

HC-144A Trainer Program



The U.S. Coast Guard has protected the United States since 1789. Unique systems such as the HC-144A Ocean Sentry aircraft are required to complete their mission. This aircraft specializes in search and rescue, homeland security, disaster response and national defense missions.

The Coast Guard faced the challenge of having to sacrifice over one quarter of their aircraft fleet for training purposes. By utilizing aircraft for training, the Coast Guard's fleet of HC-144A's could not be mission prepared at all times. To address these factors, Aero Simulation created two HC-144A training devices; the Operational Flight Trainer (OFT) and the Reconfigurable Flight Training Device (RFTD). This OFT delivers an ultra-realistic training environment projected onto the world's largest collimated visual display system in a full-motion simulator. The RFTD is a procedural training device where GL Studio is utilized to render all of the aircraft's instrumentation on large form-factor touchscreens. Aero Simulation also leverages the same GL Studio built instrumentation into the Instructor Operator Station.

Russ Shepard, Director of Business Development/Aero Simulation and 30 year veteran in the flight simulation industry said, "[The OFT] is by far the most realistic simulator I have ever seen." Known for their innovative training solutions for military and commercial industries, Aero Simulation was awarded a contract by the U.S. Navy, Naval Air Warfare Center Training Systems Division to create the HC-144A Operational Flight Trainer. Safety compliance and realism were key factors in determining the software that would be utilized in the trainer. Since the students will take 18 training flights in the simulator and only 3 training flights in the actual aircraft, the training has to be as realistic as possible. The experience will prepare students for real-life situations, and the training could possibly help save their lives. It was vital to have a faithful representation of a flight in motion.

Aero Simulation used GL Studio to create the RFTD virtual cockpit, and an instructor operation station where instructors can program flights, change scenarios and map position. GL Studio provides infinite flexibility. Since the RFTD cockpit environment is virtual and many of the panel elements are common, the components can be reused which aids in reducing training time and cost. For example, GL Studio also delivers the 3D integrated engine display system, integrated electronic standby indicator, and graphical instrument repeater for the full motion Operation Flight Trainer.

“The reason for enhancing the realism is to get the pilot to forget that he’s in a simulator, and make him think that he’s in an aircraft and react as if he was in the aircraft,” said Shepard, “What you see looks exactly like what you would see in the real world.”

We are excited to see GL Studio infused with new Aero Simulation programs in the future.