

DI: 76050

rijkswaterstaat

directie noordzee

ANDOC

Draaiboek t.b.v. tow_out van ANDOC's
DUNLIN - A platform.



CC 892,3

RIJKSWATERSTAAT

Directie Noordzee

Bibliotheek en Documentatie

Signatuur: C 892 J

Ref. nr.:

stamboeknr.: 1707

ANDOC

ANGLO DUTCH OFFSHORE CONCRETE

JOINT VENTURE OF

BALFOUR BEATTY & COMPANY LIMITED
BOS KALIS WESTMINSTER GROUP N.V.
HOLLANDSCHE BETON GROEP N.V.
KONINKLIJKE ADRIAAN VOLKER GROEP B.
LEONARD FAIRCLOUGH LIMITED
STEVIN GROEP N.V.
TARMAC CONSTRUCTION LIMITED

RIJKSWATERSTAAT
Directie Noordzee
Bibliotheek en Documentatie
Signatuur: C 892,3



SHELL U.K. EXPLORATION AND PRODUCTION

DUNLIN PLATFORM A CONTRACT no 117/74

MANUAL
SUBJECT
ITEM

: MARINE OPERATIONS.
: ROTTERDAM TOW-OUT.

CHAPTER : T-04.01
PAGE : 1 U/T 75 INCL.
DATE : 14-06-1976.
ENGINEER : T.G. GIJZEL/ A.P. DEGENAARS.
CHIEF ENGINEER : J.K. IN 'T VELD.



REVISIONS :

	A	B	C	D
SENT TO DET NORSKE VERITAS				
APPROVED BY D.N.V.				
SENT TO SHELL				
APPROVED BY SHELL				
SENT TO NOBLE, DENTON & ASS				
APPROVED BY NOBLE, DENTON & ASS				

C 1126^{1-b}

SEE DRAWINGS :

1st July, 1976.

Revision of Marine operation manual.

" Rotterdam tow - out " date 14-06-76.

Page 019 : add line 52 - pilotage

page 031 : add line 44 - divers stand by till ocean-going tugs are connected

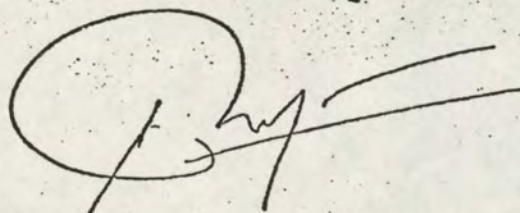
enclosure 10 :

change - RWS Noordzee atten: Mr. Schriel
 - Havenbedrijf Gem. atten: Mr. J.U. Brolsma
 Rotterdam tel: 010-773000
 - Seapilot C. de Boer P. de Hoogweg 125 B
 Rotterdam.

add - Plotter J. Wawman Stevin baggeren
 02510-29190

deleted - Inspector Shell T. Bijlsma

add - Inspector Shell J.P. Postma
 - RWS Meetkundige dienst Mr. Roskam
 Langedreef 6, Lekkerkerk, 015-561700.



