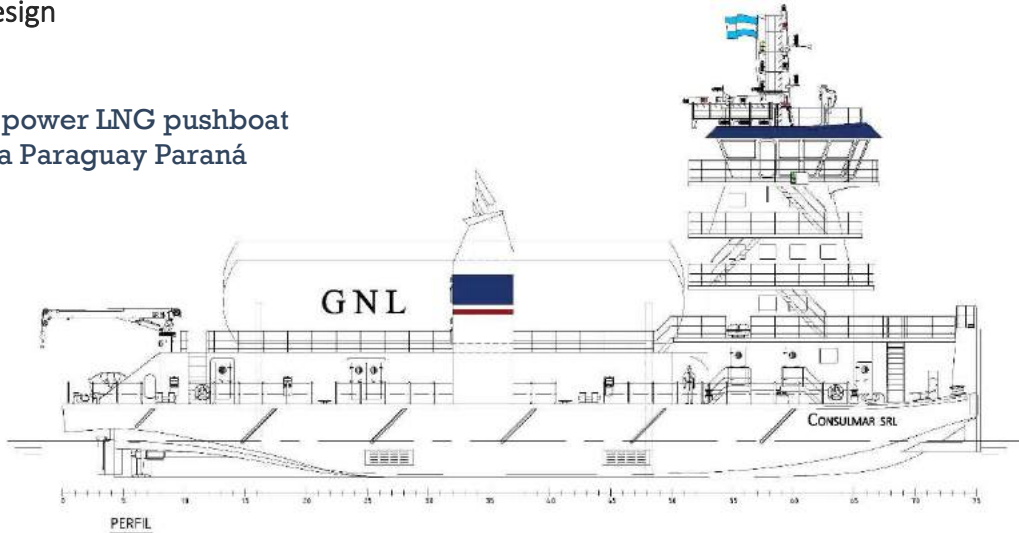


21 LNG Push Boat

PROJECTS / Workboats

- Basic Design

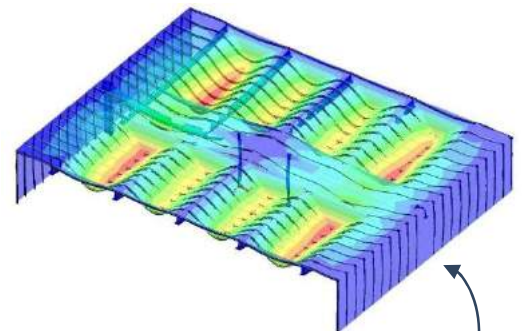
Low draft high power LNG pushboat
for the Hidrovía Paraguay Paraná



Length _{oa} :	45,75 m
Beam:	19,52 m
Draught _{max} :	2,43 m
Draught _{min} :	1,83 m
Depth:	3,66 m
Power:	4 x 1500 HP
Cap. MDO:	520 m ³
Cap. LNG:	740 m ³

Outstanding Aspects

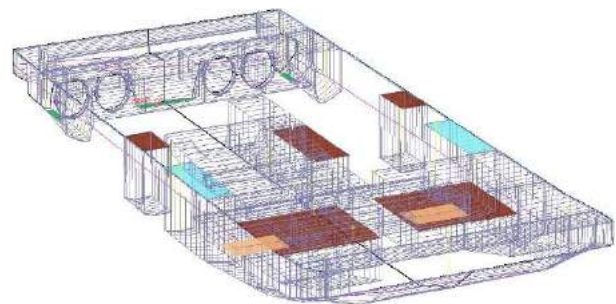
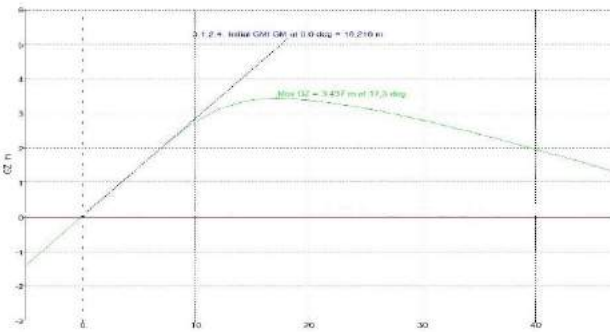
- **Dual Engines**, 4 medium speed dual engines, with reverse reduction gear. Fast power availability in the propellers.
- **Power generation** on LNG as well.
- **LNG tanks**, of robust conception, with minimum exposed Surface for less boil-off production. Also available in with ISO de 40' containers.
- **Range**, very high operational range can be provided (Escobar to Corumbá round trip) if so required. Same range can be attained with MDO.
- **Lines** designed for low draught navigation with optimum hydrodynamic performance and excellent water flow toward the propeller disks.
- **Nozzles and rudders** optimized for outstanding manoeuvrability and low drag.
- **Flanking rudders**, of novel design.
- **Structure**, FEM modelled for light and efficient design. Construction process optimized for low production costs.





