PLAN HISTORY

DATE	REV.	DESCRIPTION	DWN	CHKD	APPD
2008.4.21	F	FINAL DRAWING	J.C.LEE		

PRINCIPAL PARTICULARS

LENGTH	O.A	abt.	183.00m
LENGTH	B.P		174.00m
BREADTH	MLD		32.20m
DEPTH	MLD		19.10m
DRAFT	MLD(DESIGN)		11.00m
DRAFT	MLD(SCANT.)		13.00m

(28) SHEETS WITH COVER

FINAL DWG

M/T MEXICO	BB - 19
HULL NO. H-1013	IMO 9396725
SHIP TYPE	50,000 DWT OIL/CHEMICAL TANKER

APPROVED Y. S. WON

APPROVED

CHECKED

DRAWN J.C.LEE

TITLE

RESULT OF SEA-TRIAL

DATE	SCALE	CLASS	DRW NO.	REV.
2008.4.21	NONE	LR	DB405001DB	F

DESIGNER dsec DSEC CO., LTD.

SPP SHIPBUILDING CO.,LTD.

CONTENTS

I. GENERAL

1. Principal Particulars

1) Ship's name etc.

Ship's name:	MEXICO
IMO Number:	9396725
Nationality:	CYPRUS
Port of registry:	LIMASSOL
Owner:	Transmed shipping Ltd.
Builder:	SPP Plant & Shipbuilding Co. Ltd. in Korea
Yard hull no.:	H-1013
Classification:	Lloyd's Register of shipping(LRS) +100A1 Double Hull Oil & Chemical Tanker ESP, Ship type 3, in association with approved lists of defined cargoes, ShipRight(SDA, FDA, CM), LI, *IWS, SPM, +LMC, UMS
Kind of Ship:	Oil / Chemical Tanker

2) Principal dimensions

Length Over All (LOA):	183 m
Length Between Perpendiculars (LBP):	174.00 m
Breadth (Molded):	32.20 m
Depth (Molded):	19.10 m
Designed draft (Molded):	11.00 m
Scantling draft (Molded):	13.00 m

3) Speed

Service speed:	14.9knots at design draft x 85% MCR (10,960PS) with 15% SM
Cruising range:	Approx. 13,200 nautical miles at service speed of 14.9 knots at design draft

4) Complement: 27 persons + 6 Suez Crew

5) Date & place

Date : 2008.04.17~ 2008.04.18 at the Korea Straight

5) Main Engine

Type:	MAN B&W 6S50MC-C(MK VII)
MCR:	12,900 PS × 127.0 rpm
NCR:	10,960 PS × 120.3 rpm

6) Propeller

Type:	Fixed Pitch Propeller
No. of blade:	4
Diameter (D):	6.00 m
Pitch ratio (0.7 R):	0.6889
Maker:	Sil La Metal Co., Ltd.
Designer:	Sil La Metal Co., Ltd.

7) Rudder

Type:	Semi-spade
Movable Area:	58.72 m^2
Balanced Ratio:	25.88 %
Aspect Ratio:	1.89

2. Draft Measurement (Design Draft Condition)

Position	According draft reading			At Perpendiculars (m)
	Port (m)	Stbd (m)	Mean (m)	
Fore	10.90	10.90	10.91	10.899
Mid	11.05	10.94	11.06	10.995
Aft	11.08	11.02	11.20	11.059
S.G of Sea Water	1.0252			
Temperature at Atmosphere	15 ℃			
Temperature at Sea Water	14 ℃			
Trim	0.310 (by stern)			
	Fore	Mid	Aft	
Corrected draft (1)	10.899	10.995	11.059	
Factor (2)	1	6	1	
Deflection correction (3) =(1) x (2)	10.899	65.97	11.059	
Mean draft : deq (4) = $\sum$(3) / 8	10.991			
Displacement (Tonnes)	50275.7			

II. HULL PART

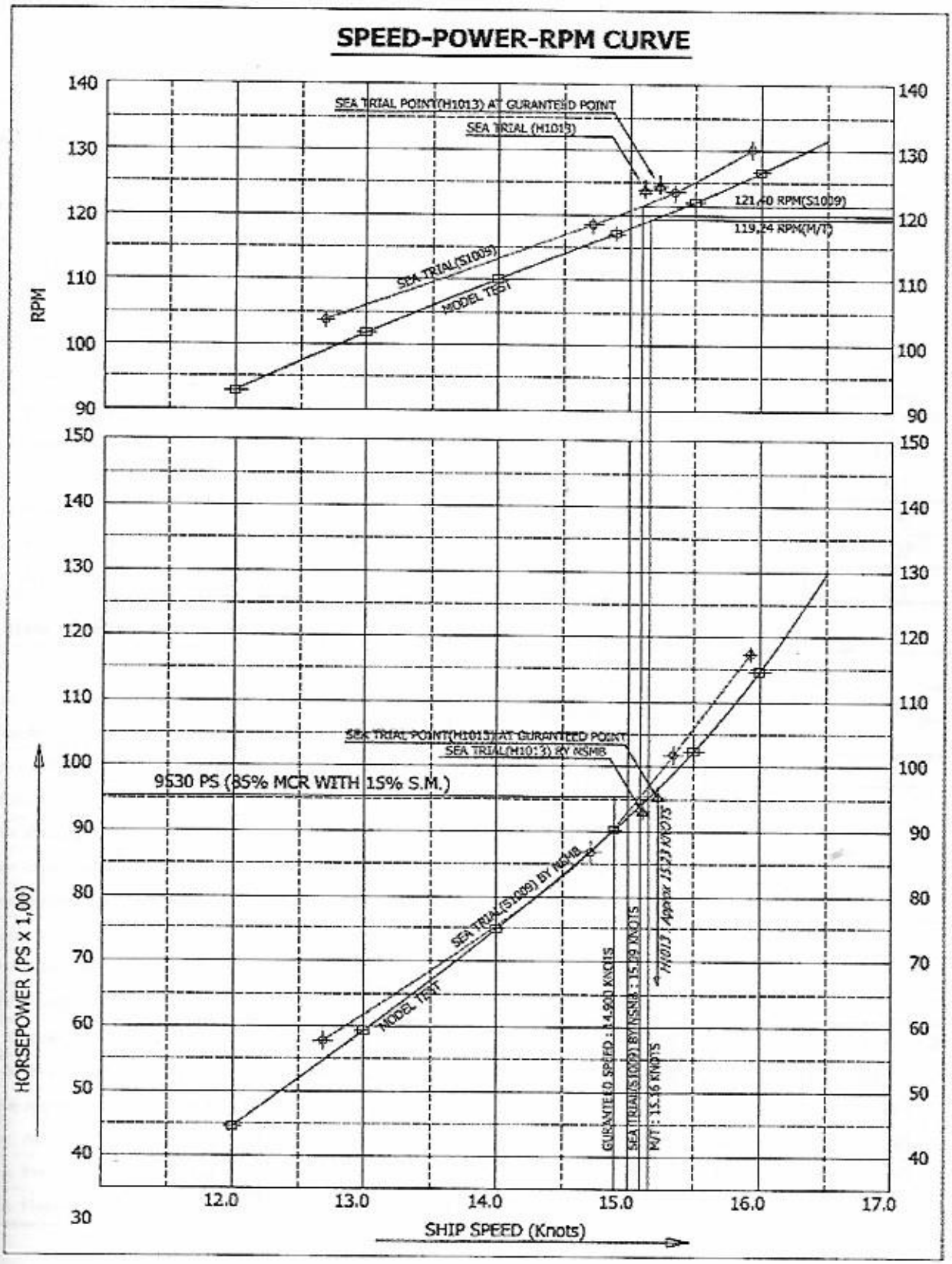
1. Result of Speed Run Test

1-1 Progressive Speed Trial

Hull No.		H-1013	Ship's Name	ORIENTAL DIAMOND		Date	2008.04.17
LBP x B x D			174.0 M x 32.2 M x 19.1 M			Place	Korea Straight
Ship's Condition			Sea & Weather			Main Engine	
DRAFT (M)	Fwd.	10.899 M	Weather	Fine		Type	MAN B&W, 6S50MC-C(MKVII)
	Mid.	10.995 M	S.G of S.W.	1.0252		M.C.R.	12,900 BHP x 127.0 RPM
	Aft	11.059 M	Sea Temp.	14 ℃		N.C.R.	10,960 BHP x 120.3 RPM
	Equ.	10.991 M	Sea Depth	120 M		Propeller	
Trim (Aft)		-0.160 M	Sea Condition	Swell 1.0 M		Type	FPP
Displacement		50275.7 Ton	Cb 0.794	0.7954		Dia. / Pitch	6.00 m / 0.6889
Propeller immers.		Full	Sailing Distance	1 N.M			

