SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

REPORT NO. FA
25 NOVEMBER 1985

SHEET 1

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	LONGITUDINAL MOMENT	TRANSVERSE TCG S	TRANSVERSE MOMENT
	SUMMARY FULL LOAD CONDITION WITHOUT MARGINS										
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10
F	LOADS, FULL	1	99	0	53.98	6.14	331	58.62A	3165	0.07P	4
	FULL LOAD CONDITION WITHOUT MARGINS	4	80	16	233.48	9.24	2158	58.46A	13649	0.03S	-7

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1.	LENGTH BETWEEN PERPENDICULARS	110.00	FEET
2.	BOTTOM OF KEEL BELOW BASE LINE	0.02	FEET
3.	C.G. ABOVE BOTTOM OF KEEL . .	9.26	FEET
4.	C.G. ABOVE BASE LINE . . .	9.24	FEET
5.	DRAFT AT L.C.F. FOR ABOVE DISP.	7.21	FEET
6.	TONS PER INCH IMMERSION . .	4.74	TONS/INCH
7.	TRANSVERSE METACENTER (KEEL) .	13.06	FEET
8.	GM, WITHOUT FREE SURFACE CORR.	3.80	FEET
9.	FREE SURFACE CORRECTION .	0.32	FEET
10.	GM, WITH FREE SURFACE CORR. .	3.48	FEET
11.	MOMENT TO ALTER HEEL ONE DEGREE	14.17	FOOT-TONS
12.	LIST	0.49	DEGREES STBD
13.	MOMENT TO ALTER TRIM ONE INCH	33.39	FOOT-TONS
14.	L.C.B. ON EVEN KEEL AT ABV DRAFT	59.07	FEET AFT
15.	LONGITUDINAL CENTER OF GRAVITY	58.46	FEET AFT
16.	TRIMMING LEVER	0.61	FEET FWD
17.	TRIM	0.36	FEET BY HEAD
18.	L.C.F.	62.49	FEET AFT
19.	DIFF IN DRAFT, L.C.F. TO MIDSHIP	0.02	FEET INCREASE
20.	DRAFTS:		
	FORWARD PERPENDICULAR . .	7.41	FEET
	MEAN	7.23	FEET
	AFT PERPENDICULAR . . .	7.05	FEET
21.	DESIGNED DRAG	0.0	FEET

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

REPORT NO. FA
25 NOVEMBER 1985

SHEET 1M

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	LONGITUDINAL MOMENT	TRANSVERSE TCG S	TRANSVERSE MOMENT
	SUMMARY FULL LOAD CONDITION WITH MARGINS										
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10
F	LOADS, FULL	1	99	0	53.98	6.14	331	58.62A	3165	0.07P	4
M	MARGINS	100	0	0	0.0	0.0	0	0.0	0	0.0	0
	FULL LOAD CONDITION WITH MARGINS	4	80	16	233.48	9.24	2158	58.46A	13649	0.03S	-7

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1. LENGTH BETWEEN PERPENDICULARS 110.00 FEET
2. BOTTOM OF KEEL BELOW BASE LINE 0.02 FEET
3. C.G. ABOVE BOTTOM OF KEEL . . 9.26 FEET
4. C.G. ABOVE BASE LINE . . . 9.24 FEET
5. DRAFT AT L.C.F. FOR ABOVE DISP. 7.21 FEET
6. TONS PER INCH IMMERSION . . 4.74 TONS/INCH
7. TRANSVERSE METACENTER (KEEL) . 13.06 FEET
8. GM, WITHOUT FREE SURFACE CORR. 3.80 FEET
9. FREE SURFACE CORRECTION . 0.32 FEET
10. GM, WITH FREE SURFACE CORR. . 3.48 FEET
11. MOMENT TO ALTER HEEL ONE DEGREE 14.17 FOOT-TONS
12. LIST . . . . . 0.49 DEGREES STBD
13. MOMENT TO ALTER TRIM ONE INCH 33.39 FOOT-TONS
14. L.C.B. ON EVEN KEEL AT ABV DRAFT 59.07 FEET AFT
15. LONGITUDINAL CENTER OF GRAVITY 58.46 FEET AFT
16. TRIMMING LEVER . . . . . 0.61 FEET FWD
17. TRIM . . . . . 0.36 FEET BY HEAD
18. L.C.F. . . . . 62.49 FEET AFT
19. DIFF IN DRAFT, L.C.F. TO MIDSHIP 0.02 FEET INCREASE
20. DRAFTS:
    FORWARD PERPENDICULAR . . 7.41 FEET
    MEAN . . . . . 7.23 FEET
    AFT PERPENDICULAR . . . 7.05 FEET
21. DESIGNED DRAG . . . . . 0.0 FEET