- **Vibrations**, structure designed for a significant reduction of vibrations. Independent accommodation on resilient foundations.
- **Accommodation**, Independent from the hull for reduced vibrations but also for better assembly process.
- **Navigation Bridge**, of modern design, 360 deg. view clear of obstacles and glass floor for perfect view of the manoeuvring areas. Lateral consoles of ergonomic design.
- **Air draught**, suitable for all the bridges in the HPP, with adequate margins.
- **Optional extras**, FIFI capabilities and oil spill control.
- Tanks definition and **Stability Analysis**.

Item Name	Quantity	Total Mass tonne	Total Volume m ³	Long. Arm m	Trans. Arm m	Vert. Arm m	Long. moment tonne.m	Trans. moment tonne.m	Vert. moment tonne.m	Total FSM tonne.m	FSM Type
1 LUGAR SHIPWEIGHT											
2 Casco	1	280.000		23.500	0.300	3.210	7540.000	0.000	356.300	0.000	Use Specific
3 S.M	1	60.000		21.350	0.300	1.500	4007.500	0.000	75.300	0.000	Use Specific
4 Casillaje popa	1	60.000		23.500	0.300	3.210	2295.000	0.000	268.300	0.000	Use Specific
5 Casillaje mizzen	1	23.000		23.500	0.300	3.210	610.000	0.000	64.200	0.000	Use Specific
6 Torres de DWS	3	164.700		19.075	0.300	6.000	3225.000	0.000	1010.400	0.000	Use Specific
7 Comparto línea de agua	1	3.000		3.000	0.300	6.000	3.000	0.000	0.300	0.000	Use Specific
8 Subtotal		604.700		23.500	0.300	4.537	14236.500	0.000	2143.300	0.000	
9											
10 TANGQUES											
11 LNG	1	300.000		19.075	0.300	6.000	6277.200	0.000	2380.300	0.000	Use Specific
12											
13 A1-Lasera gris	0%	0.000	0.000	32.717	7.330	1.569	0.000	0.000	0.000	0.000	Maxium
14 A2-Lasera gris	0%	0.000	0.000	32.717	7.330	1.569	0.000	0.000	0.000	0.000	Maxium
15 Placa de gros	0%	0.000	0.000	32.717	0.300	1.222	0.000	0.000	0.000	0.000	Maxium
16											
17 C1-Lasera	0%	0.000	0.000	33.625	7.330	0.395	0.000	0.000	0.000	0.000	Maxium
18 C2-Lasera	0%	0.000	0.000	33.625	7.330	0.395	0.000	0.000	0.000	0.000	Maxium
19 C1-D.O	100%	41.927	48.613	33.365	6.100	2.560	1653.420	256.752	107.316	0.000	Maxium
20 C1-D	100%	41.927	48.613	33.365	6.100	2.560	1653.420	256.752	107.316	0.000	Maxium
21											
22 C1-Lasera	0%	0.000	0.000	33.625	8.257	0.219	0.000	0.000	0.000	0.000	Maxium
23 C2-Lasera	0%	0.000	0.000	33.625	8.257	0.219	0.000	0.000	0.000	0.000	Maxium
24 C1-D.O	50%	27.566	32.819	33.616	6.100	1.410	923.077	166.866	36.863	20.938	Maxium
25 C1-D	50%	27.566	32.819	33.616	6.100	1.410	923.077	166.866	36.863	20.938	Maxium
26 C2-D.O	50%	22.975	27.240	33.581	2.745	1.410	769.981	43.542	30.386	12.116	Maxium
27 C2-D	50%	22.975	27.240	33.581	2.745	1.410	769.981	43.542	30.386	12.116	Maxium
28											
29											
30											
31											
32											
33											
34											
35											
36 P1-Llave	100%	16.644	19.814	19.825	8.540	1.548	329.385	54.135	30.796	0.000	Maxium
37 P2-Llave	100%	16.644	19.814	19.825	8.540	1.548	329.385	54.135	30.796	0.000	Maxium
38											
39 PE-G1	100%	15.415	16.715	21.284	2.130	6.332	328.076	32.235	6.124	0.000	Maxium
40 PE-G1	100%	15.415	16.715	21.284	2.130	6.332	328.076	32.235	6.124	0.000	Maxium



- Fire Fighting and Fire Integrity in compliance to SOLAS and IGF codes.