(A.P. Degenars)


```

*****
*
MAIN= 04 * 000 INTRODUCTION *
PARG=000 * * * SEE
BLCK=INTFO * REV 07 DATE 04/06/76 SEQUENCE NR.0005 * SEQ
*
*****

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01 THIS MANUAL CONTAINS A DETAILED DESCRIPTION OF THE
 02 TOWING OPERATION OF THE DUNLIN A STRUCTURE FROM
 03 THE CONSTRUCTION AFLOAT SITE AT THE MAASVLAKTE THROUGH
 04 THE EURPCORT HARBOURBASIN, OUT AND CLEAR OF THE
 05 HARBOURENTRANCE AND THROUGH THE EURPCORT APPROACH-
 06 CHANNELS UP TO OPEN WATER OF ADEQUATE DEPTH TO ALLOW
 07 SEA ROOM FOR MANOEUVRING OF TUGS AND STRUCTURE WEST OF
 08 BUOY EURC 1

10 THIS MANUAL ALSO COVERS THE NECESSARY PREPARATIONS ON
 11 SITE AS FAR AS THEY INFLUENCE THE TOWING OPERATION
 12 AND ALL THE ITEMS RELATED TO THE FITTING-CUT OF THE
 13 DUNLIN A - STRUCTURE IN ORDER TO PERFORM THE INTENDED
 14 TOWING OPERATION ADEQUATELY

20 THIS MANUAL IS BASED ON THE METHOD STATEMENT TOW OUT
 21 ROTTERDAM, T-4.00, DATED 1-9-75 AND IS SUBJECT TO
 22 REVISION AND FINAL APPROVAL BY :
 23 SHELL EXPRC LK
 24 NOBLE, DENTON AND ASSOCIATES
 25 DET NORSKE VERITAS
 26 REPRESENTATIVE OF RYKSWATERSTAAT
 27 LOODSWEZEN RYMOND
 28 REPRESENTATIVE OF GEMEENTELYK HAVENBEDRYF
 29 ROTTERDAM

30 THIS MANUAL IS DIVIDED IN THE FOLLOWING PARTS :

- 35 A. THE OUTFIT OF THE STRUCTURE
- 40 B. THE TOW-OUT PREPARATIONS
- 45 C. THE TOW-OUT SCHEME
- 47 D. THE BREAK-OFF POINTS
- 50 E. ENCLOSURES
- 55 ANNEX 1 DRAWINGS

65 THE ACTUAL TOW-OUT AS DESCRIBED IN 'PART C' WILL BE 0105
 67 EXECUTED UNDER THE RESPONSIBILITY OF THE MARINE SUPER-
 69 INTENDANT AFTER CONSULTATION AND APPROVAL OF THE
 71 REPRESENTATIVES OF THE CONCERNED AUTHORITIES AS
 72 DESCRIBED IN PARG. E05 APPROVAL OF AUTHORITIES 'APPROV' 0090

MAIN= 04
 PARG= 00
 ELCK=CONTEN

 *
 * MANUAL TOW OUT ROTTERDAM - CONTENTS *
 *
 * REV 14 DATE 04/06/76 *
 *

SEQUENCE NR.0010 * SEQ

05	A.	THE OUTFIT OF THE STRUCTURE :	'PART A'	0015
10	A01	CHECKLIST EMBEDDED PARTS	'EMBEDD'	0020
12	A02	CHECKLIST MECHANICAL SYSTEMS	'SYSTEM'	0025
14	A03	CHECKLIST DAMAGE STABILITY	'DAMSTA'	0030
16	A04	CHECKLIST FITTING CUT OF CAISSON	'OUTFIT'	0035
18	A05	POSITIONING SYSTEM	'PCSSYS'	0040
20	A06	CHECKLIST COMMUNICATION	'COMMUN'	0045
22	A07	FLCATING SITE PREPARATION	'FLOSIT'	0050
24	A08	AIRCUSHION SYSTEM / AIRBAGS	'AIRCUS'	0055