Engine Load	50%	75%	85%		100%
Inning			1	2	
Ship's Course			200	20	
			▶	◀	
Tidal Current			→	→	
Wind Direction			S149	P2.0	
Wind Velocity (M/S)			5.90	39.3	
Time of Running			03'52"	04'06"	
Speed (KTS)			15.573	14.655	
Mean Speed (KTS)			15.114		
Propeller (RPM)			124.1	124.6	
Mean			124.4		
Horse Power (BHP)			10870.7	10857.1	
Mean (BHP)			10863.9		
Corrected Mean (BHP)			9312		

1-2 Speed-Power-RPM Curve



2. Steering Gear Test

1) Main Steering Gear Test (No.1 Pump)

Date	April 17, 2008
Place	Korea Straight
Wind direction, velocity	S151, 15.6 kts
Ship condition	Swell 2.0 m
Sea depth	129.3 m
Time at Signal	23:21
Main Engine RPM before TEST	125 RPM
Main engine rpm aft test	115 RPM
Ship's course	200.8
Ship's Speed before TEST	15.0 Knots
Ship's condition	Design draft

Operated rudder angle(deg.)		0° --> S35°	S35° --> P35°	P35°--> S35°	S35° --> 0°
Measured rudder angle(deg.)		0° --> S35°	S35° --> P35°	P35°--> S35°	S35° --> 0°
Time required to move rudder(sec.)		13"59	25"87	25"46	13"75
Max. Ampere	Amp.	60	80	45	40
Max. Pressure	Bar	42	68	20	28
Max. Heeling angle	Deg.	1	2	1	1

2) Main Steering Gear Test (No.2 Pump)

Date	April 17, 2008
Place	Korea Straight
Wind direction, velocity	P6.0, 46.2 kts
Sea condition	Swell 2.0 m
Sea depth	126.4 m
Time at signal	23:42
Main engine rpm before test	126 RPM
Main engine rpm aft test	114 RPM
Ship's course	20.2°
Ship's speed before test	14.1 Knots
Ship's condition	Design draft

Operated rudder angle(deg.)		0° --> S35°	S35° --> P35°	P35°--> S35°	S35° --> 0°
Measured rudder angle(deg.)		0° --> S35°	S35° --> P35°	P35°--> S35°	S35° --> 0°
Time required to move rudder(sec.)		13"05	25"44	25"21	13"68
Max. Ampere	Amp.	60	60	50	45
Max. Pressure	Bar	48	42	36	22
Max. Heeling angle	Deg.	1	1	2	1

3) Emergency Steering Gear Test (No.1 Pump)

Date	April 17, 2008
Place	Korea Straight
Wind direction, velocity	P57 , 25.9kts
Sea condition	Swell 4.0 m
Sea depth	124 m
Time at signal	23:55
Main engine rpm before test	101 RPM
Main engine rpm aft test	100 RPM
Ship's course	115.2°
Ship's speed before test	9.1 Knots
Ship's condition	Design draft

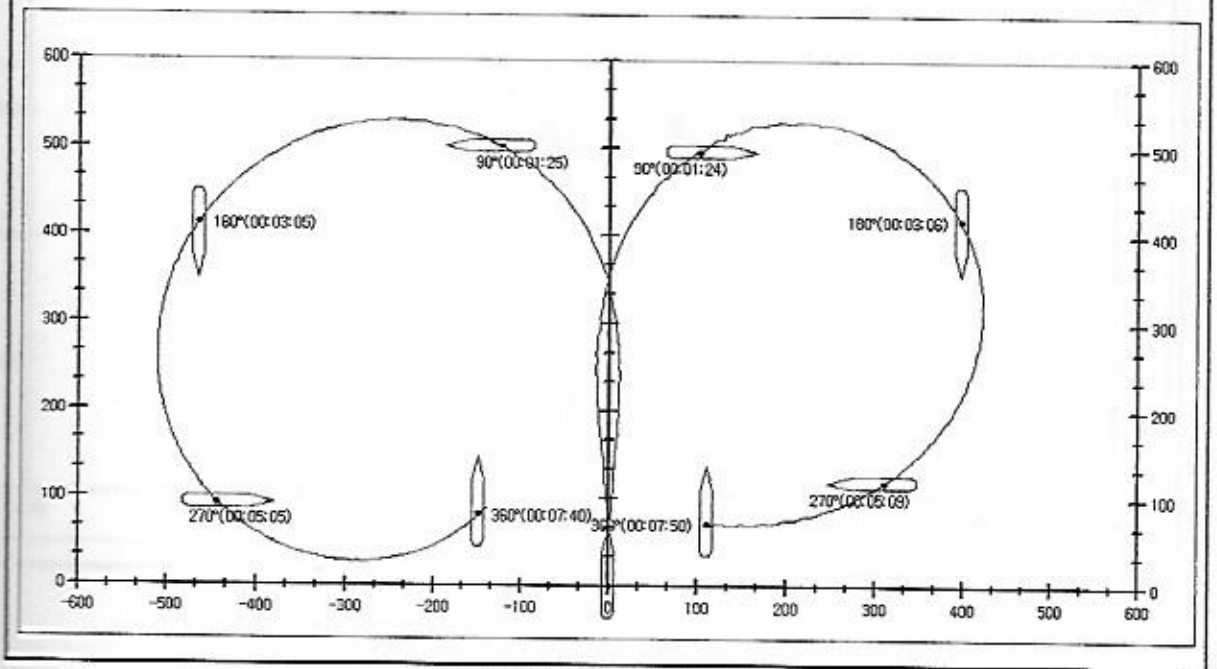
Operated rudder angle(deg.)		0° --> P15°	P15° --> S15°	S15° --> P15°	P15° --> 0°
Measured rudder angle(deg.)		0° --> P15°	S15° --> S15°	S15° --> P15°	P15° --> 0°
Time required to move rudder(sec.)		11"13	24"00	23"9	11"53
Max. Ampere	Amp.	25	30	30	25
Max. Pressure	Bar	14	20	20	18
Max. Heeling angle	Deg.	1	1	1	2

3. Turning Test

SPP	RESULT OF TURNING CIRCLE TEST	HULL NO.	H1013
	TURNING TEST	DATE	2008-04-17

ITEM		PORT TURNING	STB'D TURNING
PLACE		KOREA STRAIT	
BASE COURSE (deg.)		20.0	20.2
WEATHER CONDITION		CLAM	
SEA	CONDITION	SWELL 4.0M	
	DEPTH (m)	129.3	135.0
R. WIND	DIRECTION (deg.)	P 1.0	P 13.0
	VELOCITY (kts.)	37.9	35.4
INITIAL M/E R.P.M		121.6	121.9
INITIAL SPEED (kts.)		14.5	13.9
MAX. HEELING ANGLE (deg.)		1	1
RUDDER ANGLE (deg.)		-35.0	35.0
ADVANCE (m)		496.525 (2.9 LBP)	491.771 (2.8 LBP)
TRANSFER (m)		122.797 (0.7 LBP)	101.843 (0.6 LBP)
TACTICAL DIAMETER (m)		460.805 (2.6 LBP)	393.138 (2.3 LBP)

TURNING ANGLE (deg.)	ELAPSE TIME	SPEED (kts.)	ELAPSE TIME	SPEED (kts.)
90	00:01:25	8.6	00:01:24	8.6
180	00:03:05	5.0	00:03:06	5.1
270	00:05:05	3.4	00:05:09	3.6
360	00:07:40	2.7	00:07:50	2.6

