts orbited the moon shows the Earth "rising" above the stark lunar landscape.

A time of accomplishment and celebration

(Left photo) Apollo 11 astronauts (l to r) Neil Armstrong, Michael Collins and Buzz Aldrin share a laugh as they look out the window of the mobile quarantine van following their lunar mission. As a precaution against any "moon germs" the astronauts may have been exposed to on the mission, the trio and all of their equipment and lunar samples were kept in quarantine from splashdown on July 24 to Aug. 13.

Engineers at NASA's John C. Stennis Space Center monitor a test from the S-II Control Center in October 1966.

In 1959, Mike Myers, who later worked at Stennis
neer at Redstone Arsenal in north Alabama. In Ma
engaged in a top-secret study of establishing a mil

At the end of the three-month study, other office
One of Myers' superiors exited the briefing to an
moon in less than 20 years. "Do you want to bet
Their wager was the value of an $18.75 United S

In the early 1960s, Myers went on to work on th
20, 1969, he gathered with others involved in th
become the first human to walk on the moon.
former captain.

A short time later, he received a check in the m
moon before 18 May '79." The amount was $
regards as material evidence of the confidence
retired, he recalls the events surrounding July

(Left photo) The Apollo 11 astronauts wave to onlookers during one of the several ticker tape parades held in honor of their successful mission to the moon.

(Right photo) A plaque fastened to the leg of the Apollo 11 lunar module reads, “Here men from the planet Earth first set foot upon the moon July 1969, A.D. We came in peace for all mankind.” It bore a fascimile of Earth and the signatures of astronauts Neil Armstrong, Buzz Aldrin and Michael Collins, as well as the signature of then-President Richard Nixon.

(Left photo) Stennis Space Center workers monitor the installation of the S-II-1 Saturn stage on the A-2 Test Stand in August 1966.

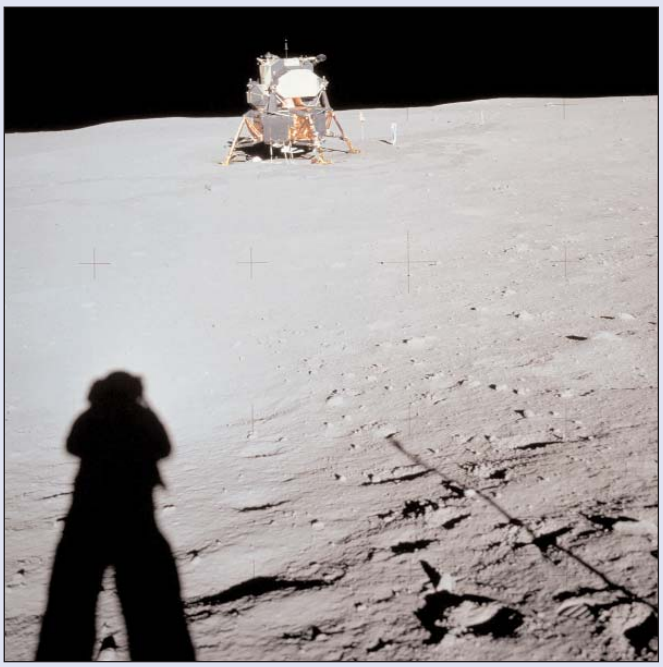
(Right photo) A closeup photo shows the energy blast produced during a test firing of an S-II Saturn rocket engine stage at Stennis Space Center in June 1969

Space Center during the Apollo years, was an engi-
arch of that year, he was chosen to be part of a group
itary outpost on the moon.

rs at the Army facility were briefed on the project.
nounce there was no way humans were going to the
?” Myers responded – and the two men did just that.
States Savings Bond 20 years hence.

he Saturn stage testing at Stennis. On the night of July
he Apollo Program to watch astronaut Neil Armstrong
After that feat, Myers recalled the wager and called his

nail. At the bottom was written, “Lost bet – man on the
41.10. Myers still has a copy of the check, which he
e he had in America’s ability to reach the moon. Now
20, 1969, as the highlight of his career.



Astronaut Neil Armstrong’s shadow is seen on the lunar surface as he takes a photo of the Apollo 11 lunar module landing site.

