



**Acquisition
Directorate**



Great Lakes Icebreaing (GLIB) Capability Replacement Project

May 2008



The USCG Acquisition Directorate is committed to delivering and supporting state-of-the-market platforms and systems that are affordable, efficient and mission-capable.

The Great Lakes Icebreaking Capability (GLIB) Replacement project is an acquisition program whose primary purpose is to meet the heavy ice-breaking requirements of the Great Lakes as spelled out under several federal mandates. Specifically, Executive Order NO. 7521 dated 21 December 1936 states “ The Coast Guard is hereby directed to assist in keeping open to navigation by means of ice-breaking operations channels and harbors in accordance with the reasonable demands of commerce.”

The Coast Guard as required by law will maintain a heavy ice-breaking capability on the Great Lakes to assist in keeping channels and harbors open to navigation in response to the reasonable demands of commerce to meet the winter shipping needs of industry. In addition to heavy icebreaking, the USCGC MACKINAW (WLBB-30) has state of the art systems and multi-mission capabilities that include; maintenance of aids to navigation (ATON), conduct law enforcement and search and rescue as well as the ability to deploy an oil skimming system to respond to oil spill situations and environmental response. Deployments will range from one day to six weeks.

USCGC Mackinaw (WLBB-30) is a 240-foot (73- meters) vessel built as a heavy icebreaker

for operations on the North American Great Lakes for the United States Coast Guard. She should not be confused with a namesake ship, the USCGC Mackinaw (WAGB-83), which was decommissioned on June 10, 2006.

CGC Mackinaw (WLBB-30), was delivered to the Coast Guard on November 18, 2005 and commissioned on June 10, 2006. In addition to her ice-breaking duties, the Mackinaw will also serve as an Aids to Navigation ship, able to perform the same duties as the Seagoing Buoy Tenders (WLB) of the Coast Guard fleet.

One of the Mackinaw’s unique features in the US Coast Guard fleet is the use of azipods for her main propulsion. These, coupled with a 550 hp (410 kW) bow thruster, makes the ship exceptionally maneuverable. Azipods also negate the need for a traditional rudder, as the azipods can turn 360 degrees on their axis direct thrust in any direction. The Mackinaw also lacks a traditional ships steering wheel. Much of the ship’s technology, including the azipod thrusters is from Finnish Maritime Cluster.

Maintaining a reliable Great Lakes heavy icebreaking capability is essential. Great Lakes shipping operates on a 42- week shipping season to deliver 150 million tons of materials. Of those 42 weeks, 12 weeks require icebreaking services.

Mission execution begins here.



MARINETTE, Wisc. - The newest USCGC Mackinaw (WLBB-30), a Great Lakes Ice Breaker (GLIB), is launched into the Menomonee River on April 2, 2005.

Charateristics

Length, Overall	240'0"
Beam	58'6"
Draft	16'
Full Load Displacement (LT)	3,500
Maximum Speed	15kts
Crew Complement	9 Officers 5 CPOs 41 Crew
Mixed Gender Accommodations	2 Person Staterooms
Main Propulsion	Integrated Main Propulsion & Electrical Plant
Auxiliary/Emergency Generator	715kw
Propellers	ABB Azipod® - Fixed Pitch, 10' diameter

Features

- Refrozen Brash Ice Capability (ramming): Up to 10'
- Ridge Ice Capability (penetrate in < 4 rams): 10' within 30 minutes
- Law Enforcement: (6) 50-Caliber Machine Guns Various Small Arms
- Aids-to-Navigation: Same as Seagoing Buoy Tender (WLB)
- Oil Spill Control: Coast Guard's Vessel of Opportunity Skimming System (VOSS)
- Maximum Range : 4,000 NM @ 12 kts, 9,000 NM @ 9kts Predicted
- Sewage Treatment, Trash & Hazmat Storage: Hold for 10 days (based on 50 man crew) All Grey Water & All Black Water Trash compactor retains all trashes; separate glass, plastics & paper Retains all HAZMATs