40	B.	THE TOW-OUT PREPARATIONS :	'PART B'	0060
42	B01	TOW-CUT CRITERIA	'TOWCRI'	0070
44	B02	DETERMINATION TOW-CUT DATE	'TOWDAT'	0075
46	B03	PROVISIONAL WARNINGS	'PROWAR'	0080
48	B04	SURVEY TOW-CUT ROUTE	'SURVEY'	0085
50	B05	APPROVAL AUTHCRITIES	'APPROV'	0090
52	B06	REVISION OF TOW-OUT SCHEDULE	'REVISI'	0095
60	C.	THE TOW-OUT SCHEME :	'PART C'	0105
62	C01	ORGANISATION	'ORGANI'	0105
64	C02	FINAL TOW-CUT PREPARATIONS	'FINPRE'	0110
66	C03	DISCONNECTION FROM DELPHIN A	'DISC A'	0115
67	C04	DISCONNECTION FROM DELPHIN C	'DISC C'	0120
68	C05	TOW TO BEERKANAAL	'TOWBEE'	0125
70	C06	TOW TO MAAS CENTER	'TOWMAA'	0130
72	C07	TOW TO EURO 1	'TOWEUR'	0135
75	D.	THE BREAK-OFF POINTS :	'PART D'	0140
77	D01	BREAK-OFF POINT CONSTRUCTION AFLCAT SITE	'BROF 1'	0145
79	D02	BREAK-OFF POINT BEERKANAAL	'BROF 2'	0150
81	D03	BREAK-OFF POINT NOODANKERGEBIED	'BROF 3'	0155
83	D04	BREAK-OFF POINT EURGELL	'BROF 4'	0160
84	D05	EMERGENCY HOLDING PROCEDURES	'EMERHC'	0165
85	E.	ENCLOSURES :	'PART E'	0200
86	E01	NAVIGATION CABIN	'NAVIGA'	0205
87	E02	ACCOMODATION	'ACCCMC'	0210
88	E03	WORKSHOP-STORE	'WORKSH'	0215
89	E04	LIFE-SAVING/FIRE-FIGHTING APPLIANCIES	'LIFESA'	0220
90	E05	ELECTRIC INSTALLATION	'ELECTR'	0225
91	E06	FRESH-WATER INSTALLATION	'FREWAT'	0230

92	E07	LEAK-WATER EQUIPMENT	'LEAKWA'	0235
93	E08	FUEL AND LUBRICANTS	'FUELUB'	0240
94	E09	COMMUNICATION	'ENCCOM'	0245
95	E10	NAMES-ADDRESSES OF PERSONS TO BE INFORMED	'NAMES '	0250
96	E11	RELEASE PROCEDURE OF DCLPHINRING. A AND C	'RELEAS'	0255
97	E12	LCCBCK	'LCCBCK'	0260
98	E13	TIME-SCHEDULE	'TIMESC'	0265
99	E14	CROSS-CURRENT MEASUREMENTS	'CROCUR'	0270

 *
 MAIN= 04 * ANNEX 1 : LIST OF DRAWINGS *
 PARG=AN1 * * SEE
 BLCK=DRAWIN * REV 04 DATE 14/06/76 SEQUENCE NR.0012 * SEQ
 *

	DESCRIPTION OF DRAWING :	DWG.NR.	REV.
05	DESCRIPTION OF DRAWING :		
06			
07	-----		
10	TOW-OUT ROUTE EURPOORT	T-016	
11			E
15	OPERATION STAGES TOW-OUT MAASVLAKTE	T-017	
16			G
25	LAY-OUT OF CAISSONROOF DURING TOW-OUT	T-031	
26			M
30	SUMMARY POSSIBLE TOW-OUT DAYS	T-033	
31			B
35	TUG ARRANGEMENT ROTTERDAM TOW-OUT	T-034	
36			G
40	POSITIONING SYSTEM INSIDE HARBOURLIGHTS	T-040	
41			B
42	POSITIONING SYSTEM MAASGEUL-EUROGEUL	T-041	
43			B
50	TIDAL CURRENTS ROTTERDAM TOW-OUT :		
52	SHEET 1 : AVERAGE TIDE	T-047	A
54	SHEET 2 : SPRING TIDE	T-048	A
56	SHEET 3 : NEAP TIDE	T-049	A