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

REPORT NO. FA
25 NOVEMBER 1985

SHEET 2

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	LONGITUDINAL MOMENT	TRANSVERSE TCG S	TRANSVERSE MOMENT
	SUMMARY FULL LOAD CONDITION WITHOUT MARGINS										
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10
C	LOADS, FULL	1	99	0	69.35	7.83	543	64.36A	4464	0.05P	3
	FULL LOAD CONDITION WITHOUT MARGINS	4	81	15	248.85	9.52	2370	60.07A	14948	0.03S	-7

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1.	LENGTH BETWEEN PERPENDICULARS	110.00 FEET	
2.	BOTTOM OF KEEL BELOW BASE LINE	0.02 FEET	
3.	C.G. ABOVE BOTTOM OF KEEL . .	9.54 FEET	
4.	C.G. ABOVE BASE LINE . . .	9.52 FEET	
5.	DRAFT AT L.C.F. FOR ABOVE DISP.	7.47 FEET	
6.	TONS PER INCH IMMERSION . .	4.79 TONS/INCH	
7.	TRANSVERSE METACENTER (KEEL) .	12.90 FEET	
8.	GM, WITHOUT FREE SURFACE CORR.	3.36 FEET	
9.	FREE SURFACE CORRECTION .	0.30 FEET	
10.	GM, WITH FREE SURFACE CORR. .	3.06 FEET	
11.	MOMENT TO ALTER HEEL ONE DEGREE	13.27 FOOT-TONS	
12.	LIST	0.53 DEGREES STBD	
13.	MOMENT TO ALTER TRIM ONE INCH	33.95 FOOT-TONS	
14.	L.C.B. ON EVEN KEEL AT ABV DRAFT	59.27 FEET	AFT
15.	LONGITUDINAL CENTER OF GRAVITY	60.07 FEET	AFT
16.	TRIMMING LEVER	0.80 FEET	AFT
17.	TRIM	0.49 FEET	BY STERN
18.	L.C.F.	62.32 FEET	AFT
19.	DIFF IN DRAFT, L.C.F. TO MIDSHIP	0.03 FEET	DECREASE
20.	DRAFTS:		
	FORWARD PERPENDICULAR . .	7.20 FEET	
	MEAN	7.44 FEET	
	AFT PERPENDICULAR . . .	7.69 FEET	
21.	DESIGNED DRAG	0.0 FEET	

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

REPORT NO. FA
25 NOVEMBER 1985

SHEET 2M

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	MOMENT	TRANSVERSE TCG S	MOMENT
	SUMMARY FULL LOAD CONDITION WITH MARGINS										
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10
C	LOADS, FULL	1	99	0	69.35	7.83	543	64.36A	4464	0.05P	3
M	MARGINS	100	0	0	0.0	0.0	0	0.0	0	0.0	0
	FULL LOAD CONDITION WITH MARGINS	4	81	15	248.85	9.52	2370	60.07A	14948	0.03S	-7

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1. LENGTH BETWEEN PERPENDICULARS 110.00 FEET
2. BOTTOM OF KEEL BELOW BASE LINE 0.02 FEET
3. C.G. ABOVE BOTTOM OF KEEL . . 9.54 FEET
4. C.G. ABOVE BASE LINE . . . 9.52 FEET
5. DRAFT AT L.C.F. FOR ABOVE DISP. 7.47 FEET
6. TONS PER INCH IMMERSION . . 4.79 TONS/INCH
7. TRANSVERSE METACENTER (KEEL) . 12.90 FEET
8. GM, WITHOUT FREE SURFACE CORR. 3.36 FEET
9. FREE SURFACE CORRECTION . 0.30 FEET
10. GM, WITH FREE SURFACE CORR. . 3.06 FEET
11. MOMENT TO ALTER HEEL ONE DEGREE 13.27 FOOT-TONS
12. LIST . . . . . 0.53 DEGREES STBD
13. MOMENT TO ALTER TRIM ONE INCH 33.95 FOOT-TONS
14. L.C.B. ON EVEN KEEL AT ABV DRAFT 59.27 FEET AFT
15. LONGITUDINAL CENTER OF GRAVITY 60.07 FEET AFT
16. TRIMMING LEVER . . . . . 0.80 FEET AFT
17. TRIM . . . . . 0.49 FEET BY STERN
18. L.C.F. . . . . 62.32 FEET AFT
19. DIFF IN DRAFT, L.C.F. TO MIDSHIP 0.03 FEET DECREASE
20. DRAFTS:
    FORWARD PERPENDICULAR . . 7.20 FEET
    MEAN . . . . . 7.44 FEET
    AFT PERPENDICULAR . . . 7.69 FEET
21. DESIGNED DRAG . . . . . 0.0 FEET

