

## C-130 OPERATIONS BEGIN

A new era in Antarctic logistics opened on 23 January at 1755 local time when the first Air Force C-130 Hercules ski-equipped jet-prop transport, commanded by Lieutenant Colonel Wilbert Turk, Commander of the 61st Troop Carrier Squadron, Sewart Air Force Base, Tennessee, landed on the Ross Ice Shelf for participation in the Navy's Operation DEEP FREEZE 60. The Hercules, one of the seven operated in the Antarctic by the U. S. Air Force Tactical Air Command in support of DEEP FREEZE, flew from Harewood Aerodrome, Christchurch, New Zealand, to Naval Air Facility, McMurdo Sound, after a delay of two days, due to the worst summer storm recorded in the past four years.

Lt. Col. Turk's flight was made in eight hours and five minutes. The six other ski-equipped turbo-jets landed at regular intervals following him. The eighth plane of the Squadron, wheel-equipped, had remained in Christchurch to provide maintenance support. The McMurdo deployment brought these aircraft to their Operation ICEFLOW (code name given to this Ninth Air Force operation) area after the long trek from Sewart Air Force Base by way of Travis Air Force Base, California; Hickam Air Force Base, Hawaii; Nandi, Fiji Islands; and Christchurch.

Operating from the newly constructed snow strip near McMurdo Sound, the C-130 aircraft are scheduled to transport a total of 400 short tons of cargo from McMurdo to the inland stations in Marie Byrd Land and at the South Pole. This cargo will consist of building panel sections and lumber for Antarctic housing, drummed petroleum, oil and lubricants, and equipment for emergencies, comfort, and morale.

### First Flights Inland

On 25 January, 1215 local time, the first C-130 flew supplies to the remote station at Marie Byrd Land, 850 statute miles from McMurdo. In keeping with his established policy, Rear Admiral Tyree accompanied Lt. Col. Turk and his crew on this first inland flight to personally observe the operation and encourage the personnel involved.

Three days later (28 January), a C-130 landed with 14,000 pounds of cargo at the South Pole. The 770-mile, two-hour forty-one-minute flight spent fifty-five minutes at the Pole before returning to McMurdo and a continuation of the round-the-clock operation. The Pole flight, piloted by Lt. Col. Turk, carried RADM Tyree as well as Dr. Karl G. Harr, Jr., Special Assistant to the President of the United States, and Dr. James E. Mooney, Deputy Antarctic Projects Officer.

On 31 January, another flight carried more observers to the Pole Station: Mr. Neil Carothers, Special Assistant to the Director of the National Science Foundation; Mr. Frederick E. Vosburgh, Vice President of the National Geographic Society; Captain Franklin C. Snow, USN, Office of the Chief of Naval Operations; and Captain David M. Todd, Harbor Master, Wellington, New Zealand.

## Operation ICEFLOW

The C-130 aircraft plan to fly about fifty trips to the bases at the Pole and in Marie Byrd Land before the approaching Antarctic winter imposes its limit on flight schedules and search and rescue capabilities.

By use of this large ski-equipped aircraft, it is now possible to supply these inland stations in a more efficient manner. Previous methods of supply had involved air drops of material by parachute or the use of aircraft of limited capacity to land cargo. The use of C-130 aircraft, with its ability to land on snow, will minimize the danger of damage to sensitive instruments; insure delivery of maximum payloads, including heavy bulky items; require less cargo handling by personnel exposed to the Antarctic climate; greatly minimize the need for air-drop parachutes; and relieve the burden of recovering parachuted items by the few men stationed at these inland bases. The C-130 may make it feasible for key scientists to visit and oversee programs for short periods at the Byrd and Pole Stations throughout the Antarctic operating season.

### C-130 Specifications

The Navy has ordered four of the remarkable C-130 Hercules transports from Lockheed Aircraft Corporation for its support operations during DEEP FREEZE 61 and years to follow. The 62-ton Hercules is equipped with a tricycle ski-wheel landing gear, enabling it to land on soft snow, ice, and other types of unprepared Antarctic terrain, as well as on conventional landing fields. By a unique lowering and retraction system, the pilot can use either skis or low-pressure doughnut wheels for landings and take-offs.

Aft doors on the C-130 open in seconds to give access to a nine-foot-high by a ten-foot-wide cross section of cargo compartment, thus a large variety of bulky outsized items can be transported. The floor of the fuselage is only forty inches above ground level, thus cargo can be winched out of the aircraft onto a sled very rapidly and with a minimum of effort on the part of ground personnel working in an unfavorable climate. Careful planning, before the actual aircraft operation had begun, made available loading sleds and platforms of uniform height to take advantage of this capability, thus facilitating the loading and offloading to allow an uninterrupted flow of cargo.

The C-130 is powered by four T56 Allison engines, developing a total of 15,000 equivalent shaft horsepower, to drive four propellers fifteen feet in diameter. This power enables the aircraft to lift from unprepared snow or ice fields with 31,000 pounds of payload over a 1500-mile range.

### Support Potential

By 1 February, twenty-six of the C-130 flights had been completed. Sixteen of these had carried eighty-eight tons of cargo to Byrd Station, while the other ten had moved seventy-five tons to the South Pole. This was almost half of the total amount of cargo to be flown inland. The remaining amount of cargo will be shipped in as soon as possible, weather being the limiting factor.