60	TOW-OUT SCHEDULE ROTTERDAM	T-079	
61			A

 *
 * PART A THE OUTFIT OF THE STRUCTURE *
 *
 * REV 05 DATE 01/04/76 *
 *

MAIN= 04

PARG= A

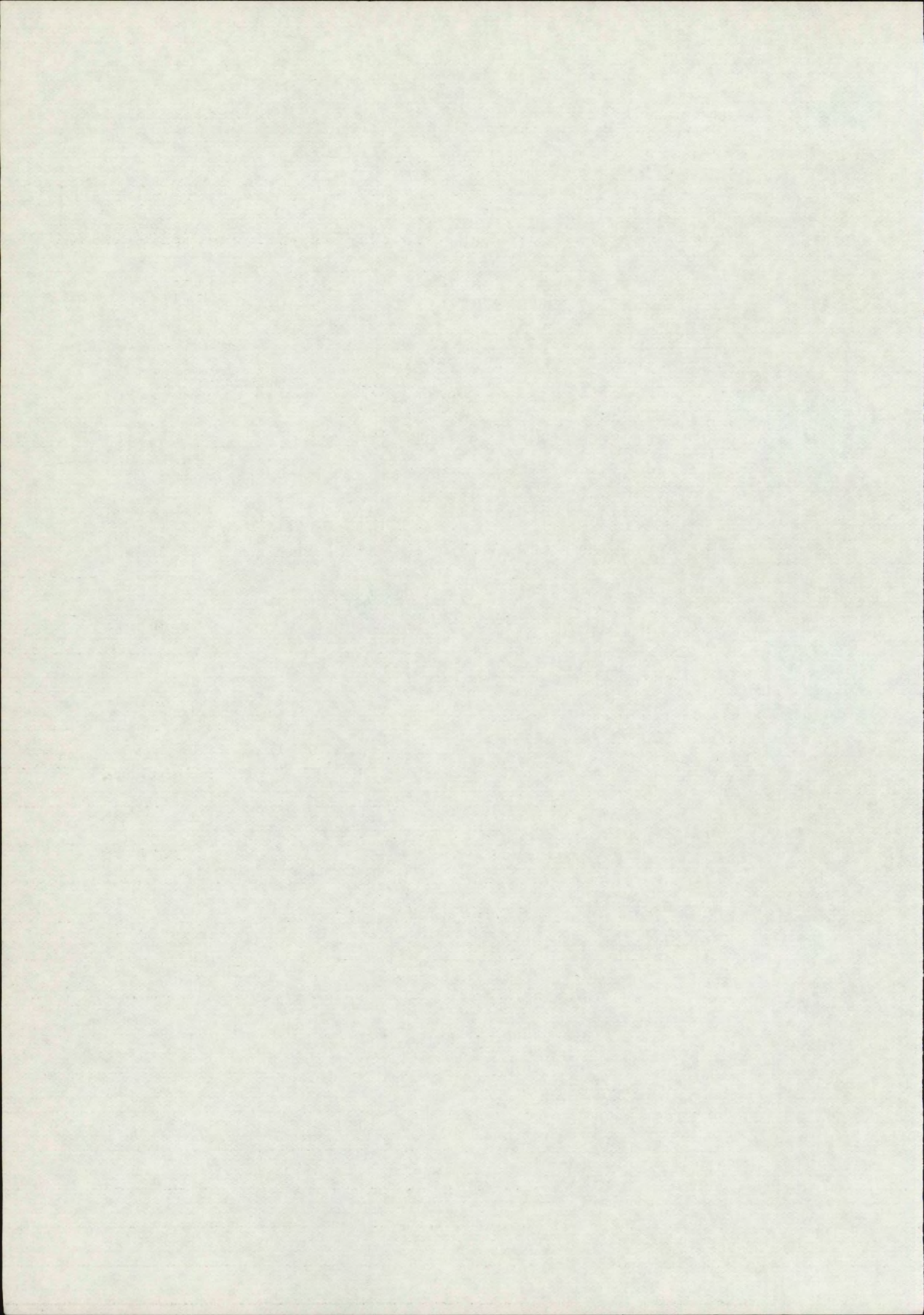
ELCK=PART A

SEQUENCE NR.0015

* SEE
* SEQ

05 THE PART A OF THE TOW-OUT MANUAL DESCRIBES THE
 10 REQUIREMENTS AND CONSTRAINTS OF THE STRUCTURE ITSELF

15	A 01	CHECKLIST EMBEDDED PARTS	'EMBEDD'	0020
17	A 02	CHECKLIST MECHANICAL SYSTEMS	'SYSTEM'	0025
19	A 03	CHECKLIST DAMAGE STABILITY	'DAMSTA'	0030
21	A 04	CHECKLIST FITTING CUT OF CAISSON	'OUTFIT'	0035
23	A 05	POSITIONING SYSTEM	'POSSYS'	0040
25	A 06	CHECKLIST COMMUNICATION	'COMMUN'	0045
27	A 07	FLCATING SITE PREPARATIONS	'FLCSIT'	0050
29	A 09	AIRCUSHION SYSTEM / AIRBAGS	'AIRCUS'	0055



 *
 MAIN= 04 * A 01 CHECKLIST EMBEDDED PARTS *
 PARG=ACL * * * SEE
 ELCK=EMBEDD * REV 06 DATE 04/06/76 SEQUENCE NR.0020 * SEQ
 *

02 TIME TO BE
 03 INSTALLED

05 FOR TOWING
 06 15 JUNE 76

07 - 10 NO TOWING HOOKS ON CAISSONROOF
 09 - 6 NO TOWING HOOKS ON CUTERWALL

15 FOR MOORING SYSTEM DEEPWATERSITE
 16 1 JULY 76

17 - 3 NO MOORING UNITS ON CAISSONRCCF

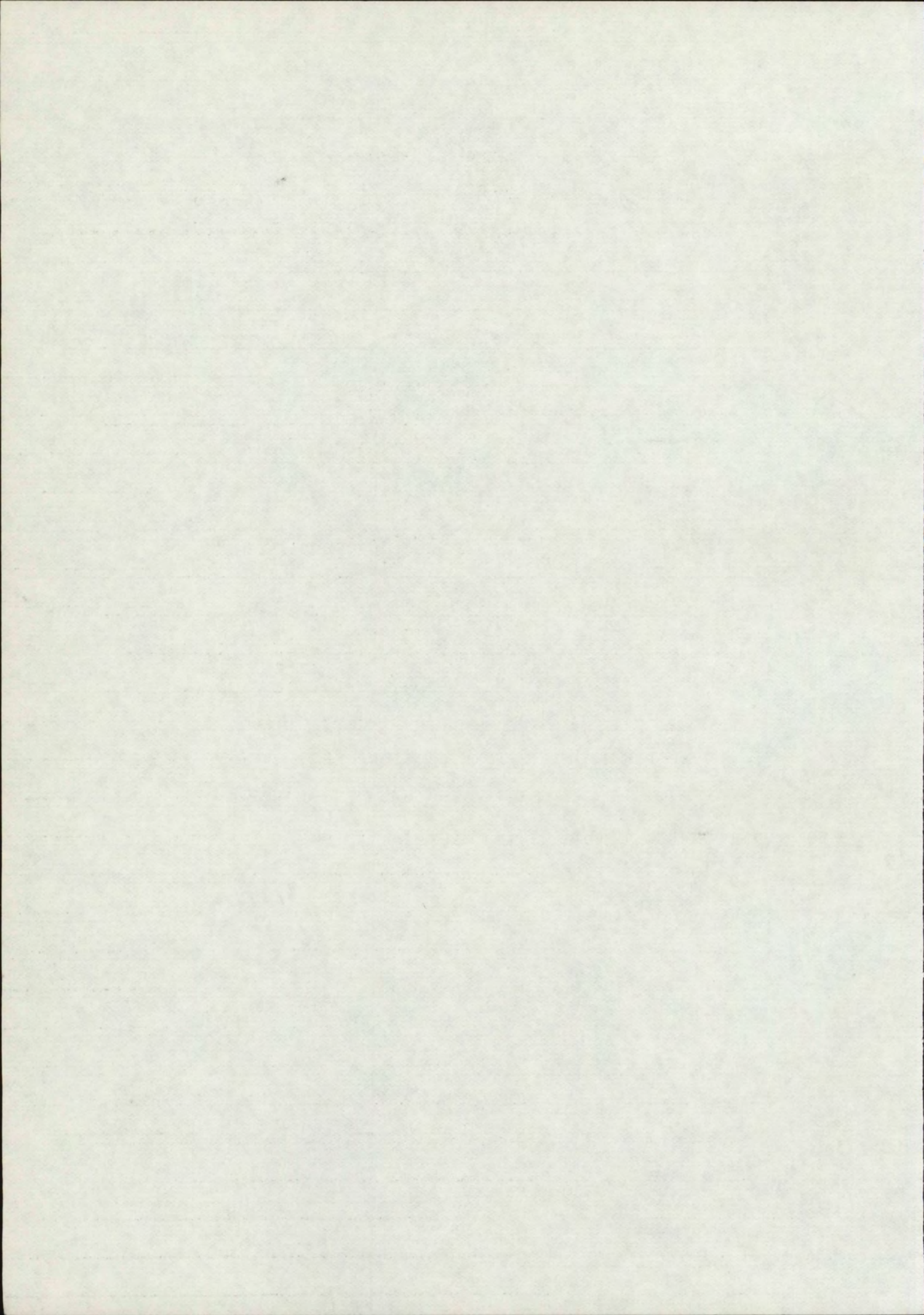
25 FOR COLUMNS ACCESS
 26 15 JUNE 76

35 FOR SEAFASTENING PROVISIONS
 36 1 JUNE 76

45 FOR ACCESS PROVISIONS TO CAISSONRCCF
 46 15 JUNE 76

55 FOR POSITIONING SYSTEM (AERIALS)
 56 1 JUNE 76

60 FOR COMMUNICATION SYSTEM (AERIALS)
 61 15 JUNE 76



 *
 * A '02 CHECKLIST MECHANICAL SYSTEMS *
 *
 * REV 05 DATE 14/06/76 *
 *

MAIN= 04

PARG=A02

ELCK=SYSTEM

SEQUENCE NR.0025

* SEE
* SEQ

05	SYSTEM	DESCRIPTION	SIGNATURE
06			G.C. NDA.
07			

10	WATERBALLAST	MAIN INLET VALVE CLOSED	
12		-SPECIAL BLIND MOUNTED	
13		-ALL VALVES IN CLOSED POSITION	

15	WATEREXHAUST	72 NUMBER OF 3" VALVES CLOSED	
17		NEAR CAISSON FLOOR	
19		-9 NUMBER OF 24" VALVES CLOSED	
21		NEAR CAISSON FLOOR	

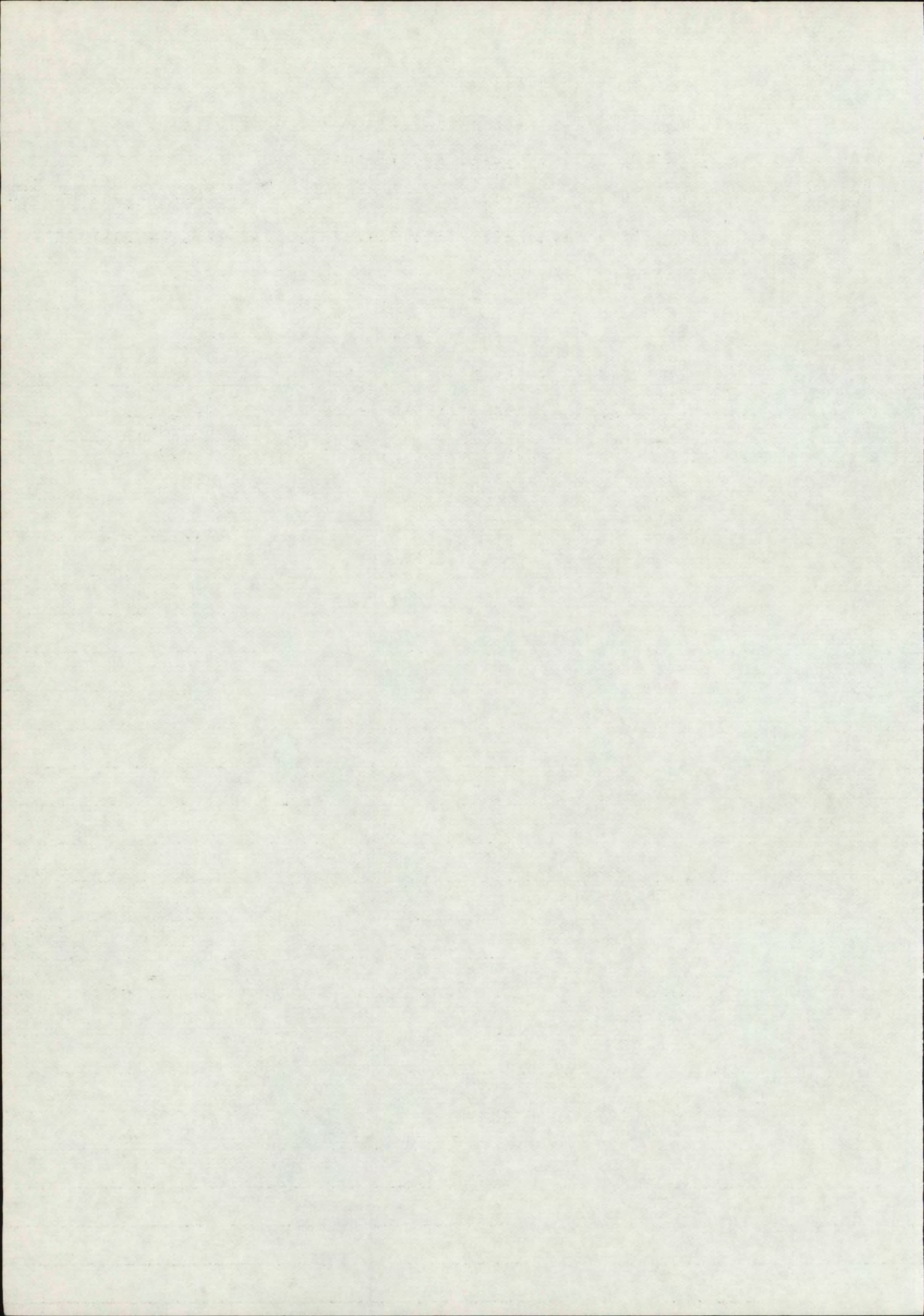
25	DRAINAGE	-18 NUMBER OF 4" VALVES CLOSED	
27		NEAR CAISSON FLOOR	

30	AIRCUSHION	-SYSTEM IN OPERATION	
----	------------	----------------------	--

35	ECHOSCUNDERS	-SYSTEM IN OPERATION	
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40	DOWELS	-COMPLETELY ON HIGH	
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43



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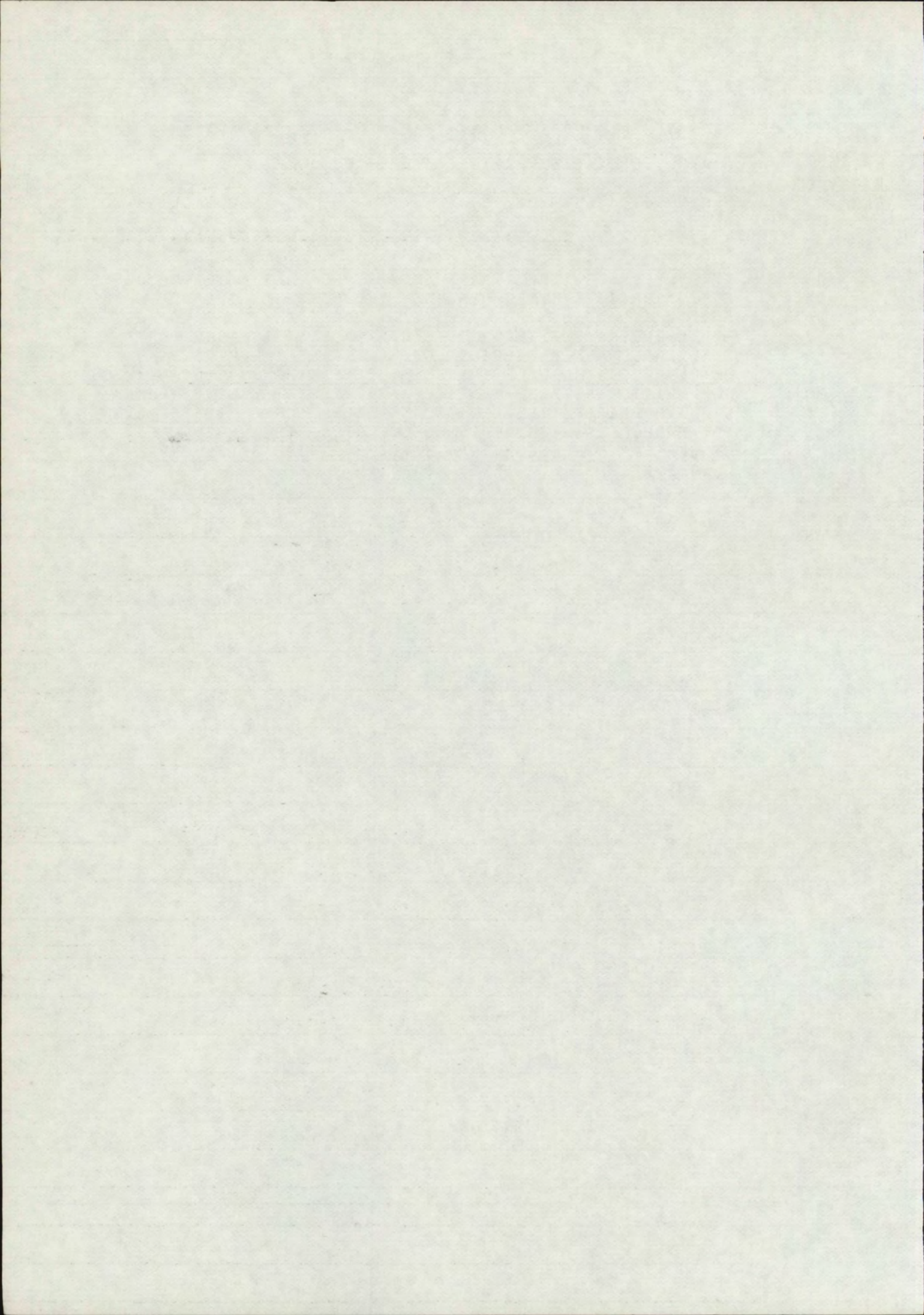
MAIN= 04 * A 03 CHECKLIST DAMAGE STABILITY *