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

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SHEET 3

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	LONGITUDINAL MOMENT	TRANSVERSE TCG S	TRANSVERSE MOMENT
	SUMMARY MINIMUM OPERATING LOAD CONDITION WITHOUT MARGINS										
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10
B	LOADS, MINIMUM OPERATING	1	99	0	42.25	9.30	393	69.60A	2940	0.38P	16
	MINIMUM OPERATING LOAD CONDITION WITHOUT MARGINS	4	79	17	221.75	10.01	2220	60.54A	13424	0.03P	6

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1.	LENGTH BETWEEN PERPENDICULARS	110.00	FEET
2.	BOTTOM OF KEEL BELOW BASE LINE	0.02	FEET
3.	C.G. ABOVE BOTTOM OF KEEL . .	10.03	FEET
4.	C.G. ABOVE BASE LINE . . .	10.01	FEET
5.	DRAFT AT L.C.F. FOR ABOVE DISP.	7.00	FEET
6.	TONS PER INCH IMMERSION . .	4.70	TONS/INCH
7.	TRANSVERSE METACENTER (KEEL) .	13.19	FEET
8.	GM, WITHOUT FREE SURFACE CORR.	3.16	FEET
9.	FREE SURFACE CORRECTION .	0.12	FEET
10.	GM, WITH FREE SURFACE CORR. .	3.04	FEET
11.	MOMENT TO ALTER HEEL ONE DEGREE	11.76	FOOT-TONS
12.	LIST	0.51	DEGREES PORT
13.	MOMENT TO ALTER TRIM ONE INCH	32.89	FOOT-TONS
14.	L.C.B. ON EVEN KEEL AT ABV DRAFT	58.93	FEET AFT
15.	LONGITUDINAL CENTER OF GRAVITY	60.54	FEET AFT
16.	TRIMMING LEVER	1.61	FEET AFT
17.	TRIM	0.90	FEET BY STERN
18.	L.C.F.	62.62	FEET AFT
19.	DIFF IN DRAFT, L.C.F. TO MIDSHIP	0.06	FEET DECREASE
20.	DRAFTS:		
	FORWARD PERPENDICULAR . .	6.49	FEET
	MEAN	6.94	FEET
	AFT PERPENDICULAR . . .	7.39	FEET
21.	DESIGNED DRAG	0.0	FEET

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

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25 NOVEMBER 1985

SHEET 3M

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	MOMENT	LONGITUDINAL LCG S	MOMENT	TRANSVERSE TCG S	MOMENT
	SUMMARY MINIMUM OPERATING LOAD CONDITION WITH MARGINS										
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10
B	LOADS, MINIMUM OPERATING	1	99	0	42.25	9.30	393	69.60A	2940	0.38P	16
M	MARGINS	100	0	0	0.0	0.0	0	0.0	0	0.0	0
	MINIMUM OPERATING LOAD CONDITION WITH MARGINS	4	79	17	221.75	10.01	2220	60.54A	13424	0.03P	6