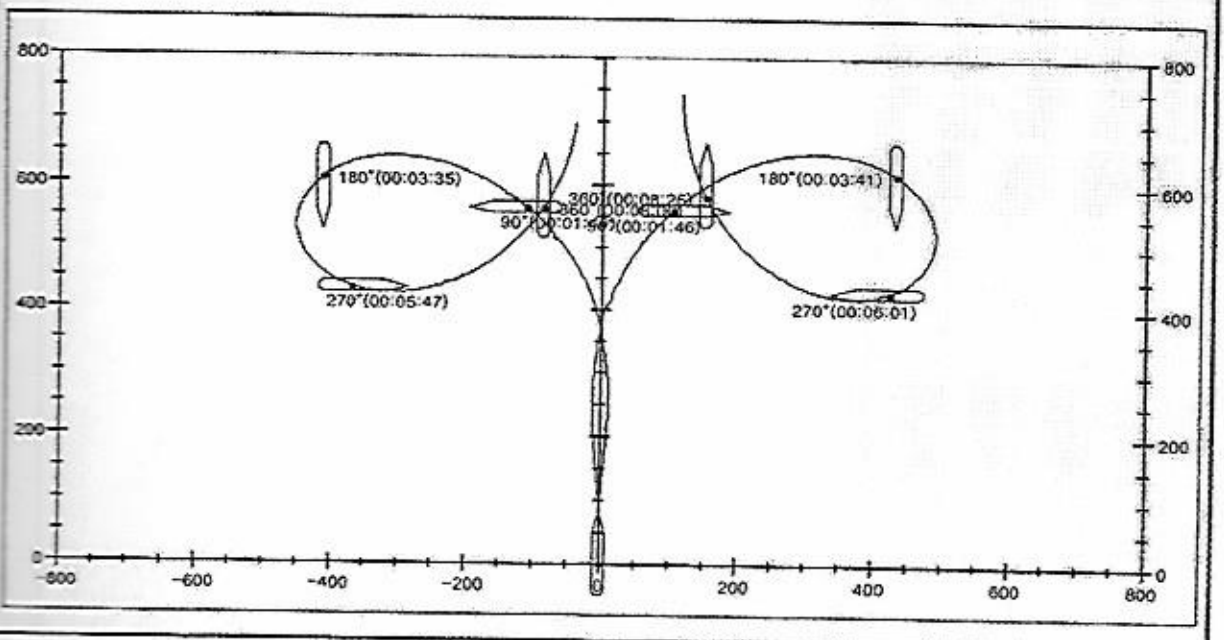


4. Slow Turning Test

	RESULT OF TURNING CIRCLE TEST	HULL NO.	S-1009
SPP	MCR 50% SLOW TURNING	DATE	2007-11-19

ITEM		PORT TURNING	STB'D TURNING
PLACE		KOREA STRAIT	
BASE COURSE (deg.)		20	20
WEATHER CONDITION		CLAM	
SEA	CONDITION	SWELL 1.0 M	
	DEPTH (m)	143.6	141.4
R. WIND	DIRECTION (deg.)	P 74.0	P 66.0
	VELOCITY (kts.)	18.5	15.9
INITIAL M/E R.P.M		103.8	103.8
INITIAL SPEED (kts.)		11.4	9.7
MAX. HEELING ANGLE (deg.)		1	1
RUDDER ANGLE (deg.)		-35.0	35.0
ADVANCE (m)		564.849 (3.2 LBP)	561.064 (3.2 LBP)
TRANSFER (m)		111.475 (0.6 LBP)	104.473 (0.6 LBP)
TACTICAL DIAMETER (m)		413.744 (2.4 LBP)	433.498 (2.5 LBP)

TURNING ANGLE (deg.)	ELAPSE TIME	SPEED (kts.)	ELAPSE TIME	SPEED (kts.)
90	00:01:40	7.3	00:01:46	7.1
180	00:03:35	3.7	00:03:41	4.0
270	00:05:47	3.4	00:06:01	3.3
360	00:08:00	3.2	00:08:26	3.5



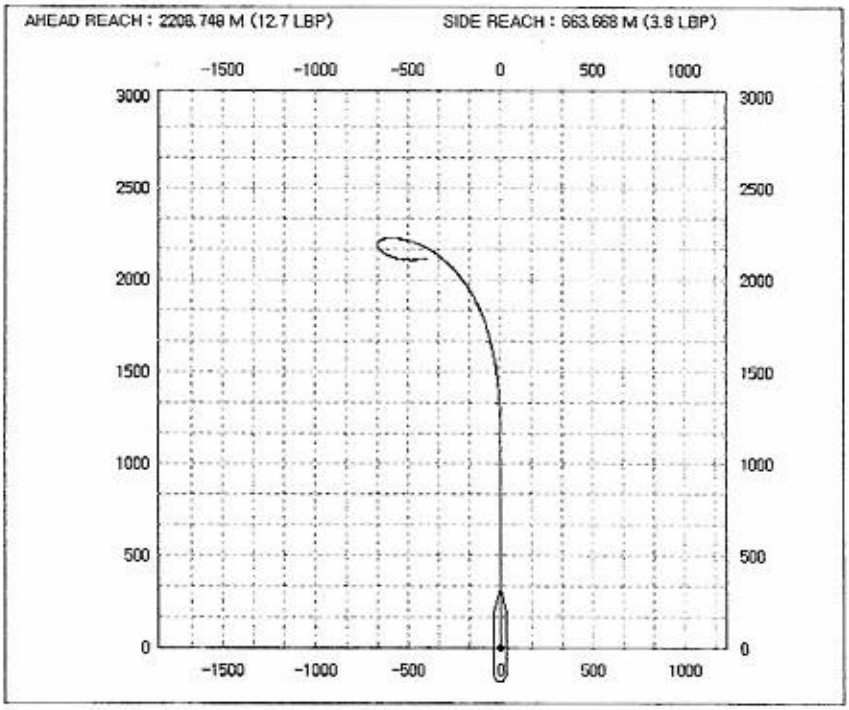
5. Crash Stop Astern Test

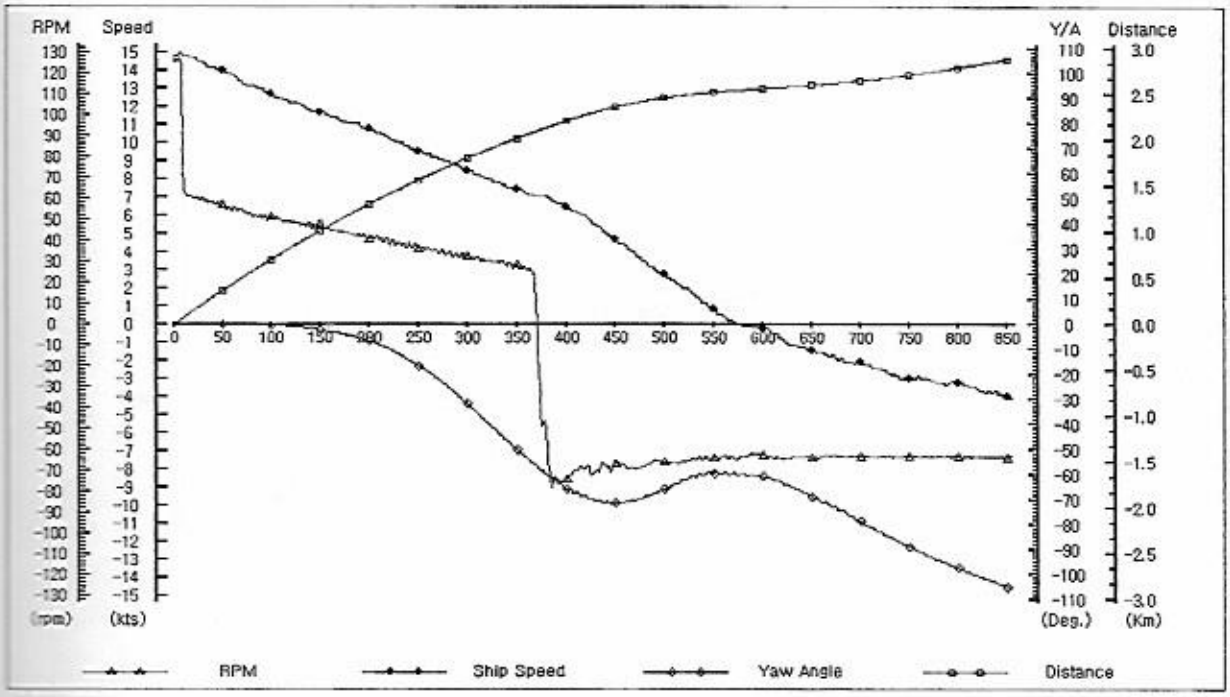
SPP	RESULT OF CRASH STOP TEST	HULL NO.	H1013
	CRASH ASTERN TEST	DATE	2008-04-17

PLACE		KOREA STRAIT
BASE COURSE (deg.)		19.9
WEATHER CONDITION		CLAM
SEA	CONDITION	SWELL 4.0M
	DEPTH (m)	137.9
R. WIND	DIRECTION (deg.)	P 3.0
	VELOCITY (kts.)	38.9
INITIAL M/E R.P.M		127.5
INITIAL SPEED (kts.)		14.9

TIME FROM ORDER UNTIL SHAFT STOP	00:06:12
TIME FROM ORDER UNTIL SHIP STOP	00:08:47
TIME FROM ORDER UNTIL M/E STEADY ASTERN RPM	-77.0
M/E ASTERN STEADY R.P.M	-78.0
TRACK REACH FROM ORDER UNTIL SHIP STOP (m)	2508.429 (14.4 LBP)
AHEAD REACH (m)	2208.748 (12.7 LBP)
SIDE REACH (m)	663.668 (3.8 LBP)

