

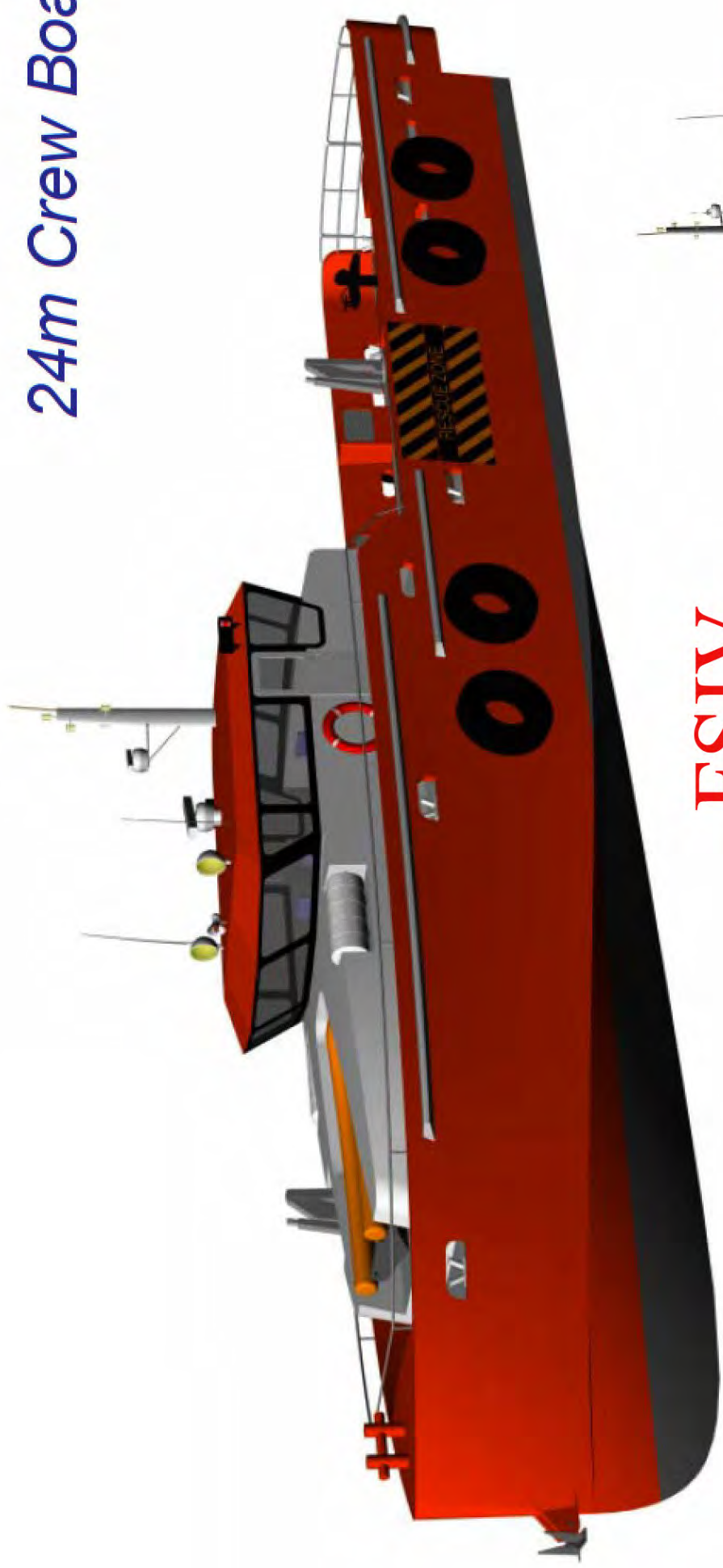
Aluminium Shipbuilding



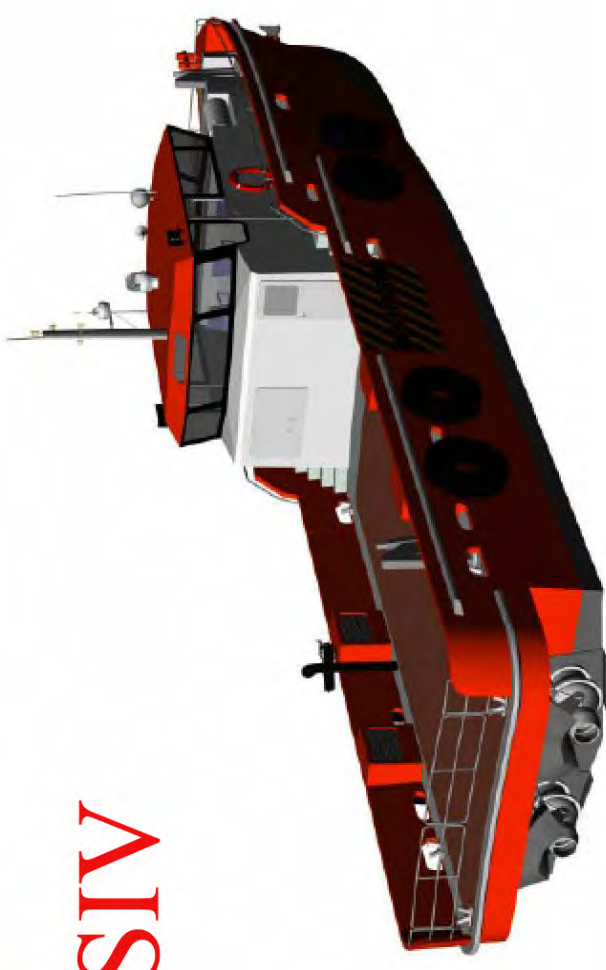
24m Crew Boat *FSIV*