‘The whole atmosphere was – we can do this’

When Asa Fayard arrived at what then was known as the Mississippi Test Facility (now NASA’s John C. Stennis Space Center) in 1963, he saw just holes in the ground – the only activity under way was digging to lay foundations for construction.

By the time Boyce Mix came two years later, he was struck by the size of the work crew on site – the numbers were “huge,” he says.

By 1966, when the first Saturn rocket stage was tested, J.D. Cockrell was on the scene, sharing in the anxiety of the moment. “We couldn’t imagine what the impact of the test would be,” he recounts. “It might have knocked the test stand down. We didn’t know. It was an exciting time.”

An aerial photo shows the construction site for the A-2 Test Stand at what now is known as the John C. Stennis Space Center (then the Mississippi Test Facility) in June 1964.

Fayard, Mix, Cockrell – and many others – were among the favored, firsthand observers to history-in-the-making as what is now Stennis Space Center rose from the dense unforgiving terrain of south Mississippi. Some worked for NASA; some for contractors. Some served in support roles; some worked in test operations. Some stayed a few years at Stennis; some spent their careers at the site.

All shared in the history of the effort.

Beginning with NASA’s decision in 1963, thousands of workers swarmed the south Mississippi site, constructing buildings and test stands, digging canals and building roads, creating what now is the nation’s premier rocket engine test facility.

It was an exciting time, O.L. “Dusty” Rhodes recalls. “We were ready to go,” he says. “We understood the time. We had quite a task ahead of us.”

Indeed. In 1961, then-President John F. Kennedy had challenged the nation to join the so-called “space race” against the Soviet Union and send humans to the moon by the end of the decade. It was a time of testing for the fledgling NASA agency – which proved up to the task.

On July 20, 1969, astronauts Neil Armstrong and Buzz Aldrin became the first humans to step foot on the moon. Their mission – and every manned Apollo mission – was powered by rocket engines tested and proven flight-worthy at Stennis Space Center.

“We lived through it all,” Jeanne Kellar reminisces.

When Kellar arrived at Stennis Space Center, the main road through the site still was being built. Working in recordkeeping from that day until now, Kellar has witnessed what she characterizes as an “amazing” procession of technological advances.

“The whole atmosphere was – we can do this,” she recalls. “Nothing was too big. There was nothing we could not fix. We just knew we were going to do this and show that America was first in space.”

Workers dedicated themselves to what could have seemed an impossible task – creating an engine test facility out of scratch in record time. Kellar recalls having four Saturdays off the entire year of 1967.

“Call it competition with the Soviet Union, call it a space race or whatever you want, but schedule was paramount then,” Pat Mooney says.

"It was a remarkable period," Mix adds. "The amount of effort and the amount of progress was astounding. Everything was being built at the same time. It was totally remarkable that so much was built in such a short time."

It was built with a sense of purpose – and a definite eye to history.

"You knew when you came out here what you were involved in," Bob Delcuze says. "You felt you were part of accomplishing something important."

The site was marked by enthusiasm and excitement, Hal Brown recounts. "Everybody was committed to the goal," he adds. "Funding was whatever you needed (to get the job done)."

When the "job" first was done in July 1969, the profound feeling of accomplishment united them, workers of that era agree.

"We all felt like one – everybody cooperated," Rhodes recounts.

"When the Eagle (Apollo 11 lunar module) had landed and Armstrong was going down to set foot on the moon – well, even to this day, there is that sense of accomplishment about it," Mooney says.

Most of the workers joined millions of others around the world in watching televised images of the first humans on the moon. Some were in Florida, having gone there to watch the launch of Apollo 11 on July 16.

"It was something we had anticipated, and when it finally happened, it was just a culmination of everything we had been doing and working toward," Wanda Howard recalls. "There was a real sense of accomplishment about it."

Flames erupt as Stennis Space Center engineers conduct the first test firing of an S-IC-5 Saturn rocket engine stage in August 1967.

An S-II-C Saturn rocket engine stage is lifted into place at a John C. Stennis Space Center test stand in July 1967.

Delcuze remembers waking his oldest child up to watch the first steps on the moon late on the night of July 20. "I knew it was a date I wanted him to remember," he says.