	RESULT OF CRASH STOP TEST	HULL NO.	H1013
	CRASH ASTERN TEST	DATE	2008-04-17



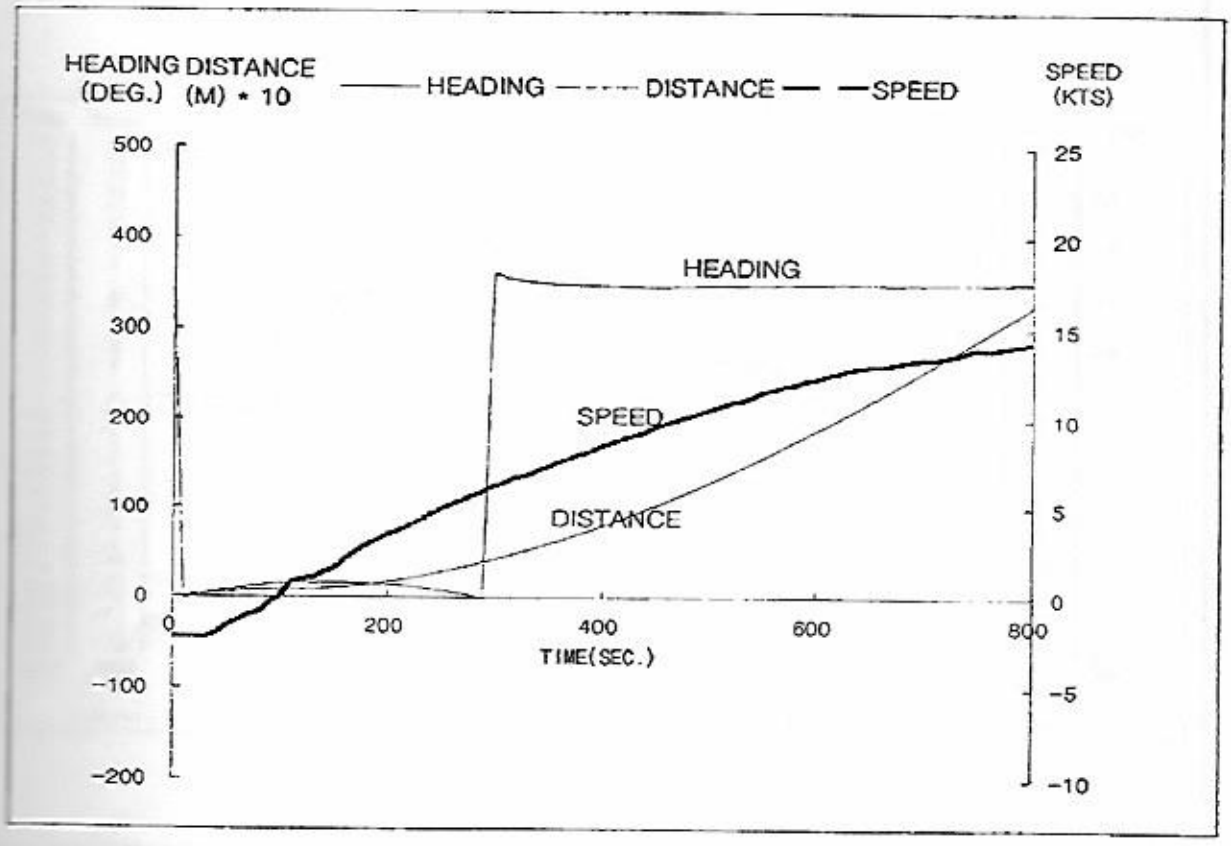


5-1 Astern Stop crash Test

ASTERN STOP AHEAD TEST.

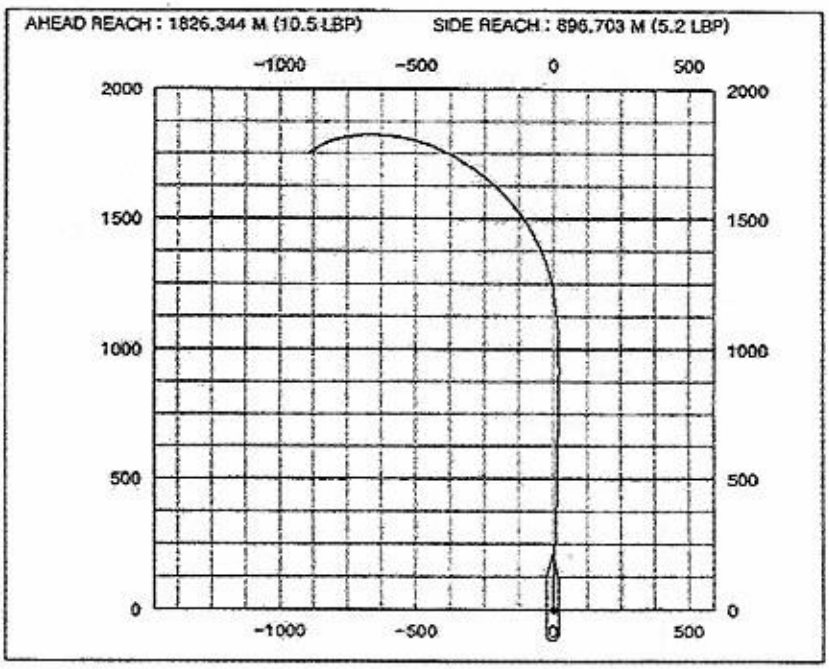
DATE	2007.11.19.
PLACE	KOREA STRAIT
WIND DIRECTION, VELOCITY	P114° , 15.7 KTS
SEA CONDITION	SWELL 1.0 M
SEA DEPTH	148.6 M
SHIP'S CONDITION	DESIGN DRAFT

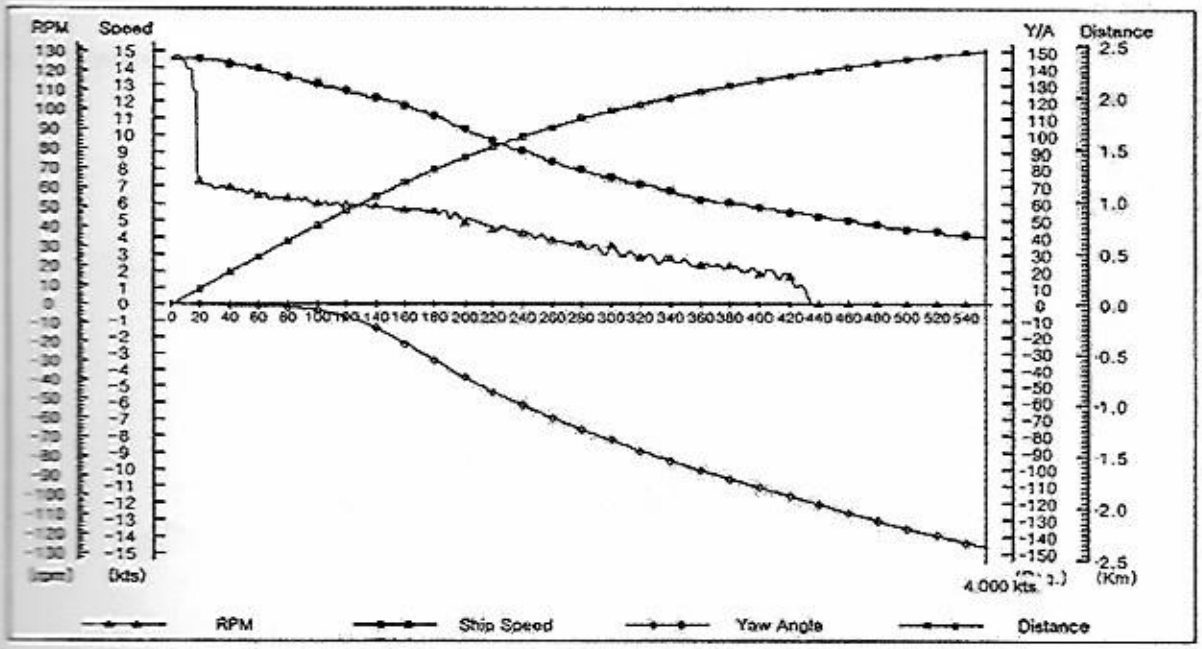
SHIP'S COURSE	358 °
MAIN ENGINE RPM BEFORE TEST	-82 RPM
SHIP'S SPEED BEFORE TEST	-2.20 KNOTS
TIME TO STOP SHAFT	10 SEC.
TIME TO REACH FULL AHEAD RPM	13 MIN 15 SEC.
TIME TO STOP SHIP	1 MIN 35 SEC.
SAILING DISTANCE TO STOP SHIP	75 M
TME TO REACH NORMAL AHEAD SPEED	13 MIN 20 SEC.
SAILING DISTANCE TO REACH NORMAL AHEAD SPEED	3256 M
NORMAL AHEAD RPM	127 RPM
NORMAL AHEAD SPEED	14.20 KNOTS



6. Inertia Stopping Test

SPP	RESULT OF CRASH STOP TEST	HULL NO.	S-1009
	Crash Stop - sea tiral test	DATE	2007-11-19





7. Anchor Windlass Test

Date	2008.04.18
Place	Korea Straight
Wind direction, velocity	P74, 9.1 m/s
Sea condition	Swell 4.0 m
Sea depth	126.6 m
Time at signal	00:25
Ship's course	93°
Number of dropped shackles	3 Shackles
Ship's condition	Design draft

Item	Hoisting time (Min. Sec.)	Hoisting speed (m/min)	Max. Pressure (Bar)	Max. Ampere (Amp)
Port anchor Hoist 2 shackle	3 Min. 08 Sec.	17.553 m/min	250	250
Stb'd anchor Hoist 2 shackle	5 Min. 11 Sec.	10.611 m/min	260	270
Both anchor Hoist 1 shackle	-	-	250	270

* Rule requirement.