PAPG=AC3 * * SEE

ELCK=DAMSTA * REV 06 DATE 04/06/76 SEQUENCE NR.0030 * SEQ

*

- 05 FOR THE TCW-CUT ROTTERDAM AND THE NORTH SEA TCW TO THE
- 10 DEEPWATERSITE AT STORD NORWAY THE CAISSON WILL BE
- 15 SEALED ACCORDING THE DRAWING T-020 (WATERTIGHT COMPART-
- 17 MENTS DURING ROTTERDAM TCW-CUT). A LIST IS MADE FOR THE
- 18 SEALING OF ALL SLEEVES IN CAISSONWALLS AND ROOF.
- 19 QUALITY CONTROL WILL INSPECT THE SEALING IN CLOSE
- 20 COOPERATION WITH NDA AND BOTH PARTIES WILL GIVE THEIR
- 21 SIGNATURE AFTER INSPECTION AND ACCEPTION OF THE SLEEVES
- 25 THE MANHOLES IN THE CAISSONROOF WILL BE COVERED ONLY
- 27 BY THE TOP STEEL COVERPLATES, THE INSIDE STEEL COVER-
- 29 PLATES WILL BE STORED ON BOARD.

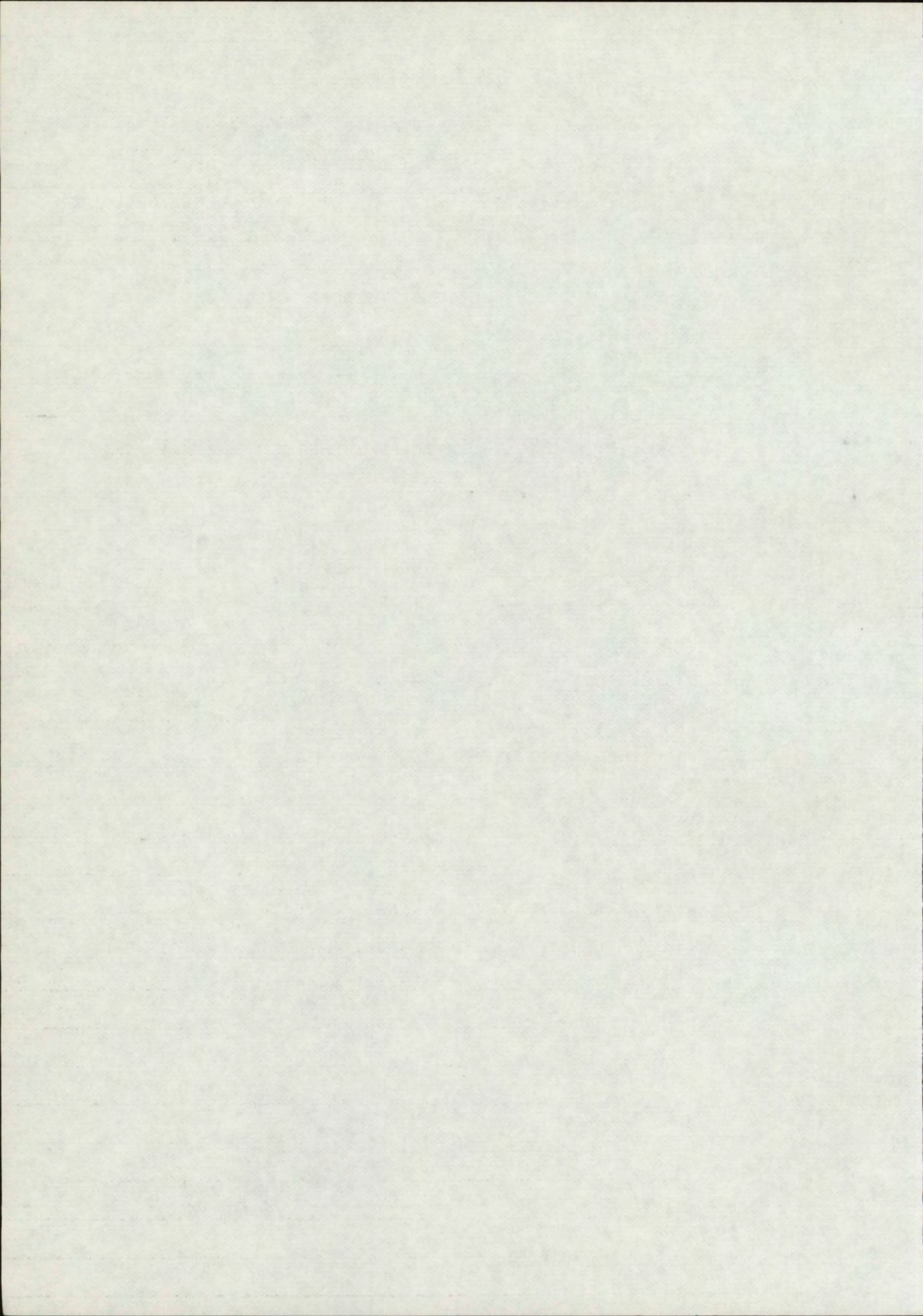


MAIN= 04
 PARG=AC4
 ELCK=CUTFIT

 *
 * A 04 CHECKLIST FITTING OUT OF CAISSON *
 *
 * REV 10 DATE 14/06/76 *
 *

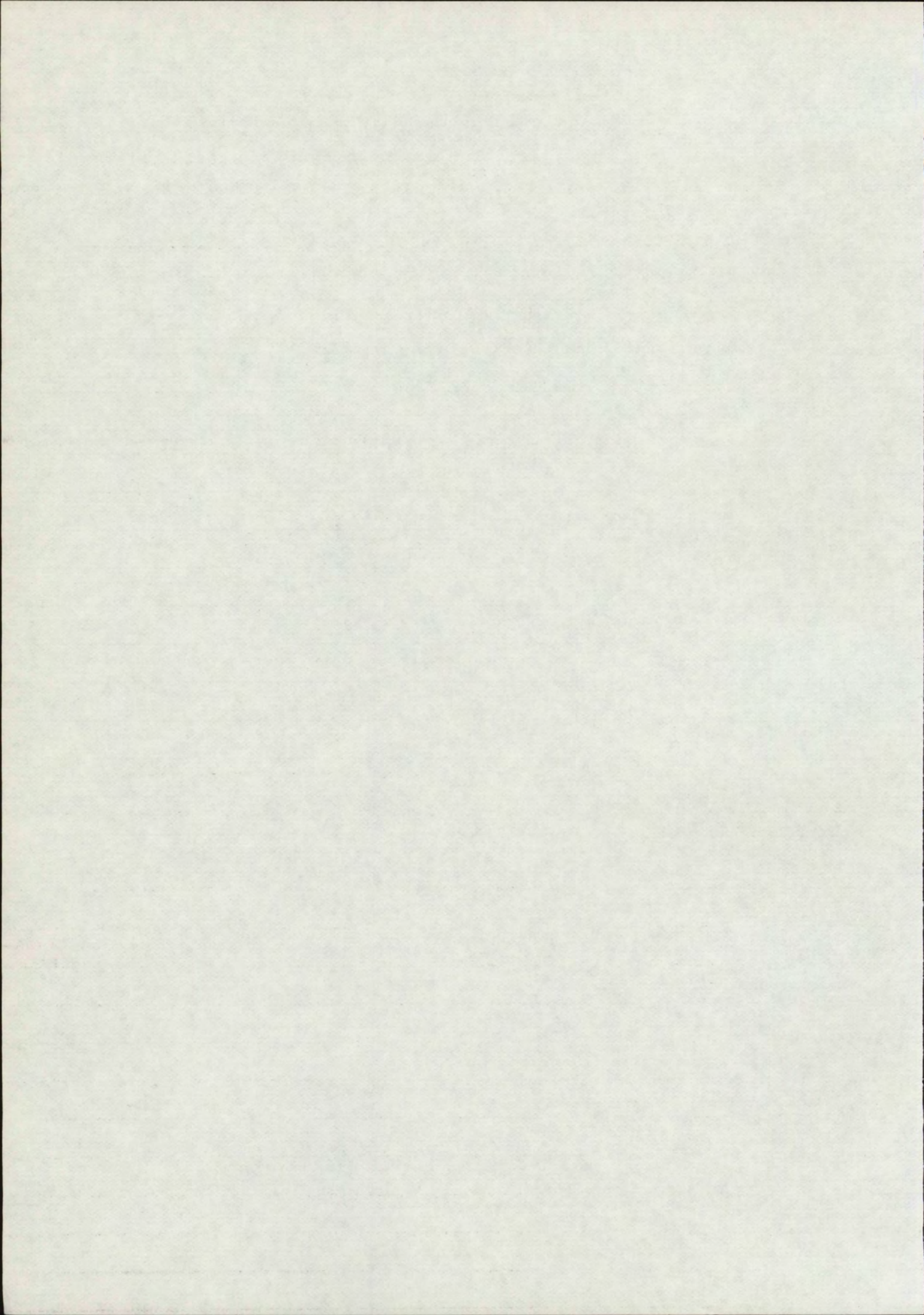
SEQUENCE NR.0035 * SEE SEQ

		NUMBER	
01	TOWING PROVISIONS FOR VSP.TUGS :		
02	- PENNANTS OF 10 M, 80 TCNEL (BLACK)	6	
03	TOWING PROVISIONS FOR OCEANGONG TUGS :		
04	- CHAIN OF 13.5 M, 400 TCNEL	10	
05	- CHAFING PROVISIONS CN CHAIN	6	
06	- SHACKLES FOR CHAIN, 400 TCNBL	20	
07	- WEAKLINKS OF 10 M, 270 TCNBL (GREEN)	2	
08	- WEAKLINKS OF 10 M, 180 TCNBL (BLUE)	4	
09	- RECOVERY LINES OF 20 M, 15 TCNBL	10	
10	SPARE TOWING PROVISIONS FOR OCEANGONG TUGS :		
11	- PENNANTS OF 60 M, 330 TONBL (GREEN)	2	
12	- PENNANTS OF 60 M, 230 TONBL (BLUE)	6	
13	- WEAKLINKS OF 10 M, 270 TCNBL (GREEN)	2	
14	- WEAKLINKS OF 10 M, 180 TCNBL (BLUE)	4	
15	- SHACKLES OF 330 TCNEL (GREEN)	10	
16	CABINS CN CAISSONROCF :		
17	- NAVIGATION	ENCL. 01	
19	- AIRCLSHICN	PARG. A 08 'AIRCUS'	0055
21	- ACCOMODATION	ENCL. 02	
23	- WORKSHOP - STORE	ENCL. 03	
25	- PROVIAND - STORE		
30	ELECTRICITY :	ENCL. 05	
37	AIR SUPPLY	PARG. A 08 'AIRCUS'	0055
40	FRESH WATER INSTALLATION	ENCL. 06	
50	LEAK WATER EQUIPMENT	ENCL. 07	
60	GASCIL AND LUBRICANTS	ENCL. 8	
70	ACCESS PROVISIONS	DRWG T-054	
75	DRAUGHT INDICATORS	DRWG T-042	
77	8 NO TOWINGHOOKS FOR TOWERS -50 TON SWL		
80	MOBILE CRANE (DROTT 2500)		
81	- FOR TOWLINES HANDLING		



- 83 TRACTOR FOR HANDLING OF LEAKWATERPUMPS AND SILCLIFTS
- 85 LIFE-SAVING AND FIRE FIGHTING APPLIANCIES ENCL.4
- 87 SILCLIFTS ON CELLS 7,8,24 AND 31
- 88 SPARE SILCLIFTS (18 TOTAL)
