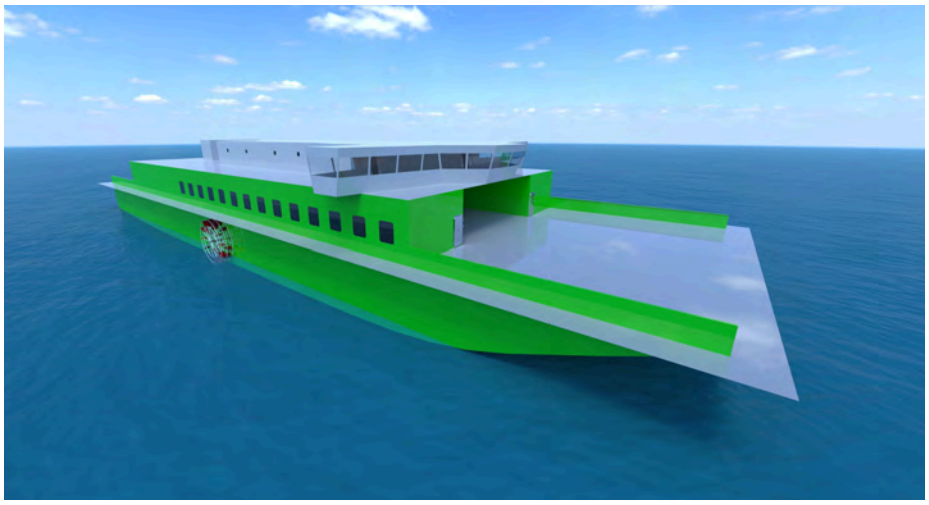
Igboland Transit Authority

M/V Sea Señor

Niger River RoPax Ferry





Vessel Mission:

The M/V Sea Señor is designed to provide passage between the ports of Onitsha, Ndoni, and Idah on the Niger river in Nigeria. The vessel accommodates 200 passengers and 20 small freight vehicles. The vessel operates exclusively between the hours of 6AM and 6PM and operates with a draft less than 1m to ensure safe transit of the shallow sections of the river.

200
Passengers

20
Small Freight Vehicles

0.95m
Fully Loaded Draft

Vessel Overview:

Principal Characteristics

- Length w/o Fender: 70m
- Beam: 20m
- Fully Loaded LCF Draft: 0.95m
- Design Speed: 6kts
- Displacement: 978MT
- Depth: 4.5m
- Propulsion: 2x 150kW Motors

Key Features

- Fully Electric Operation
- Side-wheel configured Paddlewheels
- 100% Passenger Seating & Food Service
- Overnight Crew Accommodations
- ClassNK, IMO Intact Stability, and CFR Lifesaving/Firefighting Compliance
- Virtual Aids to Navigation

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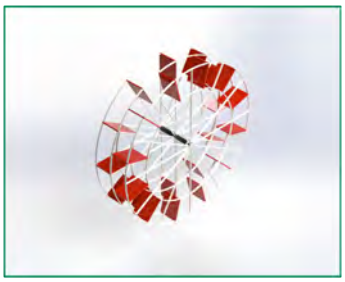
Fully Electric Operations:

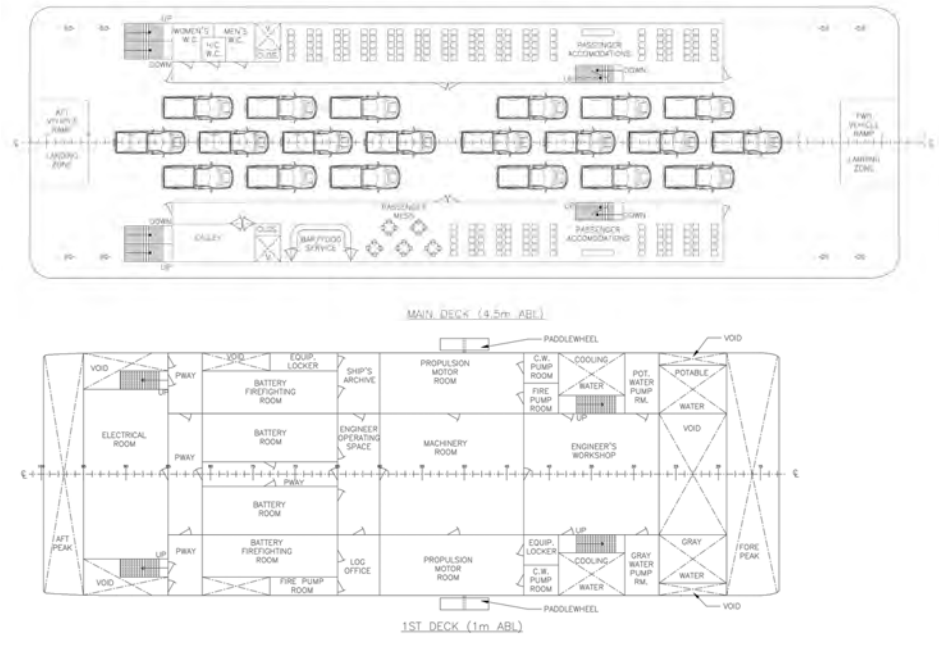
The M/V Sea Señor is equipped with 8.9MWh of installed battery capacity to allow for a full twelve-hour transit between two ports. This allows for zero-emissions operations of the propulsion plant as well as all other machinery and hotel loads throughout the day without fully draining the batteries. An emergency diesel generator can be used for backup power in the case of emergency, but the battery system itself is designed to be redundant.

8.9MWh
Total Battery Capacity

Paddlewheel Propulsion:

The vessel has been designed with staggered-bucket side-paddlewheels to allow for uninterrupted, smooth propulsion for a shallow-draft vessel at a low design speed. Other forms of propulsion were deemed to be at too high-risk of damage or inoperability in the shallow water, requiring a return to technology used when shallow river operations were more common.





Igboland Transit Authority

Engineering Team

Rebecca Ashmore



Hometown: Grafton, MA
Work Experience:

- R&D Intern - ThayerMahan - Groton, CT
- USNS *Apalachicola* Engine Cadet - Military Sealift Command - Mobile, AL
- Intern - Westport Yachts, LLC - Westport, WA

Career Plans: Systems Engineer and Researcher

Ben Calkins



Hometown: Modesto, CA
Work Experience:

- Naval Architect Intern - Birdon USA - New Orleans, LA
- USNS *Charles Drew / Wally Schirra* Engine Cadet - Military Sealift Command - Guam, USA
- Marine Technician - New England Boatworks - Portsmouth, RI
- Engineering Intern - Hogan Mfg. - Escalon, CA

Career Plans: Naval Architect

Andrew Mullan



Hometown: Huntington, NY
Work Experience:

- Engineering Intern - Metal Shark Boats - Rijeka, Croatia
- Engine Cadet - Cape May-Lewes Ferry - Cape May, NJ
- Production Intern - Metal Shark Boats - Jeanerette, LA

Career Plans: Graduate School & Naval Architect

Abigail Price



Hometown: Reston, VA
Work Experience:

- Intern - American Bureau of Shipping - Houston, TX
- USNS *Comfort* Engine Cadet - Military Sealift Command, Norfolk, VA
- Student Intern - NASSCO - San Diego, CA

Career Plans: ABS Surveyor