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1.	LENGTH BETWEEN PERPENDICULARS	110.00	FEET
2.	BOTTOM OF KEEL BELOW BASE LINE	0.02	FEET
3.	C.G. ABOVE BOTTOM OF KEEL . .	10.03	FEET
4.	C.G. ABOVE BASE LINE . . .	10.01	FEET
5.	DRAFT AT L.C.F. FOR ABOVE DISP.	7.00	FEET
6.	TONS PER INCH IMMERSION . .	4.70	TONS/INCH
7.	TRANSVERSE METACENTER (KEEL) .	13.19	FEET
8.	GM, WITHOUT FREE SURFACE CORR.	3.16	FEET
9.	FREE SURFACE CORRECTION .	0.12	FEET
10.	GM, WITH FREE SURFACE CORR. .	3.04	FEET
11.	MOMENT TO ALTER HEEL ONE DEGREE	11.76	FOOT-TONS
12.	LIST	0.51	DEGREES PORT
13.	MOMENT TO ALTER TRIM ONE INCH	32.89	FOOT-TONS
14.	L.C.B. ON EVEN KEEL AT ABV DRAFT	58.93	FEET AFT
15.	LONGITUDINAL CENTER OF GRAVITY	60.54	FEET AFT
16.	TRIMMING LEVER	1.61	FEET AFT
17.	TRIM	0.90	FEET BY STERN
18.	L.C.F.	62.62	FEET AFT
19.	DIFF IN DRAFT, L.C.F. TO MIDSHIP	0.06	FEET DECREASE
20.	DRAFTS:		
	FORWARD PERPENDICULAR . .	6.49	FEET
	MEAN	6.94	FEET
	AFT PERPENDICULAR . . .	7.39	FEET
21.	DESIGNED DRAG	0.0	FEET

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

REPORT NO. FA
25 NOVEMBER 1985

SHEET 4

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	LONGITUDINAL MOMENT	TRANSVERSE TCG S	TRANSVERSE MOMENT
	SUMMARY LIGHTSHIP LOAD CONDITION WITHOUT MARGINS										
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10
L	LOADS, LIGHTSHIP	100	0	0	0.0	0.0	0	0.0	0	0.0	0
	LIGHTSHIP LOAD CONDITION WITHOUT MARGINS	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1. LENGTH BETWEEN PERPENDICULARS 110.00 FEET
2. BOTTOM OF KEEL BELOW BASE LINE 0.02 FEET
3. C.G. ABOVE BOTTOM OF KEEL . . 10.20 FEET
4. C.G. ABOVE BASE LINE . . . 10.18 FEET
5. DRAFT AT L.C.F. FOR ABOVE DISP. 6.23 FEET
6. TONS PER INCH IMMERSION . . 4.56 TONS/INCH
7. TRANSVERSE METACENTER (KEEL) . 14.01 FEET
8. GM, WITHOUT FREE SURFACE CORR. 3.81 FEET
9. FREE SURFACE CORRECTION . 0.0 FEET
10. GM, WITH FREE SURFACE CORR. . 3.81 FEET
11. MOMENT TO ALTER HEEL ONE DEGREE 11.95 FOOT-TONS
12. LIST . . . . . 0.84 DEGREES STBD
13. MOMENT TO ALTER TRIM ONE INCH 31.25 FOOT-TONS
14. L.C.B. ON EVEN KEEL AT ABV DRAFT 57.97 FEET AFT
15. LONGITUDINAL CENTER OF GRAVITY 58.41 FEET AFT
16. TRIMMING LEVER . . . . . 0.44 FEET AFT
17. TRIM . . . . . 0.21 FEET BY STERN
18. L.C.F. . . . . 63.04 FEET AFT
19. DIFF IN DRAFT, L.C.F. TO MIDSHIP 0.02 FEET DECREASE
20. DRAFTS:
    FORWARD PERPENDICULAR . . 6.11 FEET
    MEAN . . . . . 6.21 FEET
    AFT PERPENDICULAR . . . 6.32 FEET
21. DESIGNED DRAG . . . . . 0.0 FEET

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

REPORT NO. FA
25 NOVEMBER 1985

SHEET 4M

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	MOMENT	TRANSVERSE TCG S	MOMENT
	SUMMARY LIGHTSHIP LOAD CONDITION WITH MARGINS										
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10
L	LOADS, LIGHTSHIP	100	0	0	0.0	0.0	0	0.0	0	0.0	0
M	MARGINS	100	0	0	0.0	0.0	0	0.0	0	0.0	0
	LIGHTSHIP LOAD CONDITION WITH MARGINS	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1. LENGTH BETWEEN PERPENDICULARS 110.00 FEET
2. BOTTOM OF KEEL BELOW BASE LINE 0.02 FEET
3. C.G. ABOVE BOTTOM OF KEEL . . 10.20 FEET
4. C.G. ABOVE BASE LINE . . . 10.18 FEET
5. DRAFT AT L.C.F. FOR ABOVE DISP. 6.23 FEET
6. TONS PER INCH IMMERSION . . 4.56 TONS/INCH