- 90 ACCESS FACILITIES FOR TOWER A,B,C AND D
- 92 CRANE DEMAG 1200 TC
- 94 DIVING EQUIPMENT
- 96 STEEL COVERS (INSIDE) FOR MANHOLES

- 98 FOR THE LAY-OUT OF THE CAISSONRCCF SEE DRWG. T-031



 *
 * A 05 POSITIONING SYSTEM *
 *
 * REV 04 DATE 04/06/76 *
 *

MAIN= 04

PARG=A05

ELCK=POSSYS

SEQUENCE NR.0040 * SEE SEQ

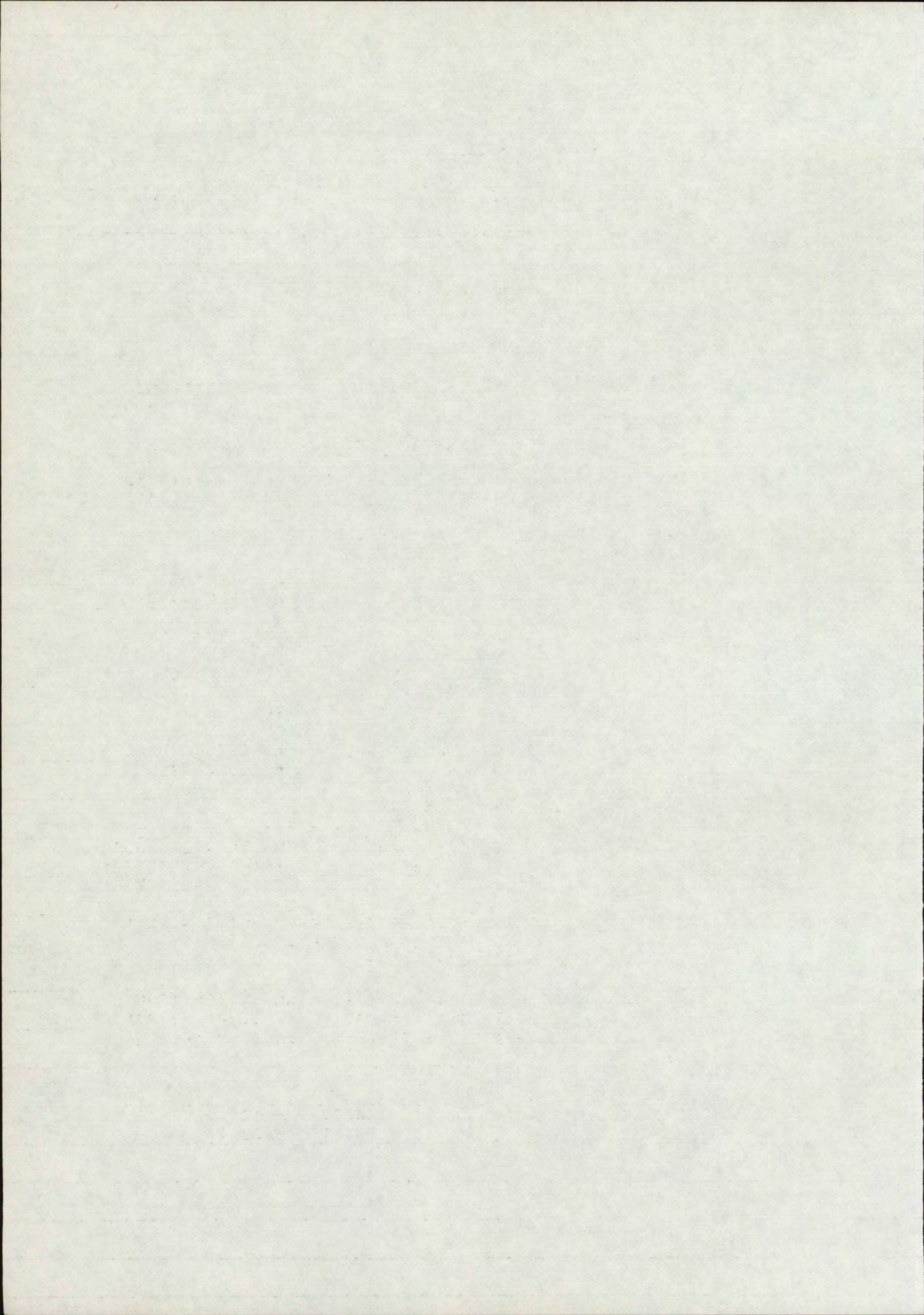
10 THE EQUIPMENT FOR THE NAVIGATION OF THE STRUCTURE WILL
12 BE :

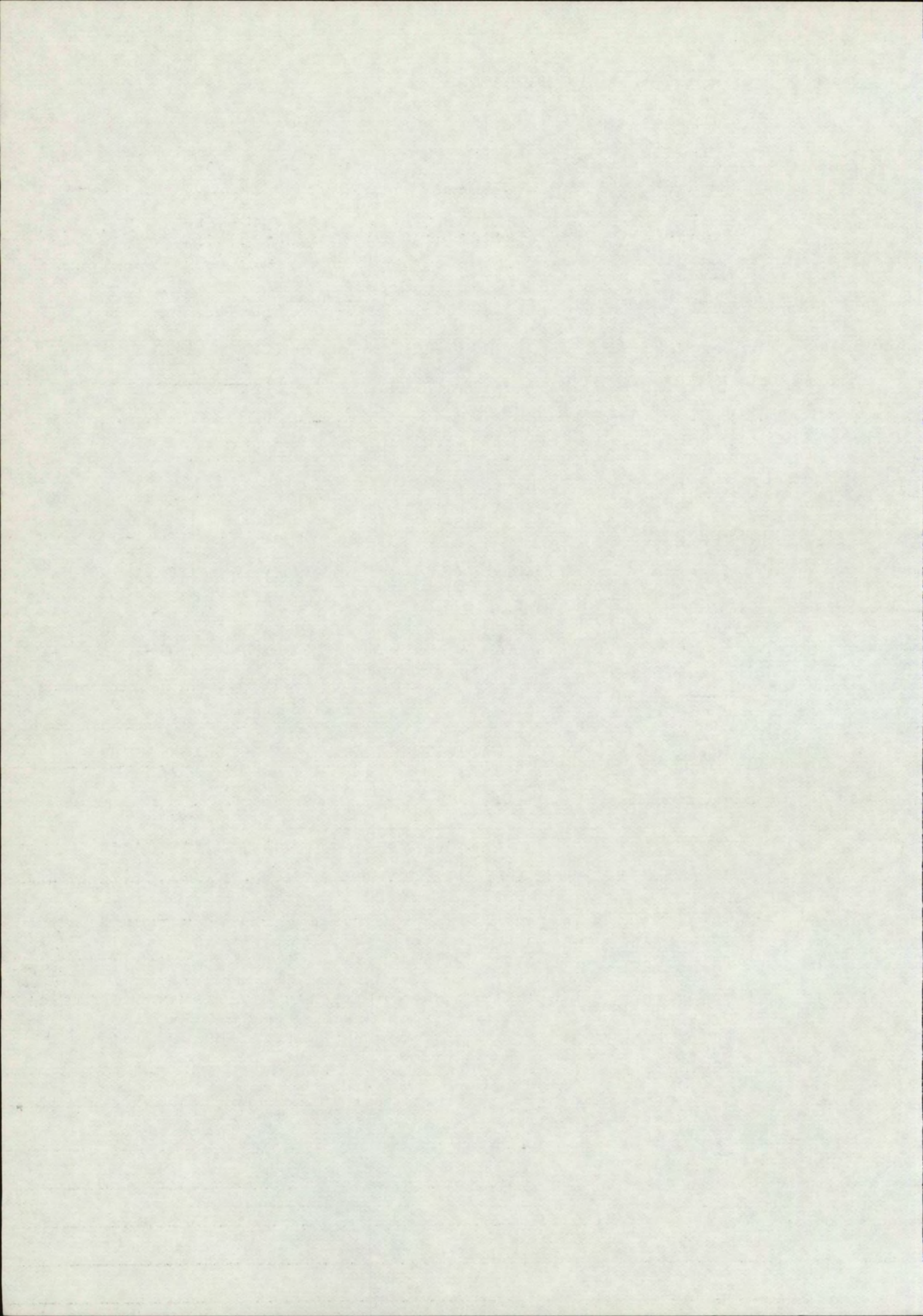
13 - 2 COMPLETE MOTOROLA MRS III SYSTEM

15 - 1 DECCA NAVIGATOR MK 21 SYSTEM

17 - 1 CONVENTICNAL SURVEY SYSTEM WITH THEODOLITES

20 THE POSITION OF THE SHORE STATIONS OF THE MOTOROLA
 22 SYSTEM IS SHOWN ON DRAWINGS T-040 AND T-041. A DETAILED
 24 DESCRIPTION OF THE SYSTEMS IS BEING DISTRIBUTED
 26 SEPERATLY, SEE MARINE OPERATICN - ROTTERDAM TCW OUT -
 28 POSITIONING ACTIVITIES - JUNE 1976

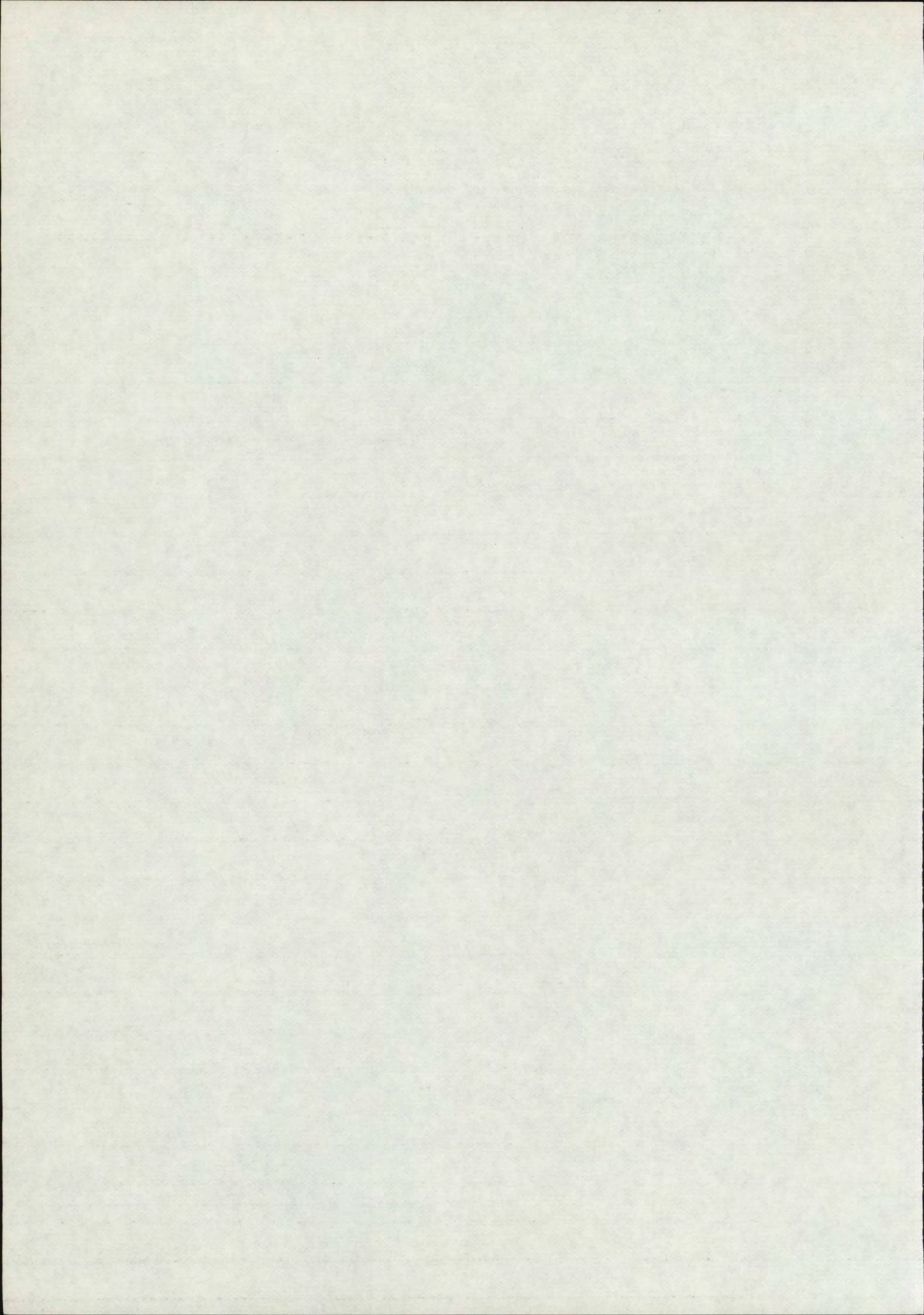




83	KUSTLICHT	01819	-	62956
84	WEST SCHOUWEN	01115	-	1236
85	GOEREE	01878	-	1266

87 ON THE STRUCTURE THERE WILL BE ALSO A RADIO-TELEPHONY
88 INSTALLATION FOR CONTACT WITH RADIC SCHEVENINGEN
89 TELEPHONE 0014 DURING THE WHOLE TCWAGE TO NORWAY

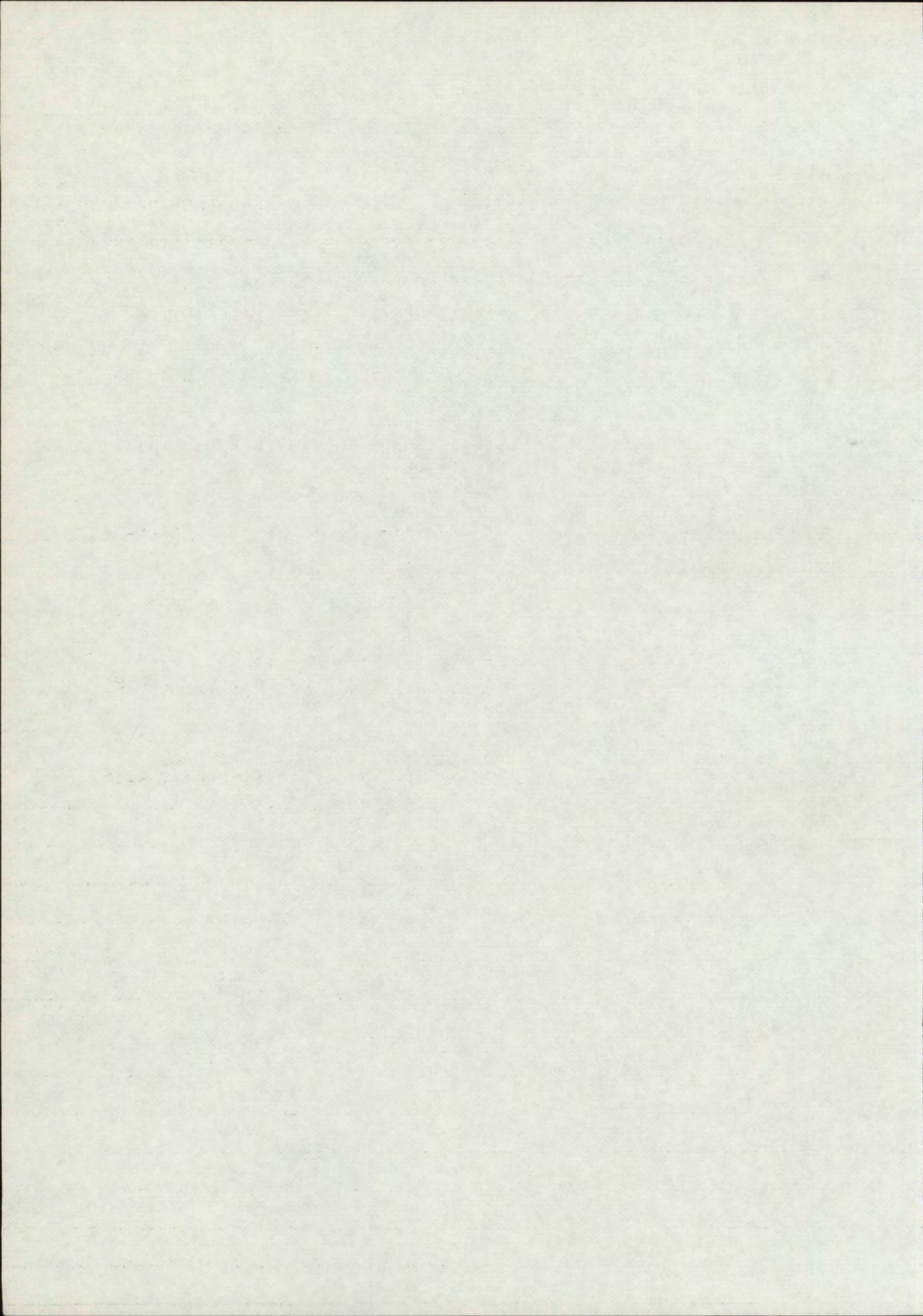
90 FOR SUMMARY OF COMMUNICATION SEE ENCLCSURE 9



 *
 MAIN= 04 * A 07 FLOATING SITE PREPARATIONS *
 PARG=AC7 * *
 BLCK=FLOSIT * REV 03 DATE 22/01/76 * SEQUENCE NR.0050 *
 * *

SEE
SEQ

- 10 - REMOVAL OF EQUIPMENT FROM CAISSONRCCF
- 15 - REMOVAL OF ACCESSFACILITIES OF CONSTRUCTION SITE
- 20 - REMOVAL OF EQUIPMENT OFF CONCRETE TOWERS
- 25 - CLEANING INSIDE CAISSON
- 26 (WATER AND OTHER MATERIALS)
- 30 - SEAFASTENING OF ALL EQUIPMENT AND MATERIALS ON BOARD
- 35 OF STRUCTURE BEFORE TOW OUT



MAIN= 04
PARG=ACB

* A 08 AIRCUSHION SYSTEM / AIRBAGS

ELCK=AIRCUS

* REV 09 DATE 14/06/76

SEQUENCE NR.0055

* SEE
* SEQ

05 - FOR DESCRIPTION OF SYSTEM SEE MANUAL AIRCUSHION

10 - EQUIPMENT INSTALLED ON CAISSONROOF :

15 - AIRCUSHION CONTROL CABIN

20 - INSTRUMENT AIRSUPPLY UNIT

30 - AIRSUPPLY UNITS WITH A TOTAL CAPACITY OF 70 NORMAL
31 CUBIC METERS PER MINUTE

40 - BUILDING UP OF AIRCUSHION TO 3.0 METERS :

45 VOLUME IS 100.000 NORMAL CUBIC METERS OF AIR

50 EFFECTIVE CAPACITY IS 0,8X70X60=3360 NCUM PER HOUR

55 TIME REQUIRED IS 30 HOURS

60 CAPACITY OF AIRCUSHIONPIPING IN NCUM /HOUR

61 - TWO INCH PIPE ONLY 850