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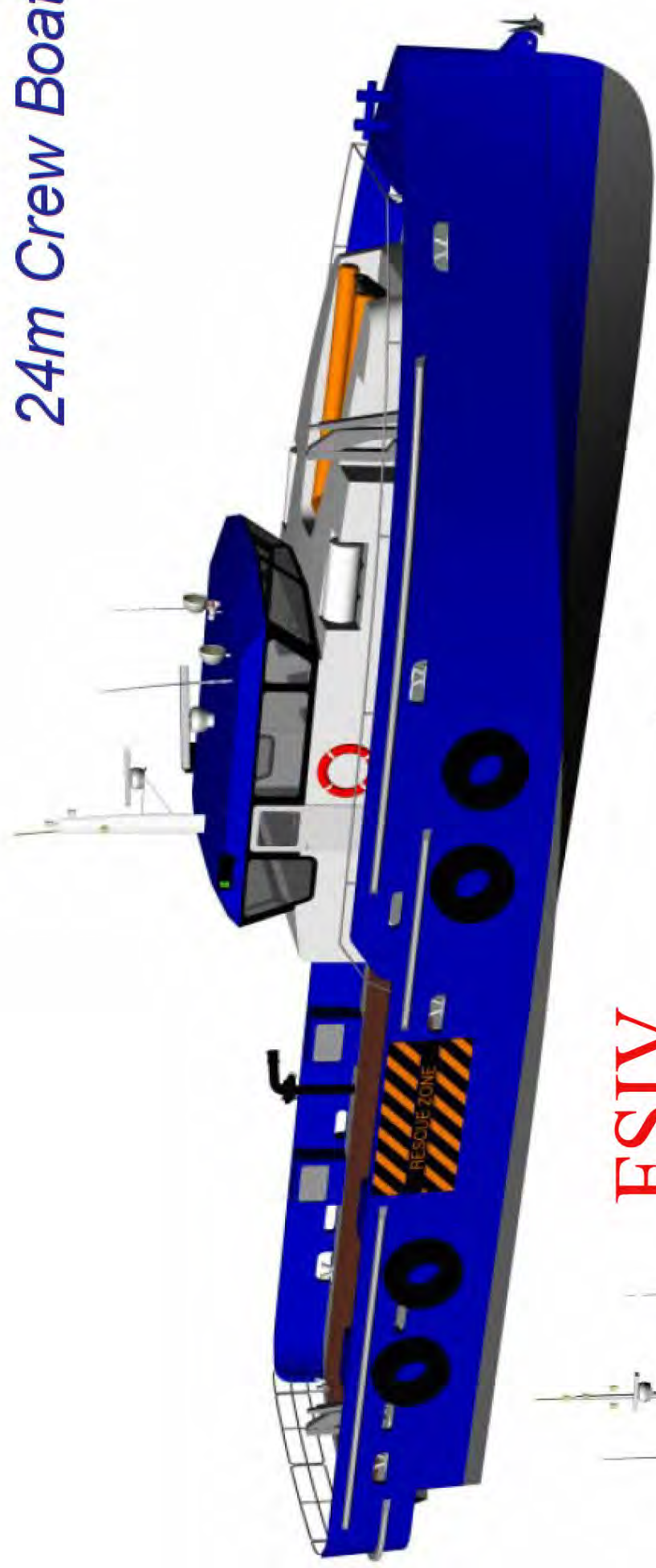
24m Crew Boat



