National Aeronautics and Space Administration

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Inside the Multi-Payload Processing Facility

A unique facility at Kennedy Space Center, the Multi-Payload Processing Facility (MPPF) was constructed in 1995 and is located in the Industrial Area at the Center.

The facility is 19,647 square feet in area, and true to its name, it can accommodate one or more payloads in processing at the same time depending on their size. The facility supports the Checkout Assembly Payload Processing Program but also provides services to the customers whose payloads arrive for testing and processing.

According to Facility Manager Joseph Talavera, the building is a100,000-particulates-per-million clean room, and that means it is an exceptionally clean environment for customers whose payloads require this.

"It is probably one of the cleanest facilities in the area in regards to particulates," said Talavera. "And we've worked very hard to also make the facility one of the most energy-efficient in the Industrial Area."

The goal was to reduce energy use by 10 percent, but in actuality, the team was able to reduce energy consumption by 17.5 percent. During processing and testing of the NASA-sponsored Solar Radiation and Climate Experiment (SORCE)

Workers in the MPPF install the SORCE payload into the Pegasus launch vehicle.

spacecraft, for example, the facility continued to operate using only one air handler to cool the area.

The MPPF has a high bay and a low bay and is equipped with a 20-ton overhead crane. In addition, the MPLM Access Certification Equipment (MACE) training unit is also located inside the MPPF. The MACE is an exact replica of the U.S.-made Unity module on the Station and is used to support training activities for the Space Station Processing Facility.

According to Talavera, the MPPF can accommodate several payload customers with the flexibility to meet air quality, cleanliness, scheduling and protocol requirements for each. "We always try to stay one step ahead to meet customers' needs," commented Talavera. "We strive to meet all customer requests."

An example of the MPPF's multi-processing abilities included payload processing activities for Missions STS-95 and STS-88. Several payloads were processed inside the MPPF concurrently including the SPARTAN201, IEH-03, SAC-A and MightySAT-1 Also, prior to Mission STS-99, the very large Shuttle Radar Topography Mission payload was tested and verified inside the MPPF and occupied more than 95 percent of the facility's high bay space.

In the Multi-Payload Processing Facility, workers with NASA's Jet Propulsion Laboratory work on the carrier and horizontal antenna mast for the STS-99 Shuttle Radar Topography Mission. This radar system is gathering data that will result in the most accurate and complete topographic map of the Earth's surface that has ever been assembled.

Photos above and below: The Solar Radiation and Climate Experiment (SORCE) payload arrived at KSC and was transported to the Industrial Area's Multi-Payload Processing Facility (MPPF) low bay for testing and validation while awaiting the arrival of its launch vehicle, Pegasus. Built by the Orbital's Launch Systems Group in Dulles, Va., Pegasus arrived at KSC from Vandenberg Air Force Base and was transported to the MPPF high bay for testing, verification and three flight simulations prior to launch. The two elements were mated in the MPPF before launch.

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