

***Explorer's* Green design based upon Leadership in Energy and Environmental Design (LEED™) Requirements**

Explorer's hybrid diesel-electric propulsion system, or ELFA™, from Siemens Energy & Automation, combines conventional diesel motors with a multi-component Siemens system that converts the engines' power to electricity and uses it to power the boat's systems. The vessel operates on bio-diesel blended fuel and electric power, which can be recycled to the local grid.

The propulsion system is only part of this extraordinary story. Green design technologies are integrated into the boat's other systems. More than 110 LEED standards were investigated, and the resulting design demonstrated technologies that were new to the marine industry.

The design "Green Team" was comprised of an advisory board of the leaders in green building and design, headed up by three prominent anchors: Moshier Studio, a Pittsburgh-based design firm with extensive experience in green design; Perkins-Eastman, an architectural firm with a long list of green projects to its credit; and the U.S. Green Building Alliance, a Pittsburgh-based non-profit organization that provides expert services to facilitate green building solutions.

The following are examples of the innovative features included in this green vessel:

Windows / Daylighting – High-efficiency TRACO architectural, double-glazed windows were used for the first time in a marine format. Maximizing the number of window provides abundant daylight for 80% of the work spaces on board. Unlike many marine windows, these windows can be opened to allow for natural cross-ventilation.

Lighting – Dimmable fluorescent lighting generate less heat and use 50-80% less electricity than incandescent bulbs. Exterior LED focus light where it is needed most, reducing te wattage and extraneous "light pollution."

Materials – Cabinetry was made from renewable materials. WOODSTALK fiberboard is 93% wheat straw content and is moisture resitant. TRESPA laminates are made from 70% renewable forest softwood content.

Low VOC Products – Low VOC products on *Explorer* which reduce off-gassing include: TRESPA surfaces (walls and countertops), MARMOLEUM surfaces (tabletops), WOODSTALK (walls and cabinets), recycled SHAW carpeting and Sherwin-Williams and PPG Marine Paints.

HVAC – Lightweight and washable DUCTSOX move heated and cooled air throughout the boat, which replace dust-collecting metal ducts. Also energy-efficient air conditioning units use smaller "chillers."

Water Management – Water management and conservation onboard begins with the most in demand need for water – toilet flushing. Commodes flush with river water to reduce municipal water waste. Sinks and toilets empty into a holding tank not the river, which is pumped to an ALCOSAN sewer line on shore.