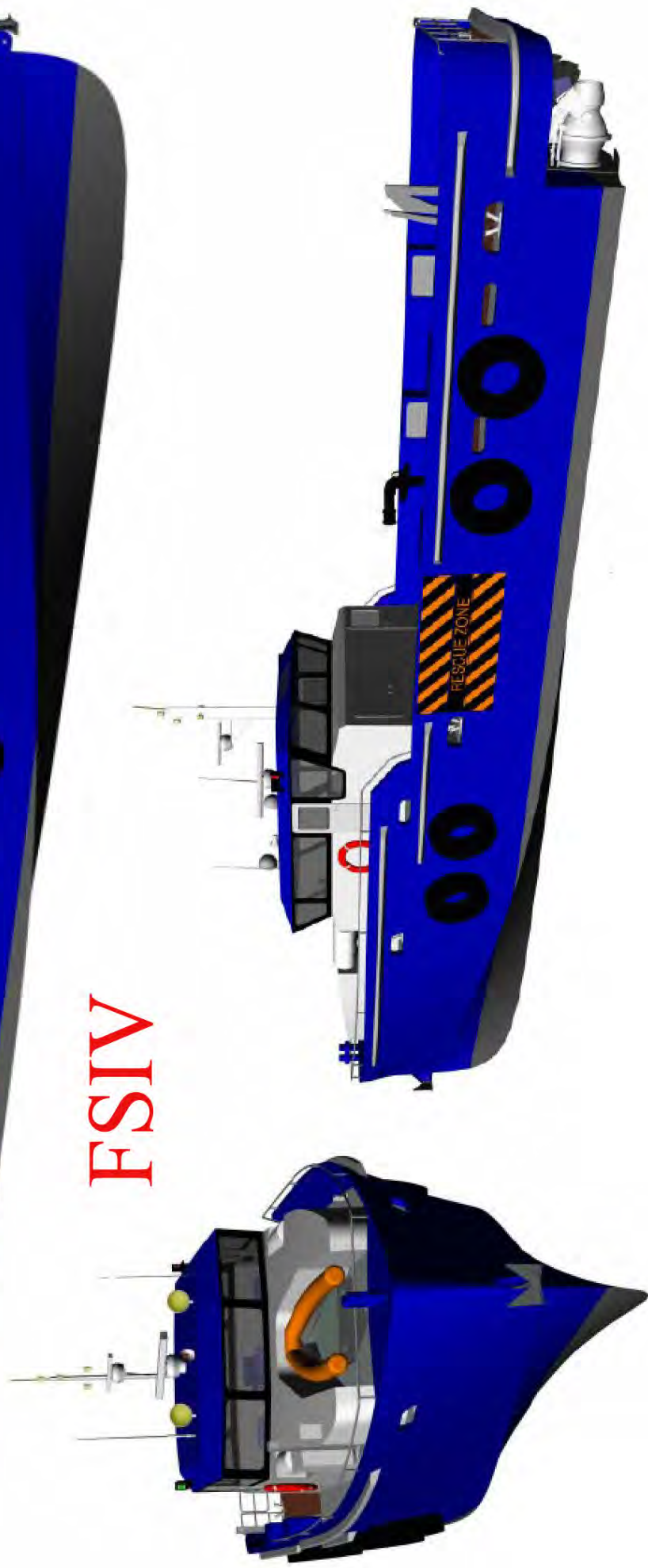
FSIV



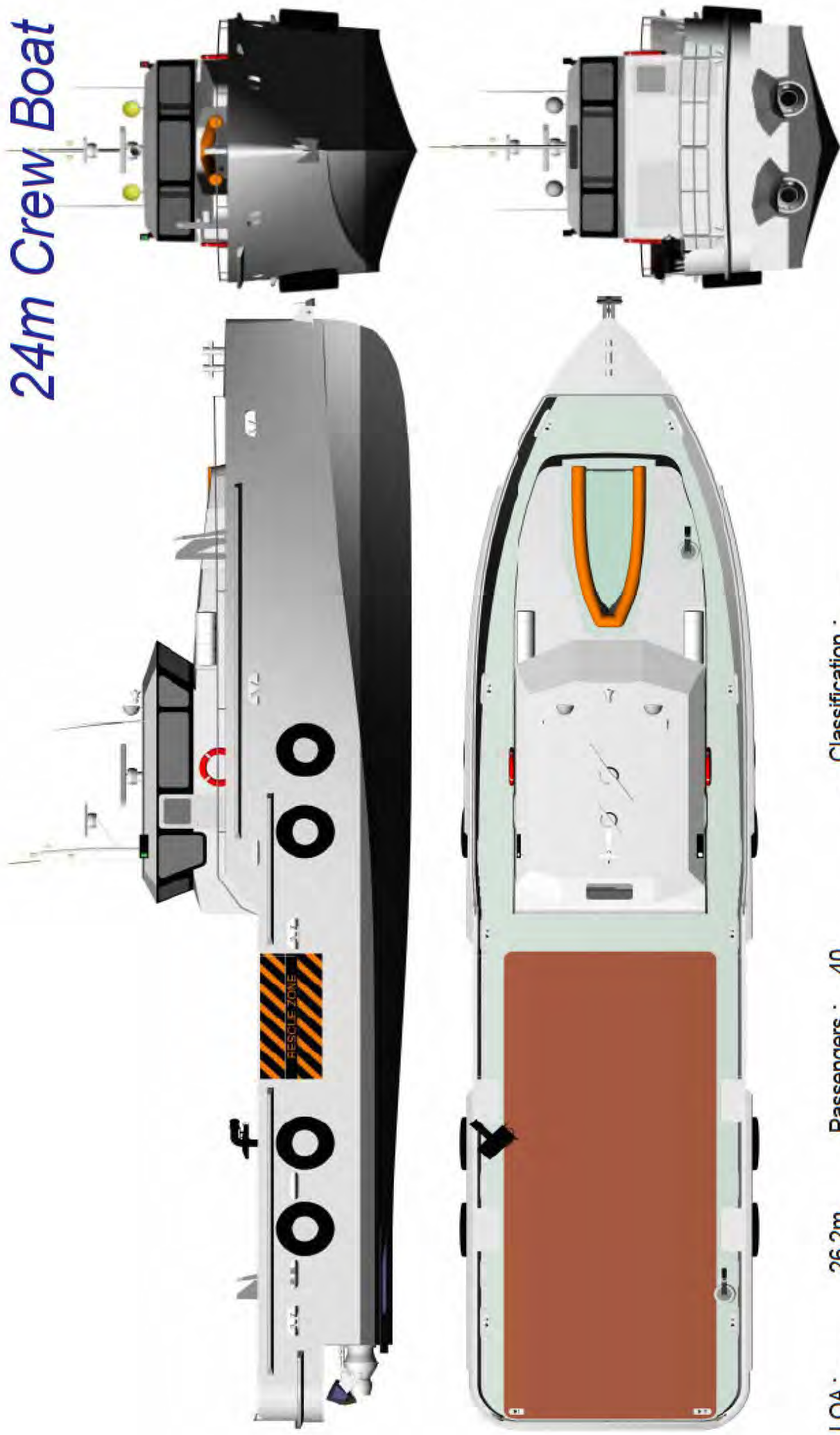
24m Crew Boat



FSIV



24m Crew Boat



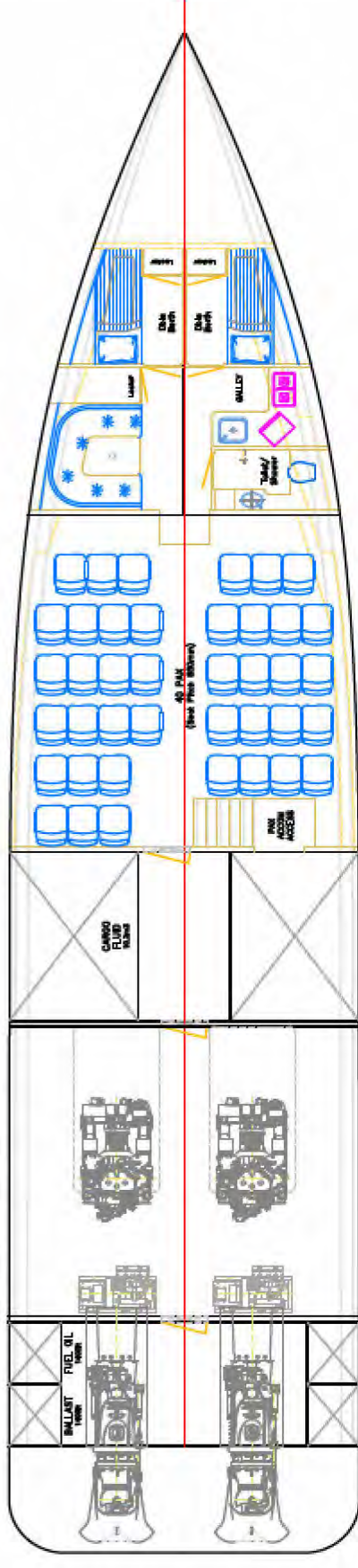
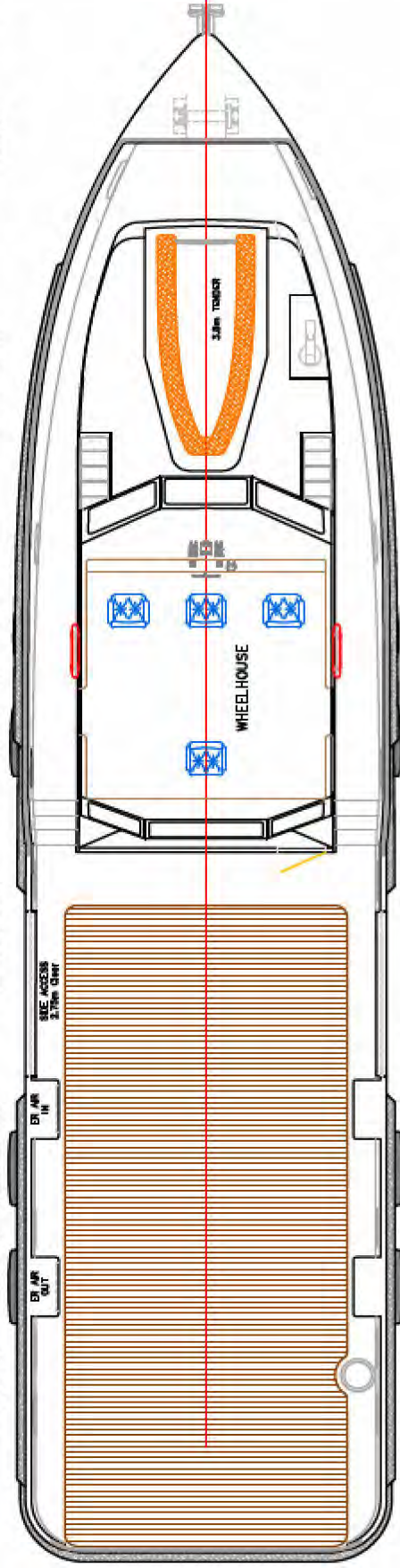
LOA :	26.2m	Passengers :	40
Lmoulded	23.9m	Crew :	4
LWL :	23.7m	Cargo Deck :	50m2
Beam :	6.0m	Deck Load :	18t
Draft :	1.0m	Cargo Fluids :	20.7m3
Fuel :	13300lts	Ballast:	7.5m3
Water :	2150lts	Tender:	3.8m RIB

Classification :
DNV ØHSLC R2 CREW
Construction :
Marine Grade Aluminium

Seafury Surface Drives
are Optional

24m CREW BOAT

The image displays a technical drawing of a 24m crew boat. The top view shows the boat's layout with a red line indicating a path or boundary, and a yellow line indicating another path or boundary. The side view shows the boat's profile with a yellow line indicating a path or boundary, and a green line indicating another path or boundary. A 'RESCUE ZONE' is marked with a black and orange striped pattern. The drawing includes various details such as windows, doors, and structural elements.



LOA:	26.3m
Unmoulded:	23.9m
LWL:	23.8m
B moulded:	6.0m
Beam:	5.5m
Depth:	2.5m
Draft:	1.3m
Deadrise (deg.):	15deg.
Deadrise (trim):	9deg.
Frontal Area:	27.8m ²
Fuel:	8700lts
Fresh Water:	1730lts
Grey Water:	715lts
Black Water:	715lts