The average normal speed to hoisting up 2 shackles is not less than **9M / Min** (0.15M/Sec.)

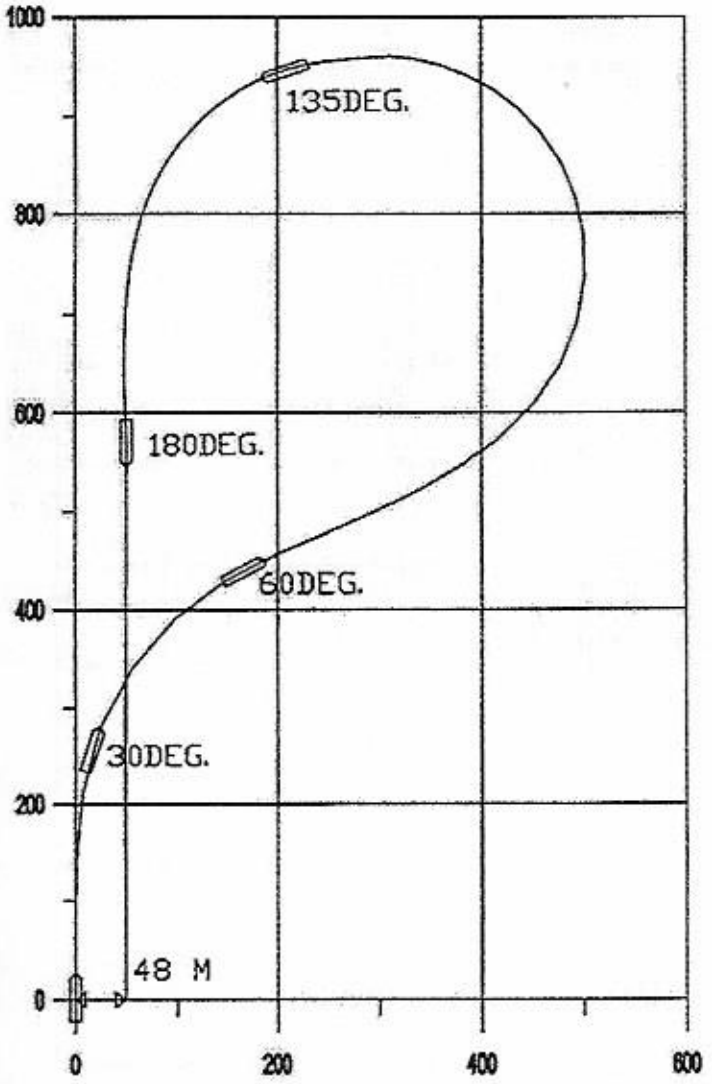
8. Man Overboard Maneuvering Test

MAN OVERBOARD RESCUE MANOEUVRE TEST.

DATE	2007.11.19
PLACE	KOREA STRAIT
WIND DIRECTION, VELOCITY	S53.0 , 24.9 KTS.
SEA CONDITION	SWELL 2.0 M
SEA DEPTH	136.3 M
TIME AT SIGNAL	20:56
MAIN ENGINE RPM BEFORE TEST	120.3 RPM
MAIN ENGINE RPM AFT TEST	111 RPM
SHIP'S COURSE	170 °
SHIP'S SPEED BEFORE TEST	13.7 KNOTS
SHIP'S CONDITION	DESIGN DRAFT

SEQUENCE OF ACTIONS TO BE TAKEN :

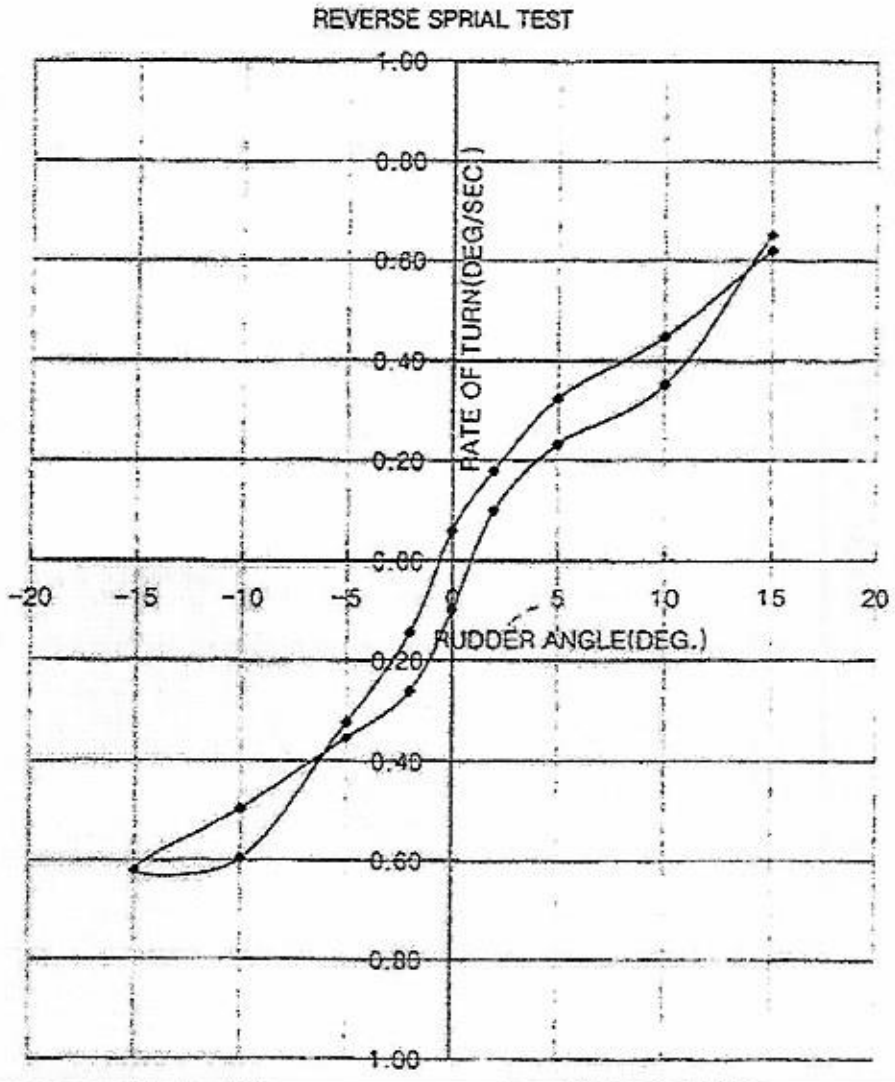
1. TO CAST A LIFE BUOY
2. TO GIVE THE HELM ORDER
3. TO SOUND THE HELM
4. TO KEEP LOOK-OUT



9. Reverse Spiral Test

REVERSE SPRIAL TEST

DATE	2007. 11. 19.
PLACE	KOREA STRAIT
WIND DIRECTION, VELOCITY	P56, 17.8 M/SEC.
SEA CONDITION	SWELL 2.0 M
SEA DEPTH	132 M
SHIP'S SPEED	15.1 KTS
TIME AT SIGNAL	21:20
SHIP'S COURSE	0°
SHIP'S CONDITION	DESIGN DRAFT



