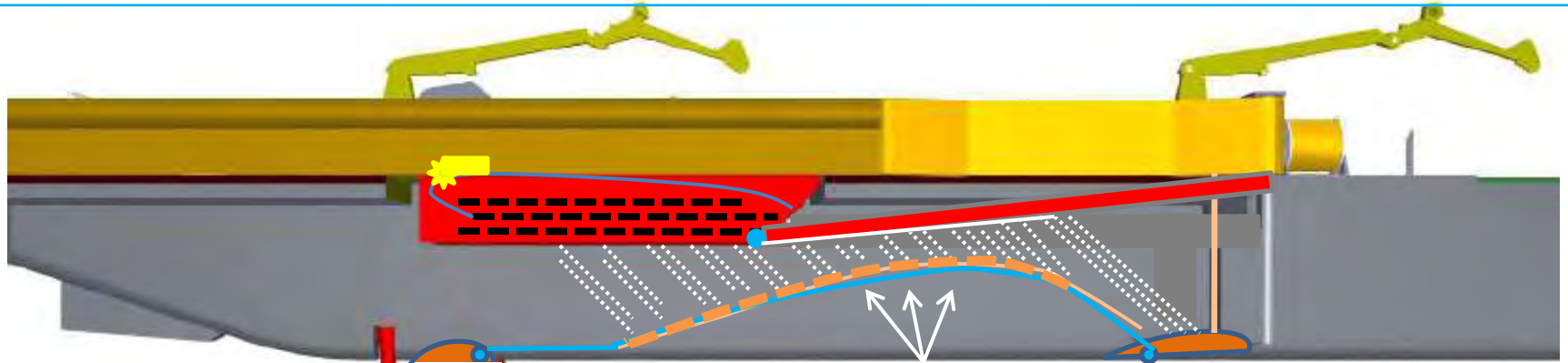


Starboard aft end of the AP OSRV with outer trimaran hull removed to view inclined plane skimming system employing wave & current attenuation with air filtration & laminar flow



Two **fixed hydrofoils** each house two **cable winch drums** to deploy the Foil Net, or stow it flat by pulling the net taught against the forward fixed foil. The net can be pulled aft to create a funnel below the skimmer with the **CombiThruster** raised and tilted forward behind the net. This configuration minimizes ice buildup in front of the skimmer by generating a higher relative current under the skimmer than in the rest of the tunnel forward. In high seas, the Foil Net is deployed in the forward position and “tugged” in sequence with wave crests to “peel-off” the crests and “fill” the wave troughs for smoother, laminar-flow skimming.

Ten 2' wide **high-lift hydrofoils** spanning the width of the tunnel are connected to each other with a 2' wide strip of steel mesh cargo net to create a 18' wide by 38' long Foil Net **cabled** to four **winch drums**. **Pressurized air** is supplied to each **foil** to create **bubble-nets** that sweep oil droplets from the water column, forcing them to the surface. The **air bubbles** also lubricate the inclined plane, allowing the individual and combined foil effects to easily submerge the stratified surface layer along the plane into the skimmer well where the oil floats to the **rotary lobe pumps** at the back of the skimmer. Large ice and debris just deflect off of, and roll over the flexible Foil Net, then bounce off of the bottom of the skimmer baffles while the **air bubbles** and agitation “wash” the oil from the ice and up to the **pumps**. **Rotating knives** between the baffles provide a self cleaning grill excluding ice larger than 1.5” at the lower, 1st stage and then separating ice larger than ½” at the 2nd level of baffles. Ice larger than ½” is effectively “washed” and expelled aft ward by the current and knife rotation while ice smaller than ½” is pumped and melted out of the oil by heating the recovered oil with floating coil trays onboard.