MAIN ENGINE:	2 x MTU 8V2000 M72 720kW @ 2250rpm
GEARBOX:	2 x ZF2000
PROPULSION:	2 x HM521
AUXILIARY:	2 x 50kW
SPEED:	28knots
13t dwt	21knots
28t dwt	650nm
RANGE 13t dwt:	
PAYLOAD:	40
PASSENGERS:	4
CREW:	6-4m2
CARGO DECK AREA:	181
CARGO DECK LOAD:	20.6m3
CARGO FLUIDS:	2800litrs
BALLAST AFT:	2460litrs
BALLAST FWD:	
SURVEY:	
CLASSIFICATION:	DNV HSLC R2 CREW
SURVEY:	NSCV 1B
CONSTRUCTION:	ALUMINIUM

24m Crew Boat : Weight Summary

MTU 8V 2000 M72 / HM521

Loadcase	displ <i>kg</i>	lcg <i>m</i>	vcg <i>m</i>	dwt <i>kg</i>	speed <i>knots</i>	range <i>nm</i>
LC 1 - Passenger Working	40583	10.69	1.75	7481	29.0	
LC 2 - Passenger Departure	46185	10.47	1.67	13083	28.5	650
LC 3 - Deck Cargo Departure	60985	8.88	2.07	27883	21.5	

Load Conditons

WEIGHT
kg *LCG*
m *VCG*
m

LC 1 - Passenger Working

Lightship				33102	9.97	1.75
fuel - jet room	0%	2830	0.82	0	1.65	1.62
fuel	50%	5886	0.82	2413	12.84	0.75
fresh water	50%	1736	1.00	868	17.09	0.92
grey water	0%	714	1.00	0	15.45	0.77
black water	0%	714	1.00	0	15.45	0.77
cargo fluid	0%	20700	1.00	0	8.63	1.53
ballast - Jet Room	0%	2830	1.03	0	0.55	1.62
ballast - fwd	0%	2452	1.03	0	18.77	0.94
crew/effects		4	125	500	13.20	4.50
stores				500	17.00	2.30
passengers		40	80	3200	13.40	2.20
deck gear		0	18000	0	5.60	3.10
deadweight				7481	13.87	1.74
				40583	10.69	1.75