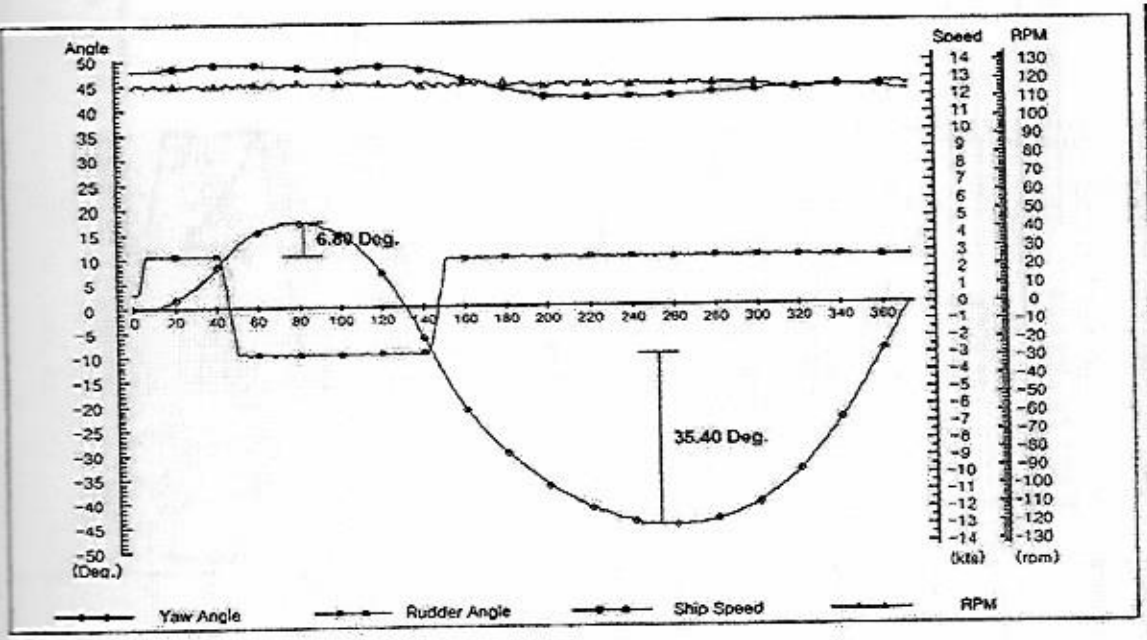
10. "Z" Maneuvering Test

10-1. 10 Deg. ZIGZAG Maneuvering Test

SPP	RESULT OF ZIGZAG TEST	HULL NO.	S-1009
	10 DEG. ZIGZAG MANEUVERING TEST	DATE	2007-11-19

PLACE		KOREA STRAIT
BASE COURSE (deg.)		340
WEATHER CONDITION		CLAM
SEA	CONDITION	SWELL 2.0 M
	DEPTH (m)	120.0
R. WIND	DIRECTION (deg.)	P 51.0
	VELOCITY (kts.)	21.8
INITIAL M/E R.P.M		119.1
INITIAL SPEED (kts.)		13.7

1ST OVER SHOOT ANGLE (deg.)	6.8
2ND OVER SHOOT ANGLE (deg.)	35.4



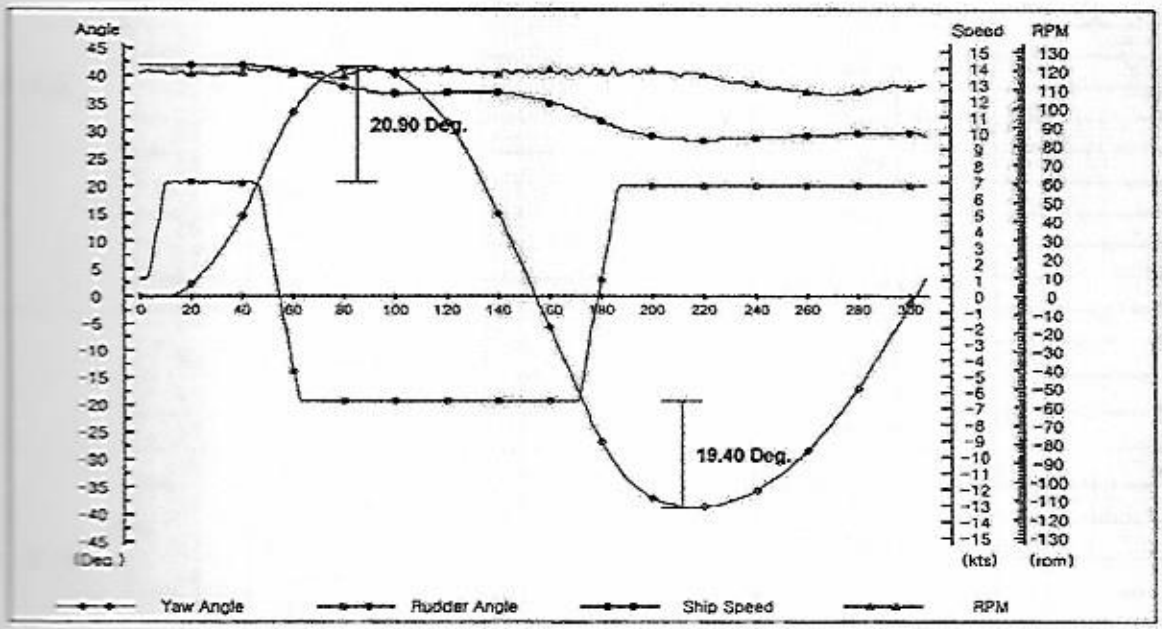
SPP Shipbuilding Co., Ltd.

10-2. 20 Deg. ZIGZAG Maneuvering Test

	RESULT OF ZIGZAG TEST	HULL NO.	S-1009
SPP	20 DEG. ZIGZAG MANEUVERING TEST	DATE	2007-11-19

PLACE		KOREA STRAIT
BASE COURSE (deg.)		350
WEATHER CONDITION		CLAM
SEA	CONDITION	SWELL 2.0 M
	DEPTH (m)	131.7
R. WIND	DIRECTION (deg.)	P 61.0
	VELOCITY (kts.)	22.2
INITIAL M/E R.P.M		119.2
INITIAL SPEED (kts.)		14.2

1ST OVER SHOOT ANGLE (deg.)	20.9
2ND OVER SHOOT ANGLE (deg.)	19.4



SPP Shipbuilding Co., Ltd.

11. Noise Level Measurement

Date	2008.4.17
Place	Korea Straight
Wind direction, velocity	P180, 1.9 knots
Sea condition	Swell 4m
Sea depth	132.9m
Ship's condition	Design draft

Location	No.	Room name	Noise level (db(a))		Remark
			Required	Actual	
Nav. Bri. Deck	1	Wheel house	65	59.73	
	2	Radio space	65	55.33	
	1-1	Wing bridge	70	65.19	
"C" deck	3	2nd eng. Room	60	56.26	
	4	C/eng. Bed room	60	53.38	
	5	C/eng. Day room	60	53.41	
	6	1st/eng. Bed room	60	50.14	
	7	1st/eng. Day room	60	49.10	
	8	Chief off. Day room	60	51.37	
	9	Chief off. Bed room	60	51.02	
	10	Capt. Day room	60	52.25	
	11	Capt. Bed room	60	53.02	
	12	2rd officer rm	60	53.74	
	13	3rd officer rm	60	56.78	
	14	Pilot room	60	55.95	
"B" deck	15	Crew(l)	60	57.47	
	16	Petty(a)	60	55.89	
	17	Petty(b)	60	53.09	
	18	Electrician room	60	52.67	
	19	Crew(g)	60	50.85	
	20	Crew(h)	60	49.91	
	21	Petty(c)	60	49.49	
	22	Crew(i)	60	51.61	
	23	Crew(j)	60	52.46	
	24	3rd engineer rm	60	54.84	
	25	Petty(d)	60	57.47	
	26	Petty(e)	60	51.96	
	27	Crew(k)	60	52.56	
	28	Officer's laundry	75	64.52	
"A" deck	29	Crew mess room	65	62.43	
	30	Crew smoking rm	65	56.70	
	31	Crew(d)	60	53.70	
	32	Crew(e)	60	50.00	
	33	Cargo control rm	65	55.20	
	34	Deck office	65	52.40	
	35	Engine office	65	52.90	
	36	Crew(f)	60	53.00	
	37	Officer smoking rm	65	57.50	
	38	Officer mess room	65	52.70	
	39	Officer pantry	75	60.50	
	40	Galley	75	55.70	
	41	Crew pantry	75	58.90	
	42	Duty mess room	65	55.70	

Location	No.	Room name	Noise level (db(a))		Remark
			Required	Actual	
UPPER DECK	43	Crew(a)	60	55.30	
	44	Crew(b)	60	54.80	
	45	Crew(c)	60	52.30	
	46	Hospital	60	58.20	
	47	Gymnasium & suez	65	61.80	
	48	Ship's laundry	75	70.00	
	49	Air-con room	110	74.30	
1ST DECK	50	Engine control rm	75	72.00	
	51	Electric workshop	85	72.80	
	52	E/R space(fore)	110	86.20	
	53	E/R space(aft)	110	90.40	
	54	Steering gear rm	110	88.50	
	55	E/R work shop	85	79.40	
2ND DECK	56	E/R space(fore)	110	93.70	
	57	E/R space(aft)	110	95.00	
ENGINE FLOOR	58	E/R space (fore)	110	94.60	
	59	E/R space (aft)	110	98.20	