Mix talks about watching Armstrong and Aldrin on the moon with a sense of wonder at the speed of it all. "Everything happened so fast," he explains. "It was just a few years – but with a lot of dedication by a lot of folks."

Kellar watched the moon landing with a marked sense of patriotism. "I was sitting with my children and telling them, 'This is history in the making,'" she says.

As the nation prepares to go back to the moon as part of NASA's Constellation Program, Kellar wants to share in that history again. She could have retired years ago, but remains at Stennis as it readies to test the engines that will power future lunar missions.

"I want to be part of it all again," she says. "I want to go back to the moon."

Apollo technology – making for better life

When NASA personnel fulfilled the Apollo Program mission of sending humans to the moon in 1969, they not only made history, they made life safer and more comfortable for people around the world.

Forty years ago, late into the night of July 20, astronauts Neil Armstrong and Buzz Aldrin became the first humans to set foot on the moon, fulfilling the challenge issued by President John F. Kennedy just eight years earlier. It was a moment of shared patriotism and shared humanity, but no one could imagine how intimately the Apollo Program would touch lives – then and now.

For example, the quartz crystals used in clocks and watches were developed as a highly accurate, lightweight timing device for the Apollo space vehicle. NASA's communications technology also provided a basis for satellite television and phone systems.

Lightweight, fire-resistant, heat-protective fabrics developed for Apollo spacesuits were used to provide flame-retardant clothes for firefighters, children and others. Aluminum composite materials used to make breathing tanks for the Apollo astronauts provided smoke inhalation protection for earthly firefighters as well.

Shock-absorbing material not only helped astronauts walk safely on the moon but also made lighter, more stable athletic shoes possible. A cardiovascular conditioner for astronauts led to the invention of a physical therapy and athletic development machine widely used in sports clinics and rehabilitation centers.

Materials that protected astronauts and delicate instruments in space became a common home insulation. Likewise, the foam insulation that shielded the Apollo spacecraft proved beneficial along the Alaskan pipeline, where it keeps oil traveling through the pipeline at 180 degrees. Freeze-dried foods crossed over from the space program into daily life, and the fabric used in Apollo spacesuits was adapted to build tent-like, cost-effective, environmentally friendly buildings.

Some of the most important innovations to come out of the Apollo missions applied to medical science. Programmable pacemakers and implantable heart monitors use telemetry, which helped mission control officials monitor astronauts' health through a wireless communication system. The same telemetry now allows hospital nurses to monitor several patients from one station.

Special kidney dialysis machines were created as a result of a NASA chemical process developed in the Apollo Program. Magnetic resonance imaging and computer-aided tomography scans analyze bone and tissue to see inside the body without invasive surgery. Both technologies sprang from NASA's need to computer-enhance images taken on the moon.

Liquid-cooled garments used by hospitals to regulate patients' body heat are a direct descendant of suits that kept astronauts cool on the lunar surface, where temperatures can reach 250 degrees Fahrenheit. The suits also are used by race car drivers, nuclear reactor technicians, shipyard workers and people with multiple sclerosis, among others.

Stennis firefighter Greg Lampley displays protective gear, made safer thanks to technology developed in the Apollo Program.

These are but a few of the innovative technologies that were developed as a result of NASA's Apollo Program. The process has continued through NASA's Shuttle Program. Solar energy, bulletproof vests, flat screen TVs, desktop computers, video game joysticks, automatic bank tellers, silver ion water purifiers and battery-powered cordless tools are all offshoots of NASA technology.

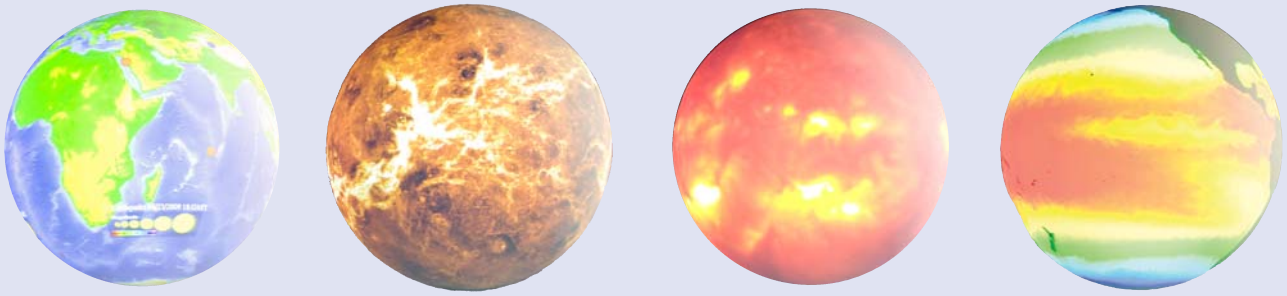
To learn more about the Apollo Program's legacy in everyday life or other NASA spinoff technologies, visit: www.sti.nasa.gov.