WEIGHT LCG VCG
kg m m

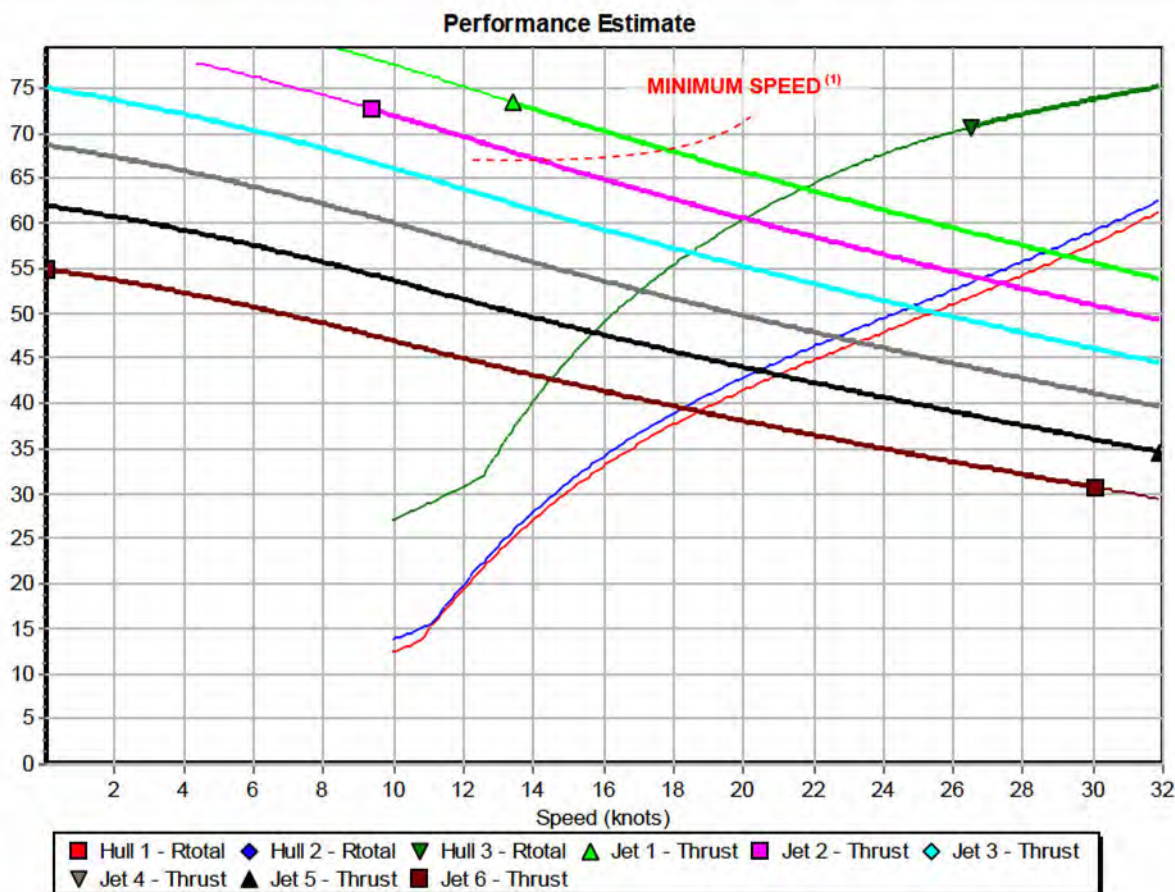
LC 2 - Passenger Departure

Lightship				33102	9.97	1.75
fuel - jet room	100%	2830	0.82	2321	1.65	1.62
fuel	100%	5886	0.82	4827	12.84	0.75
fresh water	100%	1736	1.00	1736	17.09	0.92
grey water	0%	714	1.00	0	15.45	0.77
black water	0%	714	1.00	0	15.45	0.77
cargo fluid	0%	20700	1.00	0	8.63	1.53
ballast - Jet Room	0%	2830	1.03	0	0.55	1.62
ballast - fwd	0%	2452	1.03	0	18.77	0.94
crew/effects		4	125	500	13.20	4.50
stores				500	17.00	2.30
passengers		40	80	3200	13.40	2.20
deck gear		1	0	0	5.60	3.10
deadweight				13083	11.73	1.49
				46185	10.47	1.67

LC 3 - Deck Cargo Departure

Lightship				33102	9.97	1.75
fuel - jet room	100%	2830	0.82	2321	1.65	1.62
fuel	100%	5886	0.82	4827	12.84	0.75
fresh water	100%	1736	1.00	1736	17.09	0.92
grey water	0%	714	1.00	0	15.45	0.77
black water	0%	714	1.00	0	15.45	0.77
cargo fluid	0%	20700	1.00	0	8.63	1.53
ballast - Jet Room	0%	2830	1.03	0	0.55	1.62
ballast - fwd	0%	2452	1.03	0	18.77	0.94
crew/effects		4	125	500	13.20	4.50
stores				500	17.00	2.30
passengers		0	80	0	13.40	2.20
deck gear		1	18000	18000	5.60	3.10
deadweight				27883	7.58	2.45
				60985	8.88	2.07

Project: 24m LightCraft Crew Boat MTU 8V2000M72 and HM521



Hull Resistance

Curve	Displacement	LWL	LCG	BPx	Deadrise Mid / Aft
Hull 1	40583 kg	23.80 m	10.69 m	5.50 m	15.00° / 9.00°
Hull 2	46185 kg	23.80 m	10.47 m	5.50 m	15.00° / 9.00°
Hull 3	60985 kg	23.80 m	8.88 m	5.50 m	15.00° / 9.00°

Hull resistance includes allowances for light air and wave resistance plus the Blount and Fox pre-planing factor. A correction factor has been included for any change in deadrise angle.

