NOAA Fairbanks Satellite Operations Facility Replacement

Fairbanks, Alaska

Project Description

The NOAA/NESDIS Fairbanks Satellite Operations Facility (FSOF) building in Fairbanks, AK was built by NASA in the late 1960s. Consistent with a plan for the Bureau of Land Management to turn over the Facilities Command Data and Acquisition Site (FCDAS) land to the state of Alaska, it was originally presumed that the government use of the Fairbanks location would expire. Therefore, the structures built were semi-permanent, with a life expectancy of 20 years. In 1985, NOAA took over operations of the Fairbanks facility. The Fairbanks facility is located in a seismic zone and operates in severe Sub-Arctic conditions, with temperatures routinely reaching minus 50 degrees Fahrenheit during the winter months. The Army Corps of Engineers (COE) conducted an assessment of the Operations Building Complex and identified existing structural deficiencies, building code violations, potential hazards, and other weaknesses (including electrical, mechanical, and life safety systems). The COE's study of the facility completed in 2006 projected a major structural failure in the next five years. The current Operations Building Complex is no longer capable of safely and reliably supporting operations. Replacing the current Operations Building Complex is consistent with the assessment by the COE that the current structure will fail by 2011, increasing the risk to employee safety, and threatening critical polar-orbiting satellite mission operations.

The Fairbanks facility is one of two major Satellite Command and Data Acquisition Stations (CDAS) operated by NESDIS. The other station is located at Wallops Island, Virginia. This station was established in 1961 to communicate with some of the first environmental satellites created. The mission of the FCDAS is mostly unchanged today. It primarily supports operation of earth-observation satellites whose orbits converge at the Earth's poles. The FCDAS contains antennas, electronic equipment, and support facilities that were designed to provide radio communications with satellites observing the earth. Observations from NOAA's satellites make up the vast majority of data used in NOAA's forecast models. The Fairbanks CDA station is a critical link in the flow of data from NOAA's environmental satellites to applications that support all four of NOAA's mission goals.

Ongoing Satellite operations would continue to be supported through at least 2026. The Polar-orbiting Environmental Satellite Program (2020 and beyond), primary backup site for European METOP (through 2026), GOES-West Backup (2019 and beyond), and the Defense Meteorological Satellite Program (DMSP) will all benefit from continued Fairbanks operations.

Existing Facility Aerial Photograph

Project facts

Completion Year: 2010

Project Area: 20,000 s.f

Project Cost: $17M

Staff Number: 36

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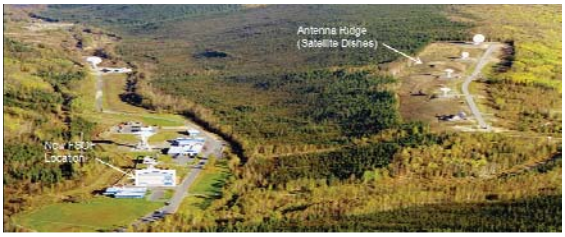
Additional missions for which Fairbanks would provide support include; NPOESS Backup Site (2026 and beyond), other Joint Missions such as the Jason-2, which will begin in 2008 and provide continuity of satellite altimetry data, and follow-on Ocean Surface Topography Mission (OSTM) data acquisition under agreement with NASA and EUMETSAT and the Constellation Observing System for Meteorology, Ionosphere, and Climate (COSMIC) network.

This project replaces the operations building with a pre-engineered temporary structure (20,000 s.f.) to support the current remaining mission at Fairbanks. The pre-engineered building provides an extended-use facility that will support mission-critical satellite operations performed at the Fairbanks facility through 2026.

Location

The replacement facility will be located near the current at-risk facility. The current site makes it ideal for operational efficiency. The relative isolation, surrounding hillsides blocking radio frequency interference and large land holding contribute to station successes. NESDIS supports NOAA's mission by providing timely access to global environmental data from satellites and other sources to promote, protect, & enhance the Nation's economy, security, environment, & quality of life. In support of scientific and national-security activities, environmental satellites orbit the globe collecting information on the conditions of the world's atmosphere, land, and water.



Aerial Site Photographs

Project Schedule	
Program Phase	**Schedule (Start - Complete)**
Business Case/Site Analysis / Programming	12/06 – 03/07
Design	04/07 – 12/08
Construction	05/09 – 07/10
Operations Relocation/Occupancy	08/10 – 11/10

Funded through American Recovery and Reinvestment Act of 2009 and FY 2009 Omnibus Budget Act.