12. Local Vibration Measurement.

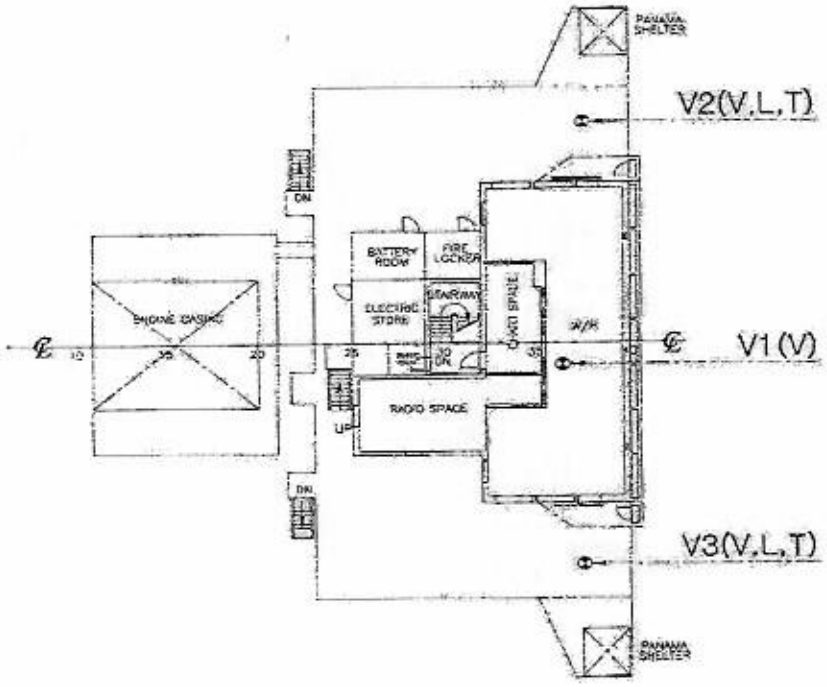
Considering the results of the measurement, the vibration levels of deckhouse above table is below the allowable limit of 9.0mm/sec, peak, stipulated in the Building Specification.

Date	2008.4.17
Place	Korea straight
Wind direction, velocity	P100, 1.9 knots
Sea condition	Swell 4m
Sea depth	132.9m
Ship's condition	Design draft

Location	No.	Room name	Vibration amplitude		Remark
			FREQUENCY (Hz)	VELOCITY (MM/S)	
Nav. Bri. Deck	1	Wheel house (v)	12.125	1.27	
	2	Wheel house (l)	16.125	1.01	
	3	Wheel house (t)	12.125	1.06	
	4	Bridge wing, port (v)	12.125	0.74	
	5	Bridge wing, port (l)	8.0	1.78	
Compass deck	6	Radar mast (l)	5.125	3.28	
	7	Radar mast (t)	12.125	3.11	
"C" deck	8	C/eng. Day room (v)	12.125	1.20	
	9	Capt. Day room (v)	12.125	0.62	
"B" deck	10	Elect. Officer rm(v)	12.125	1.09	
	11	3rd engineer rm (v)	12.125	0.62	
"A" deck	12	Crew mess room (v)	12.125	0.94	
	13	Off. Mess room (v)	12.125	1.63	
	14	Cargo control rm (v)	12.125	0.45	
Upper deck	15	Crew(a) (v)	12.125	1.13	
	16	Air cond. Rm (v)	12.125	0.86	
	17	Gymnasium(v)	12.125	1.19	
1st deck	18	Eng. Control room (v)	12.125	1.83	
	19	E/r workshop (v)	26.250	1.13	
	20	Air compressor fdn (v)	12.125	0.23	
	21	Steer. Gear room (v)	48.375	2.13	
2nd deck	22	Gen. Engine fdn (v)	12.125	1.77	
	23	Purifier rm (v)	12.125	1.23	
Engine floor	24	E/r space(fore) (v)	12.125	2.38	
	25	E/r space(aft) (v)	12.125	1.12	