62 - FIVE INCH PIPE WITH NINE TWO INCH PIPE

64 FOR INFLATION 4200

65 FOR BLEEDING 5600

70 UNDERNEATH THE CAISSON THERE WILL BE INSTALLED ALSO

72 45 NUMBER OF AIRBAGS IN THE COMPARTMENTS A,B,C,D AND M

74 THESE BAGS WILL GIVE 4.0 METERS OF AIR IN THE

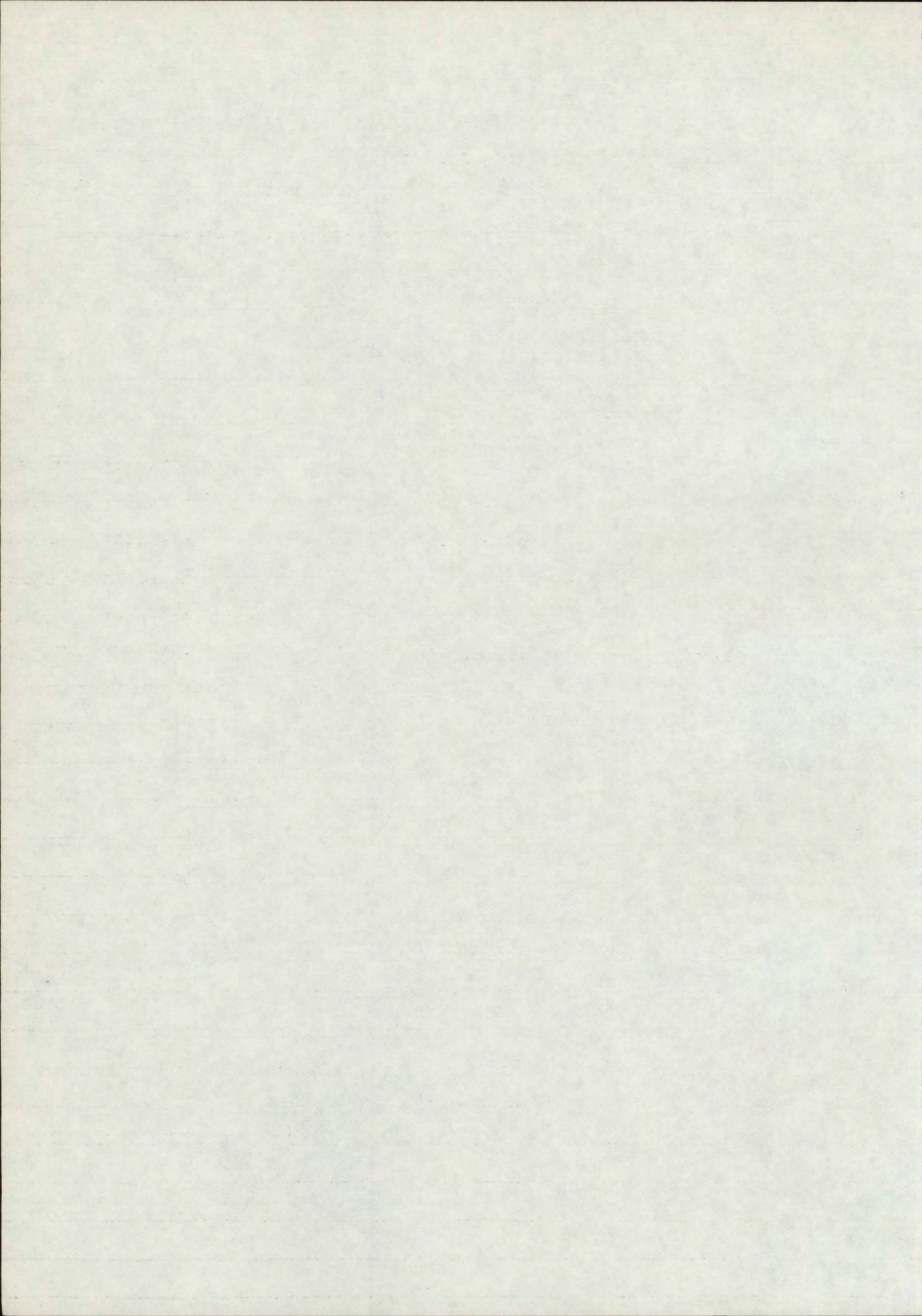
76 PARTICULAR COMPARTMENTS

78 EACH AIRBAG IS CONNECTED TO A MANIFOLD ON THE CAISSON-

80 ROOF, SO IT WILL BE POSSIBLE TO INFLATE THE AIRBAGS

82 AFTER INSTALLATION. SEE METHOD STATEMENT AIRBAGS T-4.10

84 DATE 10-5-1976.



 *
 * PART B THE TCW-CUT PREPARATIONS *
 *
 * REV 03 DATE 22/01/76 *
 *

MAIN= 04

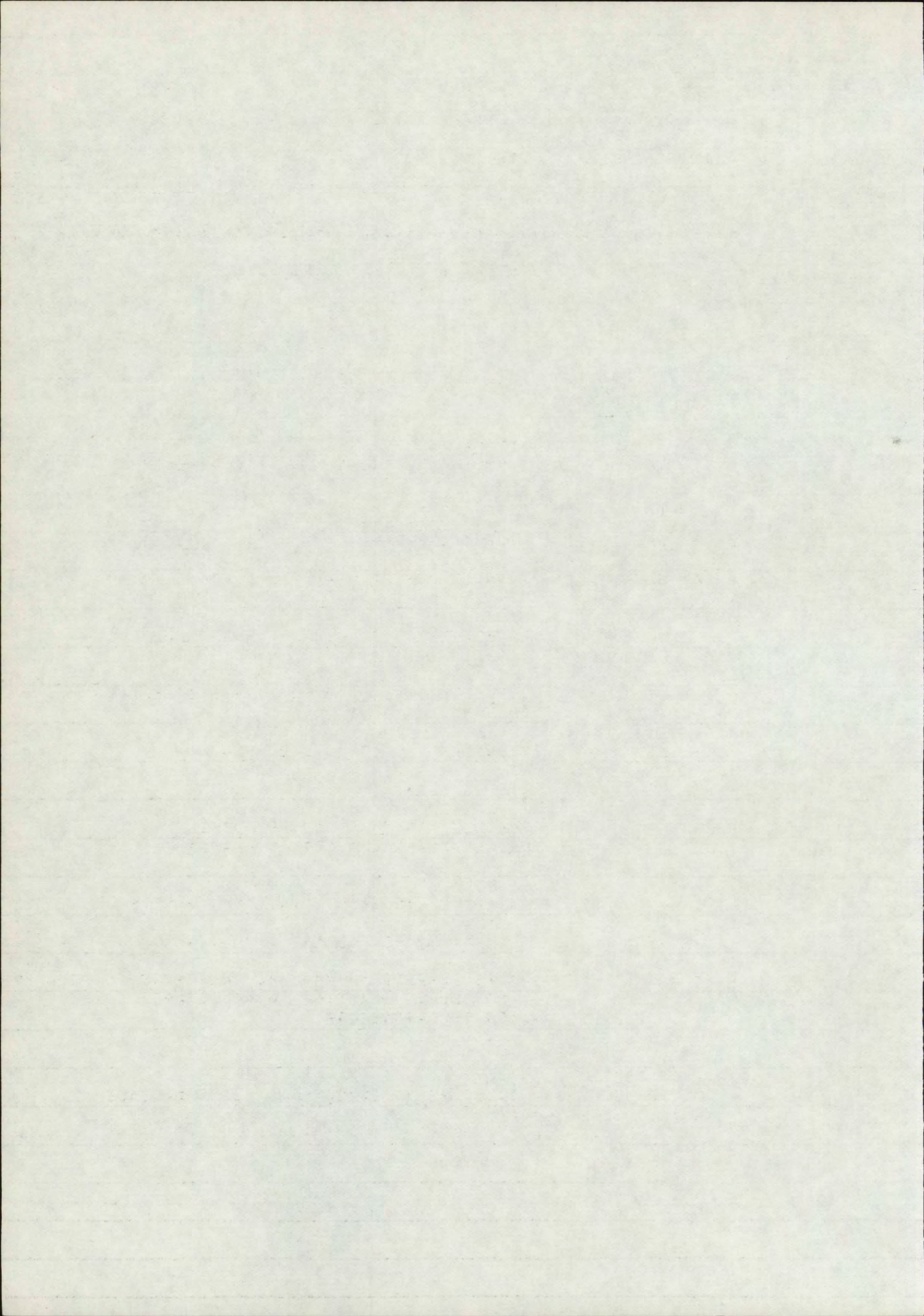
PARG= B

BLCK=PART B

SEQUENCE NR. 0060 * SEE SEQ

05 THE PART B OF THIS TCW-CUT MANUAL DESCRIBES THE
 10 PREPARATIONS TO BE DONE IN RELATION TO THE
 15 DETERMINATION OF THE TCW-CUT DATE AND TO THE
 20 TCW-CUT ROUTE.

25	B 01	TCW-CUT CRITERIA	'TCWCRI'	0070
27	B 02	DETERMINATION TCW-CUT DATE	'TCWCAT'	0075
29	B 03	PROVISIONAL WARNINGS	'PROWAR'	0080
31	B 04	SURVEY TCW-CUT ROUTE	'SURVEY'	0085
33	B 05	APPROVAL AUTHORITIES	'APPROV'	0090
35	B 06	REVISION OF TCW-CUT SCHEDULE	'REVISI'	0095



 *
 MAIN= 04 * B 01 TCW-OUT CRITERIA *
 FARG=BC1 * * SEE
 ELCK=TCWCR1 * REV 10 DATE 14/06/76 SEQUENCE NR.0070 * SEQ
 *

05 SITUATION : -DRAUGHT OF STRUCTURE NOT MORE THAN
 07 22 METER WITH AIRCUSHION AND AIRBAGS TO
 08 CORRECT DRAUGHT
 09 -WATERSEAL OF AIRCUSHION NOT LESS THAN 1 M
 11 -STRUCTURE FITTED OUT FOR TCW-OUT ROTTERDAM
 13 AND NORTH SEA TOWAGE, SEE PART A : THE
 15 OUTFIT OF THE STRUCTURE.

18 ENVIRONMENTAL CONDITIONS TO BE MET :
 19 INFORMATION FOR THE ENVIRONMENTAL CONDITIONS WILL BE
 20 OBTAINED FROM THE CONTROL-INFORMATION-CENTRUM (C.I.C.)
 21 AT POEK VAN HOLLAND, TELEPHONE : 01747-3791

22 OR K.N.M.I. -TELEPHONE : 030-764242

23 - WATERDEPTH ON TCW-OUT ROUTE AT LEAST EQUAL TO
 24 DESIGNDEPTH

25 - SUITABLE WEATHERFORECAST FOR 72 HOURS, STABLE AND/OR
 26 IMPROVING

30 - HW DURING PASSAGE OF SPLITSINGSDAM MORE THAN 1 M+NAP
 32 SEE DRAWING T-038/039

35 - Lw FOLLOWING THIS HW NOT LESS THAN 0.8 M-NAP

40 - WINDFORCE BEALFORT 5 OR LOWER

45 - SWELL : FOR WAVEPERIODS MORE THAN 10 SECS THE
 50 CORRESPONDING WAVEHEIGHT NOT MORE THAN
 55 0.5 METER

60 - SEA : SIGNIFICANT WAVEHEIGHT NOT MORE THAN 2 METER

65 VISIBILITY NOT LESS THAN 500 METRES AND IMPROVING