WaterJet Thrust

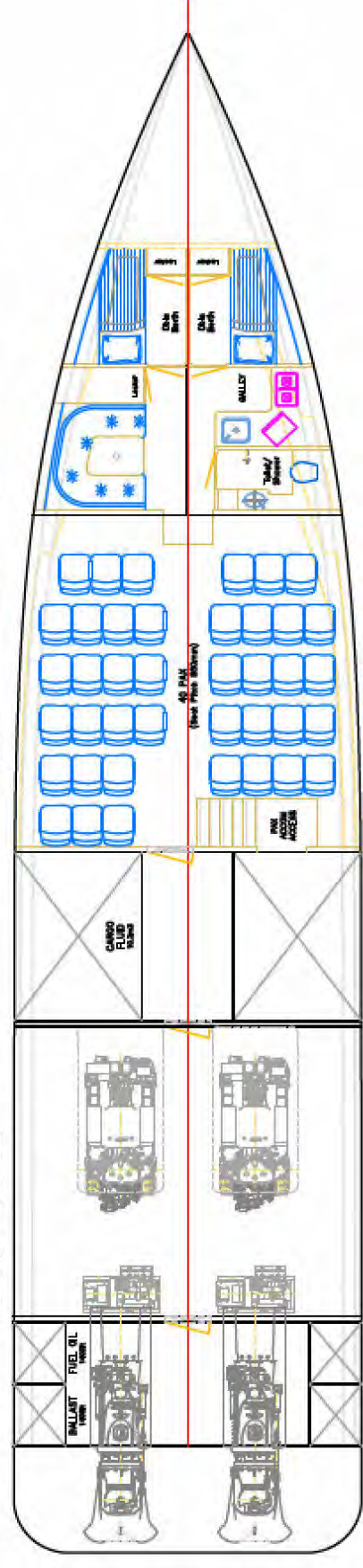
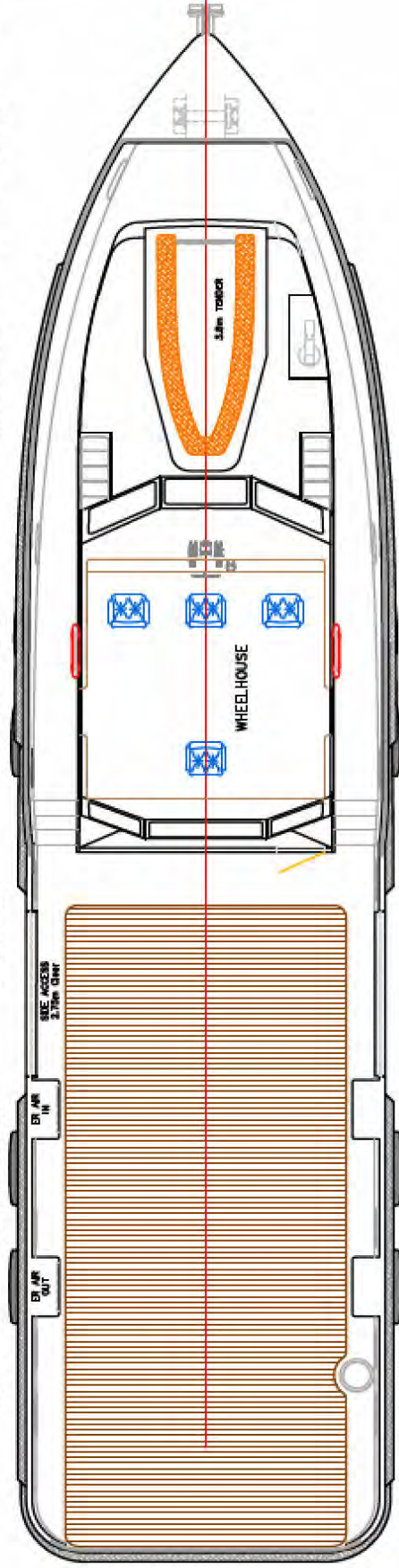
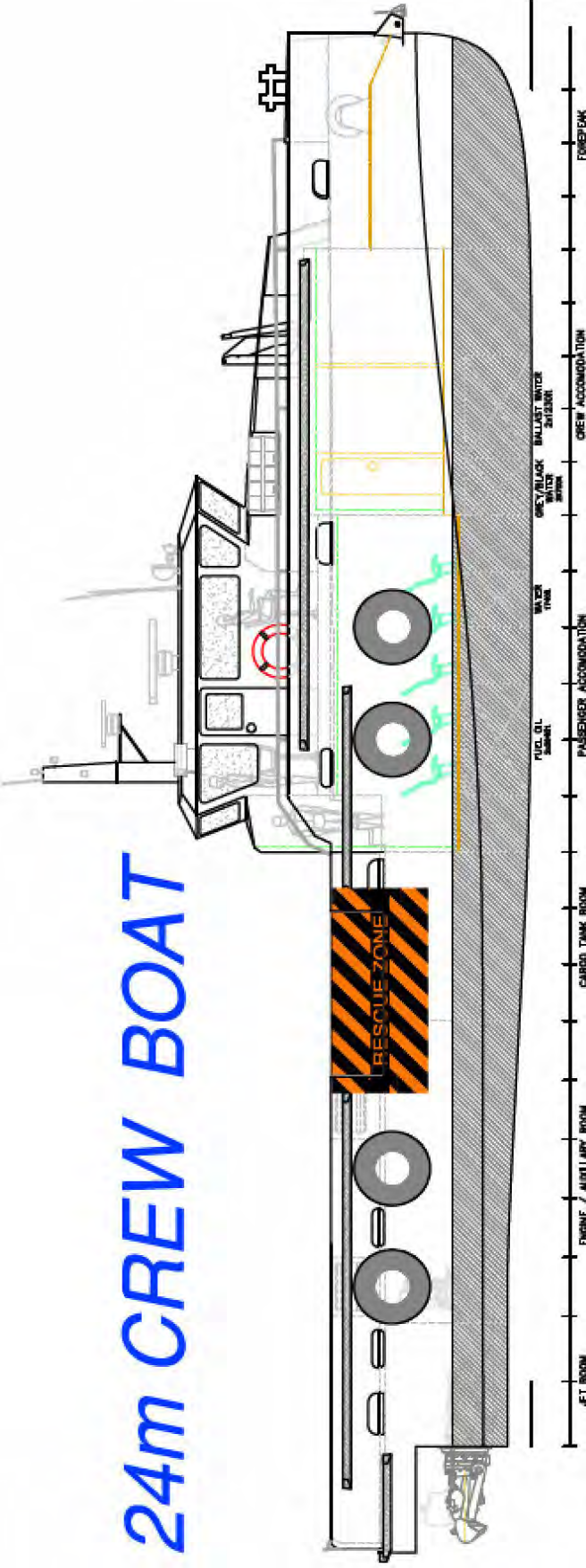
Curve	Jet Model	Jet Input Power (-3% for Gearbox η)	Jet RPM	Impeller (approx. only)	% of Rated Power	Engine Details MTU 8V2000M72 720b kW @ 2250 RPM	Gear Ratio ZF 2000
Jet 1	2 x HM521	2 x 698.4 kW	1247	T360.00	100	720b kW @ 2201 RPM	1.765:1
Jet 2	2 x HM521	2 x 628.6 kW	1204	T360.00	90		"
Jet 3	2 x HM521	2 x 558.7 kW	1158	T360.00	80		"
Jet 4	2 x HM521	2 x 488.9 kW	1107	T360.00	70		"
Jet 5	2 x HM521	2 x 419.0 kW	1052	T360.00	60		"
Jet 6	2 x HM521	2 x 349.2 kW	990	T360.00	50		"