STS-125 crew visits Stennis

Members of the mission STS-125 shuttle crew visited John C. Stennis Space Center on June 24 to report on their mission to service and repair the Hubble Space Telescope, and to thank Stennis workers for providing the main engines that made their mission possible. Crew members conducted five spacewalks during their 14-day mission to the space telescope. Space shuttle Discovery launched Hubble in 1990, releasing it into an orbit 304 miles above the Earth. Since then, the telescope has circled Earth more than 97,000 times and provided more than 4,000 astronomers access to stars not possible from inside Earth's atmosphere. Hubble has helped answer some of science's key questions and provided images that have awed and inspired the world. With the recent repairs and upgrades, Hubble is expected to continue operating until at least 2014. Following their mission presentation in the StenniSphere auditorium last month, shuttle crew members and Stennis Center Operations Director Marina Benigno (third from right) traded commemorative plaques highlighting the mission and the space shuttle main engine testing conducted at Stennis. A pair of crew members also visited with Astro Camp participants following the general session for Stennis employees. Crew members later toured rocket engine testing facilities at Stennis. Crew members who made the visit were (l to r) Mission Specialists Mike Massimino, Mike Good and Drew Feustel; Commander Scott Altman; Mission Specialist Megan McArthur and Pilot Greg Johnson.

Stennis employees browse the latest at Information Technology Expo

Justin Smith (left) of CSC, helps Donna Hansen of Jacobs NASA Test Operations Group retrieve the password that will be used in conjunction with the "smart card" technology embedded in Stennis Space Center security badges. The service was part of the Information Technology Expo held June 25 in the atrium of Building 1100. The fifth annual Expo was sponsored by the Office of the Chief Information Officer and highlighted available products and services. It featured live class presentations on home computer purchasing tips, antivirus protection for computers, IT Security and other topics. Employees also were able to visit a number of technology vendors and informational booths.



Stennis unveils Science on a Sphere

Earlier this spring, NASA's John C. Stennis Space Center unveiled its latest exhibit – "Science on a Sphere," a 68-inch diameter global presentation of planetary data of the past, present and future.

StenniSphere is only the third NASA visitor center to offer Science on a Sphere, an aptly-named computer system that uses four projectors to show dynamic, revolving, animated views of Earth's – and other planets' – atmosphere, geography and more.

For example, one program shows the fluctuation of airplane departures around the world as darkness enshrouds portions of the globe to represent day changing to night. Another offers near real-time weather and earthquake data sets acquired through National Oceanic and Atmospheric Administration satellites and U.S. Geological Survey seismometers.

Viewers can view and study one month's worth of past weather pattern data. There is even a module that models the effects of global warming through the end of this century, as well as documentaries created specifically for Science on a Sphere, such as an overview of NASA's plans to return to the moon. Overall, the system has more than 280 data sets, including educational programs that bring complex science lessons to life.

"This has become one of our most popular exhibits," Stennis Visitor Center Supervisor Wendy LeSieur said. "Young people and adults alike enjoy the various presentations. We're excited to offer the exhibit to the public."

Office of Diversity and Equal Opportunity

It is all about respect and inclusion

A culture of respect doesn't just happen on its own. It is shaped by intention, education, practice and commitment. As children we are taught to respect our parents, teachers, peers, authority, and ourselves. Many of us learned early to say "ma'am" or "sir." We were taught to respect the law. Respect the American flag. Respect the rules at school. And, respect the truth.

More recently, an additional term has crept into our vocabulary as we discuss respect in the workplace – inclusion.