SPP	LOCAL VIBRATION MEASURING POINT	PAGE	1
		PROJECT NO	
		DWG.NO	

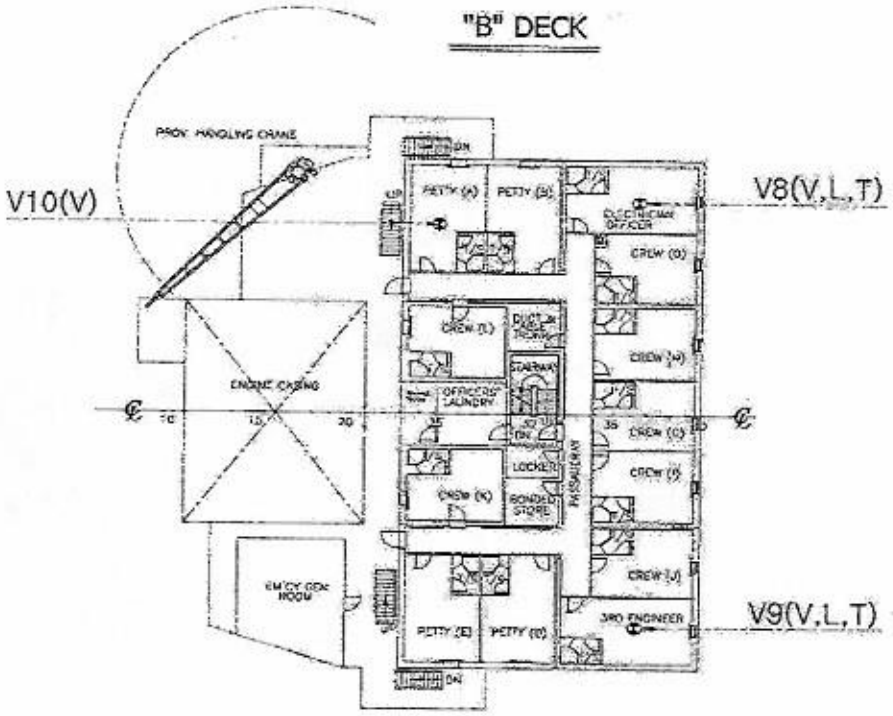
NAVI. BRI.DECK



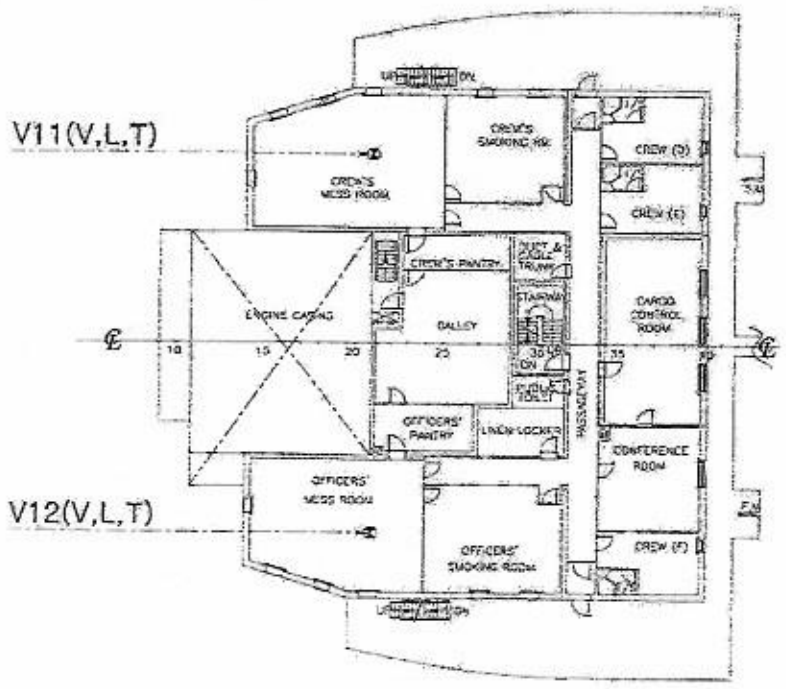
"C" DECK

SFP	LOCAL VIBRATION MEASURING POINT	PAGE	1
		PROJECT NO	2
		DWG.NO	

"B" DECK

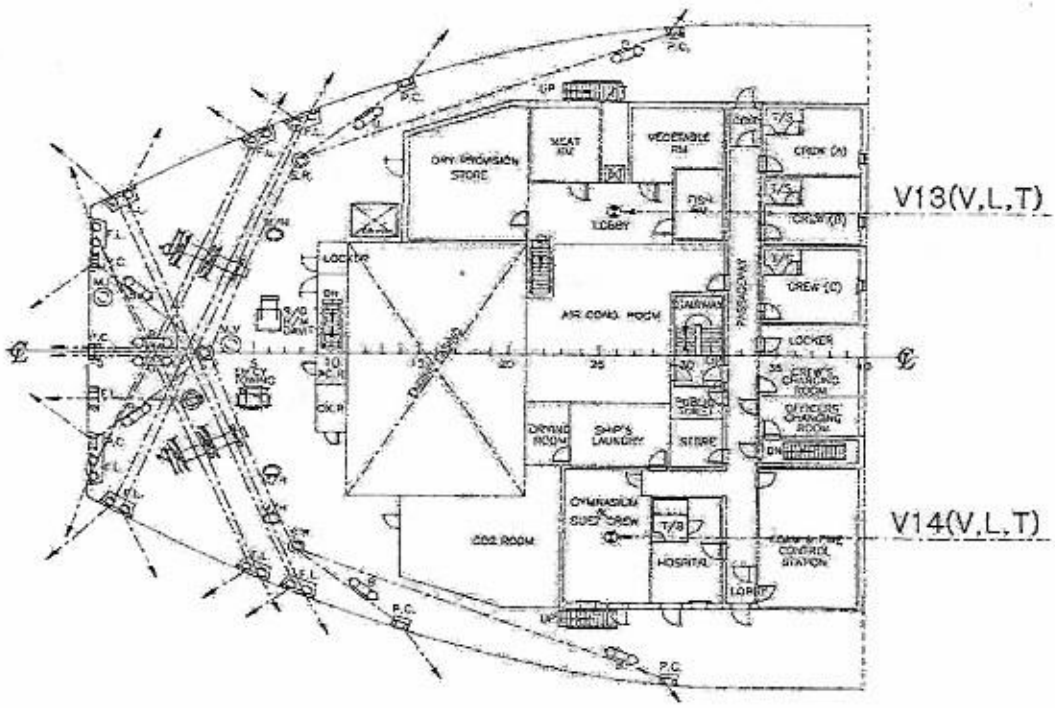


"A" DECK

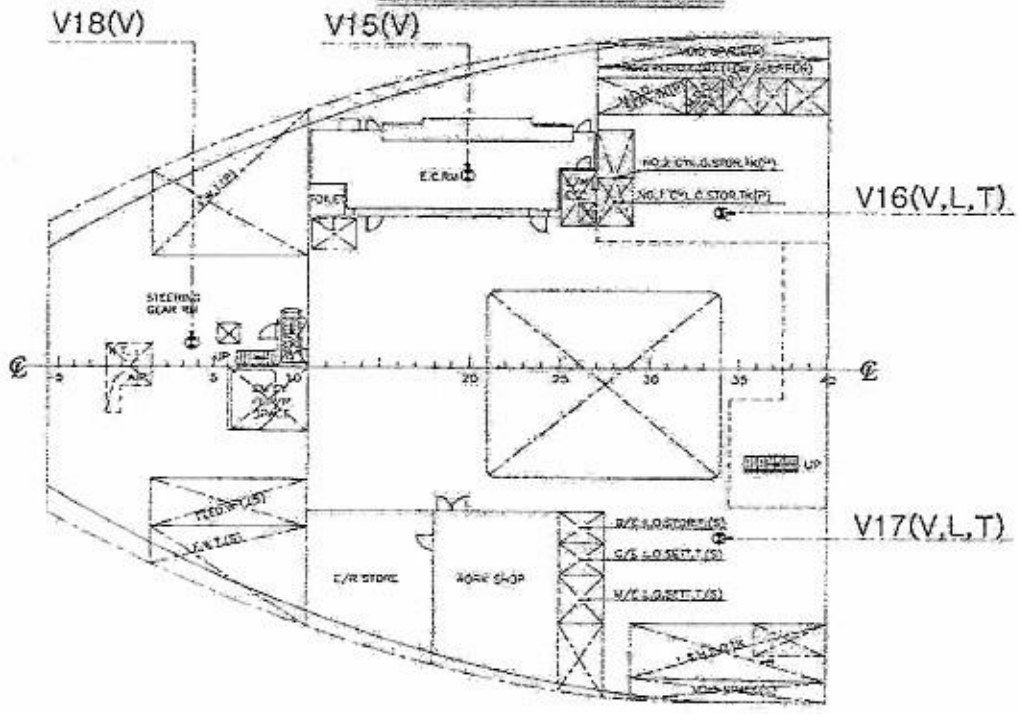


	LOCAL VIBRATION MEASURING POINT	PAGE	1
SPP		PROJECT NO	
		DWG.NO	

UPPER DECK

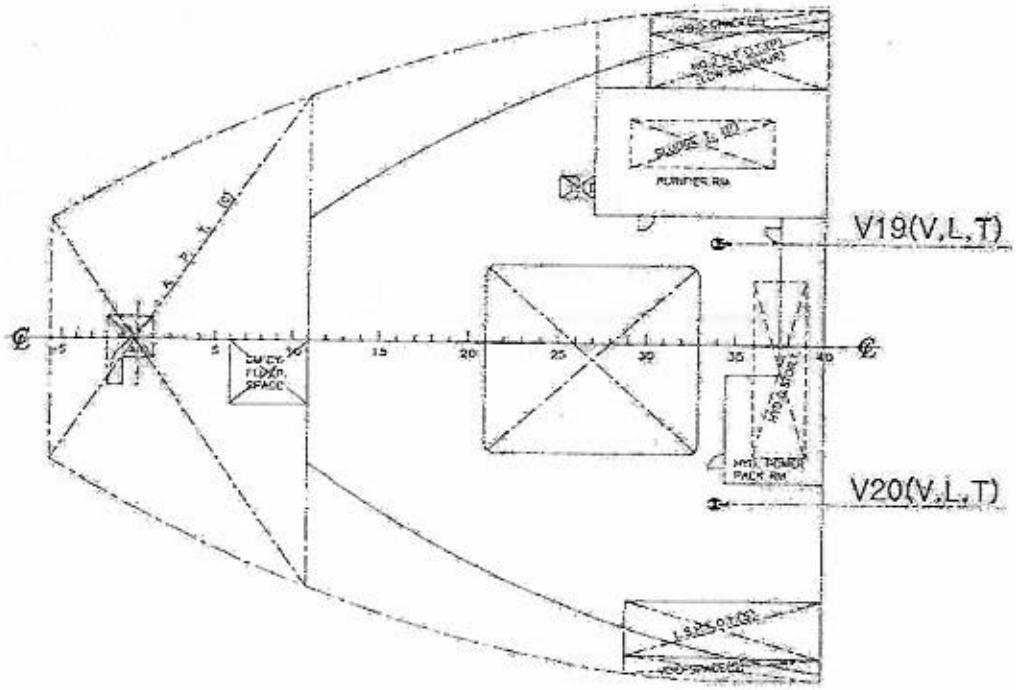


1ST PLATFORM DECK

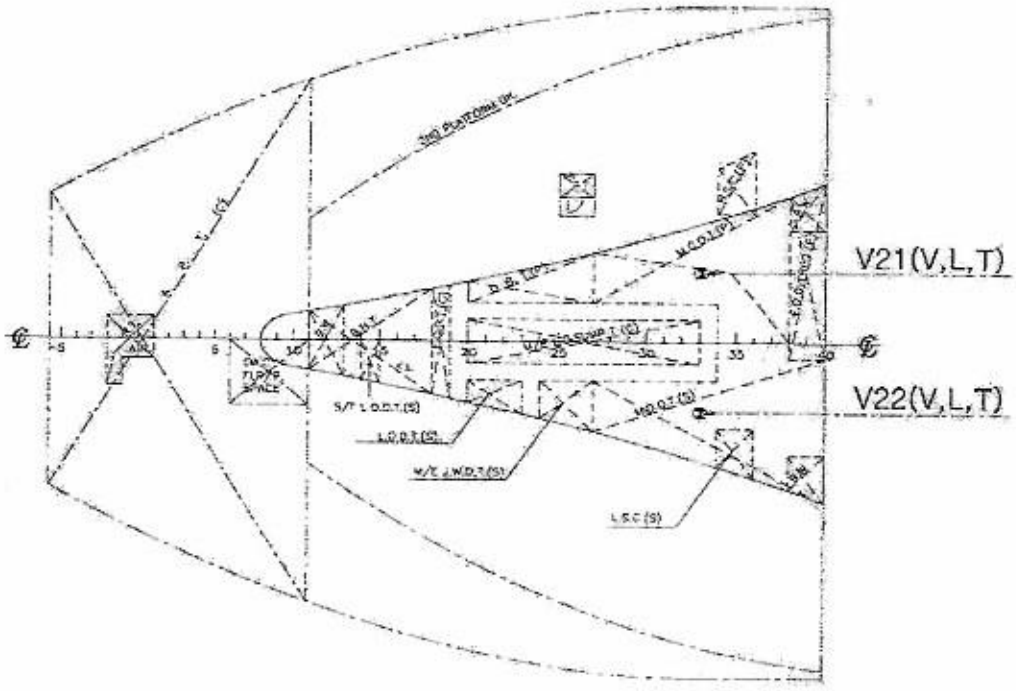


SFF	LOCAL VIBRATION MEASURING POINT	PAGE	1
		PROJECT NO	
		DWG.NO	

2ND PLATFORM DECK



TANK TOP PLAN



13. Rescue Boat 5 Knots Launching Test

Test result confirmed under attending of Class's survey and Owner.

Date	April 17, 2008
Place	An-Jung
Wind direction, velocity	P28° , 9.7m/s
Sea condition	Swell 1.5m
Sea depth	10.4 m
Ship's speed	4.9 Knots
Ship's condition	Design Draft
Ship's course	54 Deg