(1) Lowest safe boat speed for continuous operation for input power levels to avoid cavitation (includes a 5 knot safety margin).

- MTU advise to pull full power between 2030RPM and 2227RPM.
- Gear reductions have been assumed to have a 3% loss of power.
- Assumed full power is available to the jets (i.e. no auxiliary pumps, generators, etc. attached to engine).
- Maximum displacement is assumed to include the weight of the jet/s, gearbox/s, engine/s, controls, etc.

Warning: This is an estimate of speed only and no guarantee is expressed or implied. Hull resistance and Waterjet thrust have been estimated using information supplied & it is the responsibility of the designer / builder to satisfy themselves as to the accuracy of this information.

24m CREW BOAT



PRINCIPAL PARTICULARS

LOA:	26.3m
Lmoulded:	23.9m
LWL:	23.8m
Bmoulded:	6.0m
Behine:	5.5m
Depth:	2.5m
Draft:	1.3m
Deadrise (lob):	15deg.
Deadrise (tram):	9deg.
Frontal Area:	27.8m ² .
Fuel:	8700lts
Fresh Water:	1730lts
Gray Water:	715lts
Black Water:	715lts
MAIN ENGINE:	2 x MTU 12V2000 M72
GEARBOX:	1080KW @ 2250rpm
PROPULSION:	2 x ZF3050
AUXILIARY:	2 x HM571
	2 x 50kVa
SPEED:	38knots
13t dwt	30knots
28t dwt	560nm
RANGE 13t dwt:	
PAYLOAD:	40
PASSENGERS:	4
CREW:	64m ²
CARGO DECK AREA:	18t
CARGO DECK LOAD:	20.6m ³
CARGO FLUIDS:	2800lts
BALLAST AFT:	2460lts
BALLAST FWD:	
SURVEY:	DNV HSLC R2 CREW
CLASSIFICATION:	NSCV 1B
SURVEY:	ALUMINIUM
CONSTRUCTION:	

24m Crew Boat : Weight Summary

MTU 12V 2000 M72 / HM571

Loadcase	displ <i>kg</i>	lcg <i>m</i>	vcg <i>m</i>	dwt <i>kg</i>	speed <i>knots</i>	range <i>nm</i>
LC 1 - Passenger Working	43799	10.25	1.79	7481	37	
LC 2 - Passenger Departure	49401	10.09	1.72	13083	36	560
LC 3 - Deck Cargo Departure	64201	8.67	2.08	27883	30	

Load Conditons

WEIGHT
kg LCG
m VCG
m

LC 1 - Passenger Working

Lightship				36318	9.50	1.80
fuel - jet room	0%	2830	0.82	0	1.65	1.62
fuel	50%	5886	0.82	2413	12.84	0.75
fresh water	50%	1736	1.00	868	17.09	0.92
grey water	0%	714	1.00	0	15.45	0.77
black water	0%	714	1.00	0	15.45	0.77
cargo fluid	0%	20700	1.00	0	8.63	1.53
ballast - Jet Room	0%	2830	1.03	0	0.55	1.62
ballast - fwd	0%	2452	1.03	0	18.77	0.94
crew/effects		4	125	500	13.20	4.50
stores				500	17.00	2.30
passengers		40	80	3200	13.40	2.20
deck gear		0	18000	0	5.60	3.10
deadweight				7481	13.87	1.74
				43799	10.25	1.79

