National Aeronautics and Space Administration

Facilities Support Center

A NASA Dryden Flight Research Center publication highlighting progress of the new building Vol. 1 No. 4

Nearly complete

By Jay Levine
X-Press editor

When NASA Dryden Flight Research Center's new Facilities Support Center is completed later this month, it will mark the most energy efficient building at the center. The construction is ultra efficient and Dryden officials intend to apply for national certification to prove it.

The $11.2 million, 38,000-square-foot structure and its related infrastructure is expected to be complete about 30 days ahead of schedule, said Gemma Flores, Dryden project architect for the FSC. Dryden is located on Edwards Air Force Base.

The structure is designed to meet the Leadership in Energy and Environmental Design, or LEED, Platinum certification standard for environment and energy efficiency. Based on building energy consumption modeling, design engineers forecast that energy use will be reduced more than 40 percent compared to conventional construction.

Development One/J. Bruce Camino

The Facilities Support Center comstruction is about 30 days ahead of schedule and officials said it is expected to be finished in June.

J. Bruce Camino, principal architect, and David Meider, project manager, recently explained some of the new facility's environmental features. Camino and Meider work for the architectural firm Development One Inc. based in Santa Ana, Calif., which was selected to design the facility.

Solar energy and building materials – including insulation made from old jeans and doors made from wood certified by the Forest Stewardship Council – are two places to look at energy efficiency and sustainability elements, Meider said.

Natural light is everywhere in the facility, made possible by light tubes that allow light into the facility and diffusers to direct the light to illuminate hallways and other areas, Camino said. Additional lighting is available by low-energy light-emitting diode, or LED, lighting. Low-emittance, double-pane tinted glass windows and translucent wall panels also allow light, but not heat, to enter the facility.

Regarding water usage, the landscaping will only require water for a short time until it matures then no irrigation will be required, Meider said. Water used from showers, laundry and restroom sinks, called gray water, will be collected in a tank and pumped back into the facility for use in flushing toilets. Combined with the use of water-efficient plumbing fixtures, the building's water use will be reduced more than 30 percent when compared to standard construction.

More details on the environmental features will follow in the next FSC newsletter.

The overall design of the facility is inspired by aeronautics, with the edges of the roofline resembling aircraft wings and front windows appearing to be hangar doors, Camino said.

High winds presented challenges on the construction site this spring, but the metal roofing is installed, as are the windows, Flores said. In addition, interior painting and tiling of restroom areas are nearly finished.

Outside, concrete driveways and parking areas have been completed, and pouring of sidewalks is also done. White concrete was used to reflect heat, compared to asphalt that absorbs heat.

The building will provide office and technical spaces for Dryden's Facilities Engineering and Asset Management Office as well as the Safety, Health and Environmental Office, combining functions under one roof that are currently housed in several obsolete and inefficient facilities at the center.

ED12-0162-321 **NASA/Tom Tschida**

The front windows of the FSC are designed to look like a hangar door and use materials that block heat, but allow light.

ED13-0086-46 **NASA/Carla Thomas**

A crane lift moved a cooling unit onto the center's roof.

The new building includes collaborative office space, conference rooms, restrooms and shower/changing facilities, fabrication workshops, development and training laboratories and a storage mezzanine.

Comfort and Hays Electric Inc. of Long Beach, Calif., and its subcontractors, including primary construction subcontractor AMG & Associates Inc. of Upland, Calif., are building the facility.

For additional information, contact Gemma Flores, facility project manager, at 661-276-2817.