We all know the basic definition of respect. Incorporating respect and inclusion as they relate to the workplace can be defined as ongoing behavior that promotes increased awareness and acceptance of differences in each others' beliefs, styles, and backgrounds, as well as our physical and ancestral makeup.

By not practicing respect and inclusion, the end result is the same – hostility. Sometimes, it's obvious, but more often than not, it's subversive. It takes the form of character attacks, gossip and insinuations, "jokes" or other disparaging remarks aimed at specific individuals or groups; selective denial of freedoms; and/or selective access to resources and privileges.

"Did I behave today in a manner that is consistent with my own truths and still leave room for everyone else to do the same?"

All of these behaviors are insulting and damaging, and cause real harm – physical and/or emotional – to real people.

The question we should ask ourselves at the end of the day is: "Did I behave today in a manner that is consistent with my own truths and still leave room for everyone else to do the same?" That is simple on the surface, but challenging to embrace in practice by not imposing our beliefs on others.

Save the Date – Aug. 27
"Unintentional Intolerance"
Stennis Space Center training event

New Exchange open at Stennis

A ribbon-cutting ceremony was held June 30 for the opening of a new Navy Exchange at John C. Stennis Space Center. Those participating in the event included (l to r): Capt. Jon White, chief of staff, Naval Meteorology and Oceanography Command; Rick Gilbrech, Stennis associate director; Michael Oatman, general manager, Naval Construction Battalion Center; Pattie Ferguson, branch Exchange manager, Stennis NEX; Rear Admiral Robert Bianchi, commander, Navy Exchange Service Command; Patrick Scheuermann, Stennis deputy director; Commander Steve Fitzgerald, executive officer, Naval Construction Battalion Center; and Commander Robert Lyonnais, commanding officer, Special Boat Team Twenty-Two.

Hail & Farewell

NASA welcomes the following:

Marie Reed	AST, Technical Management Engineering and Test Directorate

NASA Stennis Space Center
Working Toward A Star

VPP
Voluntary Protection Programs
An OSHA Cooperative Program

CSC recently completed their VPP onsite audit and were told by the Occupational Safety and Health Administration they met all the requirements of VPP. Congratulations to all CSC employees!

LAGNIAPPE

is published monthly by the
Office of External Affairs – Public Affairs
at NASA's John C. Stennis Space Center.

Comments or suggestions should be forwarded to:

NASA PUBLIC AFFAIRS OFFICE
Attn: LAGNIAPPE
Mail Code IA10
Building 1100, Room 22214
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or call 228-688-3749

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National Aeronautics and
Space Administration

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BATON ROUGE, LA
PERMIT NO. 984

John C. Stennis Space Center
Stennis Space Center, MS 39529

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Astro Camp students focus on moon

This summer, as in the past, children have flocked to Stennis Space Center to participate in Astro Camp activities. This year's camps have focused on the moon in honor of the 40th anniversary of the Apollo 11 lunar mission. Children engaged in various activities – including rocket launching – designed to teach them about the moon and NASA's goal of going back to that body. Each year, Astro Camp seeks to inspire children to learn about science, technology, engineering and mathematics through an array of fun activities.

DEVELOP students attend conference

Last month, Madeline Brozen and Jason Jones of the DEVELOP Program at John C. Stennis Space Center joined members from the program's national office at Langley Research Center to attend the Southern Growth Policies Board annual conference in Biloxi, Miss.

The Southern Growth Policies Board is a public policy think tank formed in 1971. It is supported by memberships from 13 southern states. This year's conference, "Southern Energy: Abun-dant, Affordable, American," focused on energy issues. Speakers included Gov. Joe Manchin III of West Virginia and energy industry veteran T. Boone Pickens. Board Chair and Mississippi Gov. Haley Barbour hosted the conference and moderated several sessions.

The Southern Growth Policies Board executive director highlighted the DEVELOP Program in his remarks. Students later presented information about NASA's Applied Sciences DEVELOP Program and demonstrated project results to attendees. The event was a valuable opportunity to showcase the contributions of the Applied Sciences Program.

Shown at the Southern Growth Policies Board conference with Mississippi Gov. Haley Barbour (center) are (l to r): Karen Alls-brook, Jonathan Gleason, Madeline Brozen, Lindsay Rogers and Tracey Silcox.