7. TRANSVERSE METACENTER (KEEL) . 14.01 FEET
8. GM, WITHOUT FREE SURFACE CORR. 3.81 FEET
9. FREE SURFACE CORRECTION . 0.0 FEET
10. GM, WITH FREE SURFACE CORR. . 3.81 FEET

11. MOMENT TO ALTER HEEL ONE DEGREE 11.95 FOOT-TONS
12. LIST . . . . . 0.84 DEGREES STBD

13. MOMENT TO ALTER TRIM ONE INCH 31.25 FOOT-TONS
14. L.C.B. ON EVEN KEEL AT ABV DRAFT 57.97 FEET AFT
15. LONGITUDINAL CENTER OF GRAVITY 58.41 FEET AFT
16. TRIMMING LEVER . . . . . 0.44 FEET AFT
17. TRIM . . . . . 0.21 FEET BY STERN

18. L.C.F. . . . . 63.04 FEET AFT
19. DIFF IN DRAFT, L.C.F. TO MIDSHIP 0.02 FEET DECREASE
20. DRAFTS:
    FORWARD PERPENDICULAR . . 6.11 FEET
    MEAN . . . . . 6.21 FEET
    AFT PERPENDICULAR . . . 6.32 FEET
21. DESIGNED DRAG . . . . . 0.0 FEET

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

REPORT NO. FA
25 NOVEMBER 1985

SHEET 4MS

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	LONGITUDINAL MOMENT	TRANSVERSE TCG S	TRANSVERSE MOMENT
M	DESIGN MARGINS										
M10	DESIGN MARGINS										
M	DESIGN MARGINS	100	0	0	0.0	0.0	0	0.0	0	0.0	0

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

REPORT NO. FA
25 NOVEMBER 1985

SHEET 5

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	LONGITUDINAL MOMENT	TRANSVERSE TCG S	TRANSVERSE MOMENT
	GROUPS 1 - 7 SUMMARY										
1	HULL STRUCTURE	2	98	0	73.53	10.70	787	53.29A	3918	0.11S	-8
2	PROPULSION	3	27	70	29.71	6.71	199	73.81A	2193	0.08P	2
3	ELECTRIC PLANT	5	44	51	8.67	10.38	90	64.49A	559	0.93P	8
4	COMMAND & SURVEILLANCE	11	89	0	2.53	14.86	38	37.65A	95	1.46S	-4
5	AUXILIARY SYSTEM	5	71	24	32.25	10.77	347	58.24A	1878	0.03P	1
6	OUTFIT & FURNISHINGS	5	89	6	25.06	10.90	273	49.83A	1249	0.24S	-6
7	ARMAMENT	9	37	54	7.75	11.91	92	76.28A	591	0.48S	-4
	GROUPS 1 - 7	4	75	21	179.50	10.18	1827	58.41A	10484	0.06S	-10

NOTE: ALL OF THE FOLLOWING QUANTITIES (EXCEPT AS NOTED) ARE REFERENCED FROM 55.00 FEET FWD OF THE MID PERPENDICULAR, THE CENTER LINE, AND THE BASE LINE.

1. LENGTH BETWEEN PERPENDICULARS 110.00 FEET
2. BOTTOM OF KEEL BELOW BASE LINE 0.02 FEET
3. C.G. ABOVE BOTTOM OF KEEL . . 10.20 FEET
4. C.G. ABOVE BASE LINE . . . 10.18 FEET
5. DRAFT AT L.C.F. FOR ABOVE DISP. 6.23 FEET
6. TONS PER INCH IMMERSION . . 4.56 TONS/INCH

7. TRANSVERSE METACENTER (KEEL) . 14.01 FEET
8. GM, WITHOUT FREE SURFACE CORR. 3.81 FEET
9. FREE SURFACE CORRECTION . 0.0 FEET
10. GM, WITH FREE SURFACE CORR. . 3.81 FEET

11. MOMENT TO ALTER HEEL ONE DEGREE 11.95 FOOT-TONS
12. LIST . . . . . 0.84 DEGREES STBD

13. MOMENT TO ALTER TRIM ONE INCH 31.25 FOOT-TONS
14. L.C.B. ON EVEN KEEL AT ABV DRAFT 57.97 FEET AFT
15. LONGITUDINAL CENTER OF GRAVITY 58.41 FEET AFT
16. TRIMMING LEVER . . . . . 0.44 FEET AFT
17. TRIM . . . . . 0.21 FEET BY STERN

