

Glomar

Dynamic Positioning Conference
October 21-22, 1997

GLOMAR EXPLORATION DP SYSTEM

- **TRIPLE REDUNDANCY CONTROLLERS**

- Dual Redundant Controllers aft
- Single controller forward

- **DPS-2 RATING**

- **TOUCH SCREEN OPERATOR INTERFACE**

- Change position by sticking your finger in the moonpool and moving the ship
- Change heading by grabbing the bow with your finger and rotating it
- Cleaning a touch screen interface can be exciting
- Most control console keys are duplicated

- **DP SENSORS**

- Wind sensors on all four corners
- Three Gyros - 1 Fwd, 2 Aft
- Dual DGPS units - 1 Fwd, 2 Aft
- Nautronix RS5D SBL acoustic position processors with 6 hydrophones

- **NETWORKED FIBER OPTIC SYSTEM**

- All thruster commands and feedback via optic network to PLCs
- Separate DP fiber ring

GLOMAR EXPLORATION CHARACTERISTICS

Length Overall	619 ft
Breadth	116 ft
Keel - Main Deck	50 ft
Draft at Summer Freeboard	35 ft
Displacement	55,000 ST
Variable Load	23,533 LT
Moonpool	74' x 42'
Helideck	S-61
Berths	140
Service Speed	10 knots
Riser Hold Capacity	10,000 ft

GLOMAR EXPLORATION CHARACTERISTICS

	ORIGINAL	UPGRADED	IMPROVEMENT
Available Starboard Thrust	226 Kips	557 Kips	147%
# of Starboard Thrusters	5	9	80%
Available Forward Thrust	328 Kips	626 Kips	91%
# of Forward Thrusters	6	10	67%
Available Aft Thrust	197 Kips	495 Kips	152%
Moment Capacity	73,031 Ft-Kips	120,098 Ft-Kips	64%

GLOMAR EXPLORATION CHARACTERISTICS

	ORIGINAL	UPGRADED	IMPROVEMENT
Total Capacity	17,500 KW	26,300 KW	50%
# of Generators	5	9	80%
# of Engine Rooms	1	2	100%

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SYSTEM: Mission CONTROL 1 Tue 23 Sep 97 09:53:15 HDG MODE: AUTO POS MODE: AUTO STATUS: 2 OK 1 OK

Position Reference Page 1 **Heading Axis (Degrees)**

Sensor Online	Measured
<input checked="" type="checkbox"/> 1 Gyro - 1	004.0
<input checked="" type="checkbox"/> 2 Gyro - 2	006.0
<input checked="" type="checkbox"/> 3 Gyro - 3	006.0

Heading Reference: 006.0

Fore / Aft Axis (m)

Sensor Online	Meas	Noise	Bias	Drift	Wgt	Corr'd
<input checked="" type="checkbox"/> 1 DGPS - 1	0.0	1.4	0.0	0.0	70 %	0.0
<input type="checkbox"/> 2 DGPS - 2	4.3	1.4	0.0	0.0	70 %	5.0
<input checked="" type="checkbox"/> 3 RS&D	0.0	0.3	0.0	0.0	356 %	0.0
<input type="checkbox"/> 4 ERA	0.0	0.0	0.0	0.0	100 %	0.0
<input type="checkbox"/> 5 ARA	0.0	1.4	0.0	0.0	70 %	0.0

Port / Stbd Axis (m) Fore / Aft Reference 0000

Chart Overlay	Meas	Noise	Bias	Drift	Wgt	Corr'd
<input type="checkbox"/> 1 DGPS - 1	0.0	1.4	0.0	0.0	70 %	0.0
<input type="checkbox"/> 2 DGPS - 2	-8.4	1.4	0.0	0.0	70 %	-8.0
<input checked="" type="checkbox"/> 3 RS&D	0.0	0.3	0.0	0.0	356 %	0.0
<input type="checkbox"/> 4 ERA	0.0	0.0	0.0	0.0	100 %	0.0
<input type="checkbox"/> 5 ARA	0.0	1.4	0.0	0.0	70 %	0.0

Reference Sensor # Port / Stbd Reference 0000

North Origin East Origin

Prompts: Alarms ACKNOWLEDGED Last Alarm:

SetPt:	Vessel:	Error:
005'	006'	0.0'

	F/A	P/S	N/S	E/W
Setpoint	0.0	0.0	0.0	0.0
Vessel	0.0	0.0	0.0	0.0
Error	0.0	0.0	0.0	0.0

SENS CTRL **THRS** HDWR CMPR CONS

More Previous Screen Plot (P) Envelope out Power (I) Position Reference (O) Alarm Overview Summary Thruster (T) Setup Function (F) Alarm Ack

Function Page 1

MODE SELECT

FUNCTION SELECT

SetPt: 005°
 Vessel: 005°
 Error: 0.0°



	F/A	P/S	N/S	E/W
Setpoint	0.0	0.0	0.0	0.0
Vessel	0.0	0.0	0.0	0.0
Error	0.0	0.0	0.0	0.0

SENS CTRL THRS HDWR CMPR CONS

Prompts: Alarms ACKNOWLEDGED | Last Alarm: []

SYSTEM Menu CONTROL 011 012 013 014 015 016 017 018 019 020 021 022 023 024 025 026 027 028 029 030

Power Page 1

Bus A (kw) Bus B (kw)

Gen 1	Gen 2	Gen 3	Gen 4	Gen 5
1180	0	0	0	0

Gen 6 Gen 7 Gen 8 Gen 9

2	2	2	2
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Upper SB

Bus A1 B1 C1 D1

FWD Thruster SB

Bus	A	B	A1	C	D	B1	Thruster
Volts	0	0	5914C	5914C	5914C	5914C	13871
Freq	0	0	5151	5914C	5914C	5914C	48776

Setpoint

F/A	P/S	N/S	E/W
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0

Ctrl Thrs Hdrw Cmpr Cons

Prompt: speed Propulsion Availability for HOLD PDS Last Alarm

More Previous Hot Exit Power Position Back Review Summary Thruster Setup Function Alarm

Screen On Off menu On Off Reference

SetPt: 195

Vessel: 195

Error: 195



Setpoint	0.0	0.0	0.0	0.0
Vessel	0.0	0.0	0.0	0.0
Error	0.0	0.0	0.0	0.0