WEIGHT LCG VCG
kg m m

LC 2 - Passenger Departure

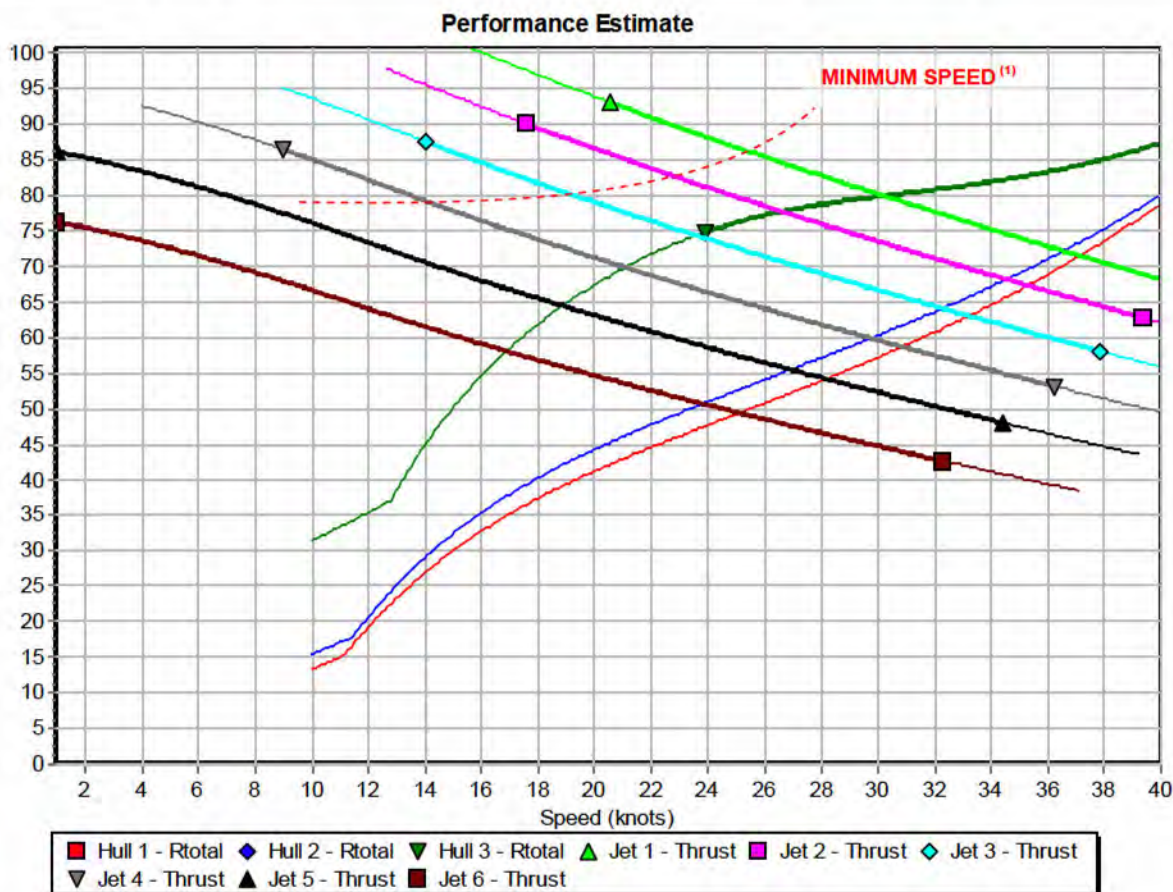
Lightship				36318	9.50	1.80
fuel - jet room	100%	2830	0.82	2321	1.65	1.62
fuel	100%	5886	0.82	4827	12.84	0.75
fresh water	100%	1736	1.00	1736	17.09	0.92
grey water	0%	714	1.00	0	15.45	0.77
black water	0%	714	1.00	0	15.45	0.77
cargo fluid	0%	20700	1.00	0	8.63	1.53
ballast - Jet Room	0%	2830	1.03	0	0.55	1.62
ballast - fwd	0%	2452	1.03	0	18.77	0.94
crew/effects		4	125	500	13.20	4.50
stores				500	17.00	2.30
passengers		40	80	3200	13.40	2.20
deck gear		1	0	0	5.60	3.10
deadweight				13083	11.73	1.49
				49401	10.09	1.72

range: 560nm

LC 3 - Deck Cargo Departure

Lightship				36318	9.50	1.80
fuel - jet room	100%	2830	0.82	2321	1.65	1.62
fuel	100%	5886	0.82	4827	12.84	0.75
fresh water	100%	1736	1.00	1736	17.09	0.92
grey water	0%	714	1.00	0	15.45	0.77
black water	0%	714	1.00	0	15.45	0.77
cargo fluid	0%	20700	1.00	0	8.63	1.53
ballast - Jet Room	0%	2830	1.03	0	0.55	1.62
ballast - fwd	0%	2452	1.03	0	18.77	0.94
crew/effects		4	125	500	13.20	4.50
stores				500	17.00	2.30
passengers		0	80	0	13.40	2.20
deck gear		1	18000	18000	5.60	3.10
deadweight				27883	7.58	2.45
				64201	8.67	2.08

Project: 24m LightCraft Crew Boat MTU 12V2000M72 and HM571



Hull Resistance

Curve	Displacement	LWL	LCG	BPx	Deadrise Mid / Aft
Hull 1	43799 kg	23.80 m	10.25 m	5.50 m	15.00° / 9.00°
Hull 2	49401 kg	23.80 m	10.09 m	5.50 m	15.00° / 9.00°
Hull 3	64201 kg	23.80 m	8.67 m	5.50 m	15.00° / 9.00°

Hull resistance includes allowances for light air and wave resistance plus the Blount and Fox pre-planing factor. A correction factor has been included for any change in deadrise angle.

WaterJet Thrust

Curve	Jet Model	Jet Input Power (-3% for Gearbox η)	Jet RPM	Impeller (approx. only)	% of Rated Power	Engine Details MTU 12V2000M72 1080b kW @ 2250 RPM	Gear Ratio ZF3050
Jet 1	2 x HM571	2 x 1047.6 kW	1232	T560.00	100	1080b kW @ 2218 RPM	1.8:1
Jet 2	2 x HM571	2 x 942.8 kW	1190	T560.00	90		"
Jet 3	2 x HM571	2 x 838.1 kW	1144	T560.00	80		"
Jet 4	2 x HM571	2 x 733.3 kW	1094	T560.00	70		"
Jet 5	2 x HM571	2 x 628.6 kW	1039	T560.00	60		"
Jet 6	2 x HM571	2 x 523.8 kW	978	T560.00	50		"

⁽¹⁾ Lowest safe boat speed for continuous operation for input power levels to avoid cavitation (includes a 5 knot safety margin).

- MTU advise to pull full power between 2030RPM and 2227RPM.
- Gear reductions have been assumed to have a 3% loss of power.
- Assumed full power is available to the jets (i.e. no auxiliary pumps, generators, etc. attached to engine).
- Maximum displacement is assumed to include the weight of the jet/s, gearbox/s, engine/s, controls, etc.

Warning: This is an estimate of speed only and no guarantee is expressed or implied. Hull resistance and Waterjet thrust have been estimated using information supplied & it is the responsibility of the designer / builder to satisfy themselves as to the accuracy of this information.