18. L.C.F. . . . . 63.04 FEET AFT
19. DIFF IN DRAFT, L.C.F. TO MIDSHIP 0.02 FEET DECREASE
20. DRAFTS:
    FORWARD PERPENDICULAR . . 6.11 FEET
    MEAN . . . . . 6.21 FEET
    AFT PERPENDICULAR . . . 6.32 FEET
21. DESIGNED DRAG . . . . . 0.0 FEET

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

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SHEET 119

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	VERTICAL MOMENT	LONGITUDINAL LCG S	LONGITUDINAL MOMENT	TRANSVERSE TCG S	TRANSVERSE MOMENT
	STATION DISTRIBUTION LIGHT SHIP				WEIGHT			LCG			
A	STATION A TOTAL				1.17			-1.89	A		
B	STATION B TOTAL				3.36			2.80	B		
C	STATION C TOTAL				3.34			6.83	C		
D	STATION D TOTAL				4.32			14.53	D		
E	STATION E TOTAL				5.08			19.67	E		
F	STATION F TOTAL				8.84			24.40	F		
G	STATION G TOTAL				10.11			30.37	G		
H	STATION H TOTAL				13.57			35.85	H		
J	STATION J TOTAL				9.93			41.20	J		
K	STATION K TOTAL				11.03			46.93	K		
L	STATION L TOTAL				7.63			52.23	L		
M	STATION M TOTAL				7.25			57.76	M		
N	STATION N TOTAL				11.51			63.32	N		
P	STATION P TOTAL				9.46			68.91	P		
Q	STATION Q TOTAL				30.75			73.24	Q		
R	STATION R TOTAL				7.68			80.10	R		
S	STATION S TOTAL				8.94			84.15	S		
T	STATION T TOTAL				6.05			90.32	T		
U	STATION U TOTAL				5.85			95.87	U		
V	STATION V TOTAL				6.75			102.05	V		
W	STATION W TOTAL				5.36			106.87	W		
X	STATION X TOTAL				1.52			110.48	X		
	TOTAL FOR LIGHT SHIP				179.50			58.40			

SHIP TWR 120 FT

PREPARED BY MMC

WEIGHT AND MOMENT ESTIMATE

ENGLISH UNITS - POUNDS, TONS, FEET
LONGITUDINAL REFERENCE IS -55.00 FROM MID PERPENDICULAR

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SHEET 120

NAVY GROUP	DESCRIPTION	PERCENT COMPLETE EST.	CALC.	ACTUAL	CURRENT WEIGHT	VERTICAL VCG	MOMENT	LONGITUDINAL LCG	S	MOMENT	TRANSVERSE TCG	S	MOMENT
	STATION DISTRIBUTION FULL LOAD				WEIGHT			LCG					
A	STATION A TOTAL				1.17			-1.89	A				
B	STATION B TOTAL				3.36			2.80	B				
C	STATION C TOTAL				3.55			7.02	C				
D	STATION D TOTAL				4.76			14.38	D				
E	STATION E TOTAL				5.08			19.67	E				
F	STATION F TOTAL				9.15			24.32	F				
G	STATION G TOTAL				11.55			30.57	G				
H	STATION H TOTAL				13.57			35.85	H				
J	STATION J TOTAL				21.28			40.69	J				
K	STATION K TOTAL				11.90			46.95	K				
L	STATION L TOTAL				27.30			53.38	L				
M	STATION M TOTAL				9.93			57.96	M				
N	STATION N TOTAL				11.51			63.32	N				
P	STATION P TOTAL				9.46			68.91	P				
Q	STATION Q TOTAL				39.76			73.04	Q				
R	STATION R TOTAL				7.68			80.10	R				
S	STATION S TOTAL				8.94			84.15	S				
T	STATION T TOTAL				13.69			91.19	T				
U	STATION U TOTAL				5.89			95.86	U				
V	STATION V TOTAL				7.06			102.04	V				
W	STATION W TOTAL				5.38			106.86	W				
X	STATION X TOTAL				1.52			110.48	X				
	TOTAL FOR FULL LOAD				233.48			58.45					