70 - TIDAL CURRENT : CROSS CURRENT IN MAASGEUL NOT MORE
 75 THAN 0.5 KNOT DURING PASSAGE OF STRUCTURE
 80 SEE DRAWINGS T-047/048/049

85 TRAFFIC REGULATIONS :

86 - FREE PASSAGE OF STRUCTURE AT EXPECTED TIME OF PASSAGE
 87 IN : BEERKANAAL
 88 MAASMOND

89
90MAASGEUL
ELROGEUL91
92- EMERGENCY ANCHORAGE (BREAKOFF POINTS) CLEAR AND
ACCESSABLE FOR THE STRUCTURE

95

REQUIREMENTS FOR AVAILABILITY OF TUGS :

96

- TOTAL CAPACITY FOR VSF. TUGS IS 18.800 IHP

97

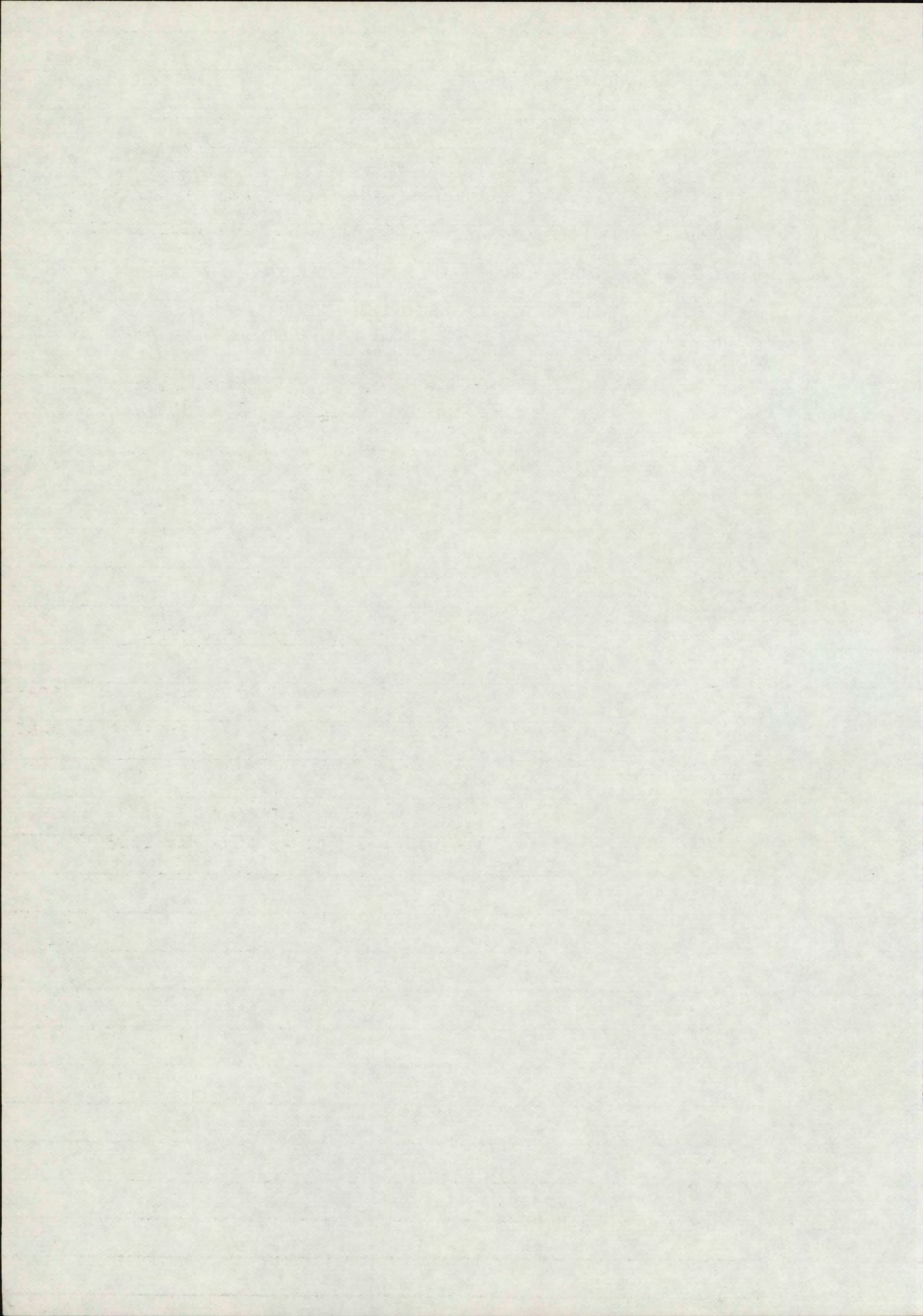
- TOTAL CAPACITY FOR OCEANGING TUGS OF 78.800 IHP

98

EACH TUG NO LESS THAN 8.000 IHP

99

TOTAL NUMBER OF TUGS NO MORE THAN 6



 *
 MAIN= 04 * B 02 DETERMINATION TOW OUT DATE *
 PARG=BC2 * * SEE
 ELCK=TOWCAT * REV 07 DATE 14/06/76 SEQUENCE NR.0075 * SEQ
 *

05 TOWAGE OF THE STRUCTURE FROM THE CONSTRUCTION AFLCAT
 07 SITE TO END EUROCEUL SHOULD START ON THE FIRST OCCASION
 09 THAT ALL TOW-OUT CRITERIA ARE MET AFTER

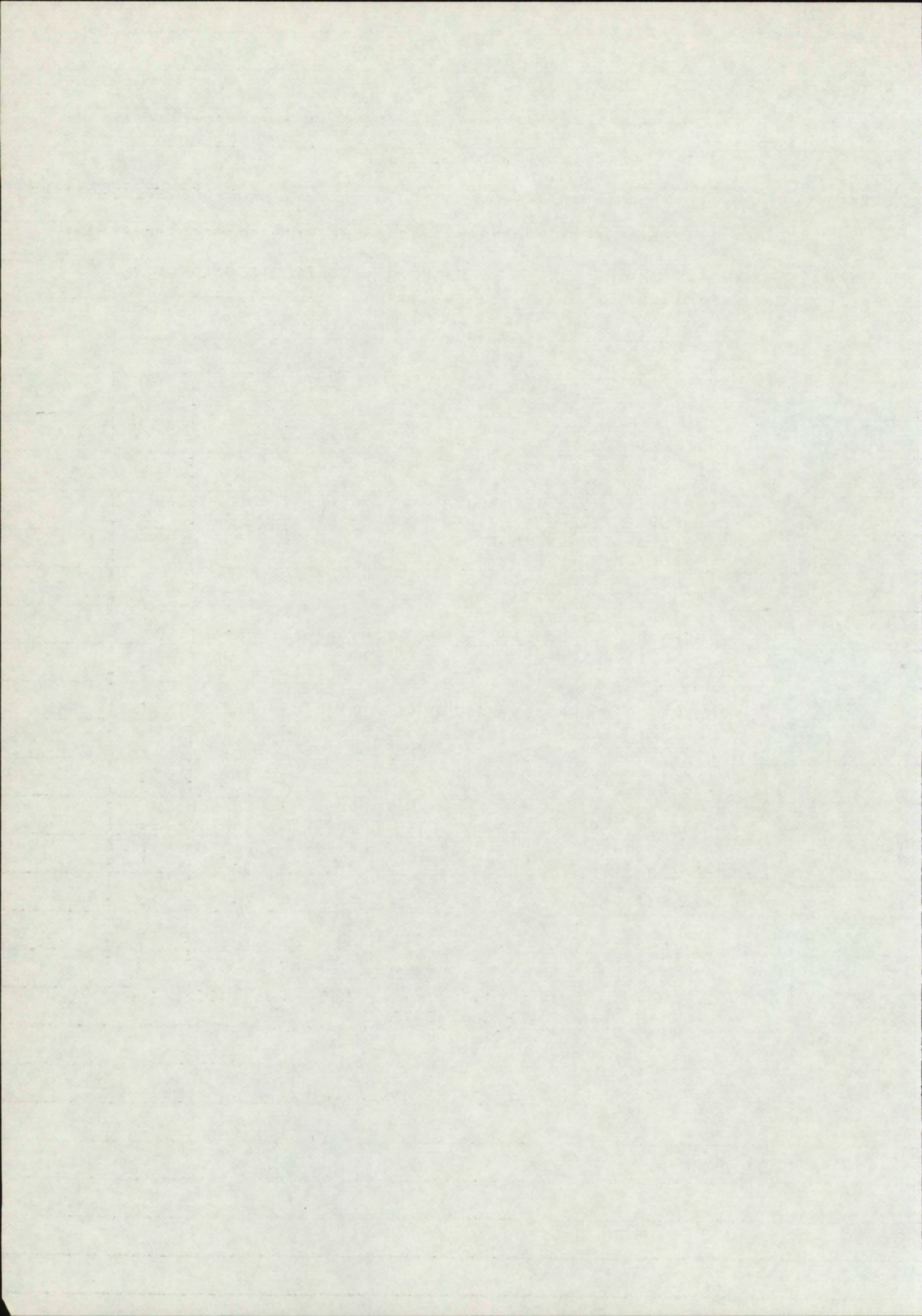
11 7 JULY 1976

20 FOR POSSIBLE TOW-OUT DAYS IN THIS PERIOD SEE DRWG T-033
 22 WHERE ARE ONLY TAKEN IN ACCUNT THE APPROPRIATE TIDES
 26 THE ACTUAL TOW OUT DATE WILL BE DETERMINED IN
 28 COMBINATION WITH THE OTHER TOW CUT CRITERIA
 30 SEE PARG. B 01 TOW-CUT CRITERIA 'TOWCRI' 0070

35 EVALUATION OF ENVIRONMENTAL DATE DETERMINING POSSIBLE
 36 COMMENCEMENT OF TOW CUT TO BE DONE BY ANCC PMT
 37 IN CONSULTATION WITH :
 41 - SHELL EXPRO L.K.
 42 - NOBLE, DENTON AND ASSOCIATES
 44 - DET NORSE VERITAS
 46 - RYKSWATERSTAAT (RYKSHAVENMEESTER)
 48 - GEMEENTELYK HAVENBEDRYF ROTTERDAM (HAVENMEESTER)
 50 - SIMS (TUGCOMPANY)

60 THE TOW-OUT DATE WILL BE CALLED 'Z' = ZERO = TIME OF *****
 62 HIGH WATER DURING PASSAGE OF SPLITSINGDAM AND THIS DATE
 64 WILL BE REVISED 7 DAYS BEFORE Z SEE PARG. B 06 'REVISI' 0095
 66 THE FIRST OCCASION FOR Z WILL BE AT WEDNESDAY 7 JULY
 68 1976 AT 10.30 HOURS

90 THE DEPARTURE FROM BEERKANAAL TO OPEN SEA IS SCHEDULED
 92 ON TIME Z-3 HOUR, BUT AS SHOWN ON DRAWING T-079 -
 94 TOW-OUT SCHEDULE ROTTERDAM THIS DEPARTURE TIME MAY VARY
 96 FROM Z-4 TILL Z-1 HOUR



MAIN= 04
 PARG=BC3
 ELCK=PPQWAR

* B 03 PROVISIONAL WARNINGS
 * REV 09 DATE 14/06/76

SEQUENCE NR.0080

* SEE
 * SEQ

05 Z = ZERC = TIME OF HW DURING PASSAGE OF SPLITSINGSDAM

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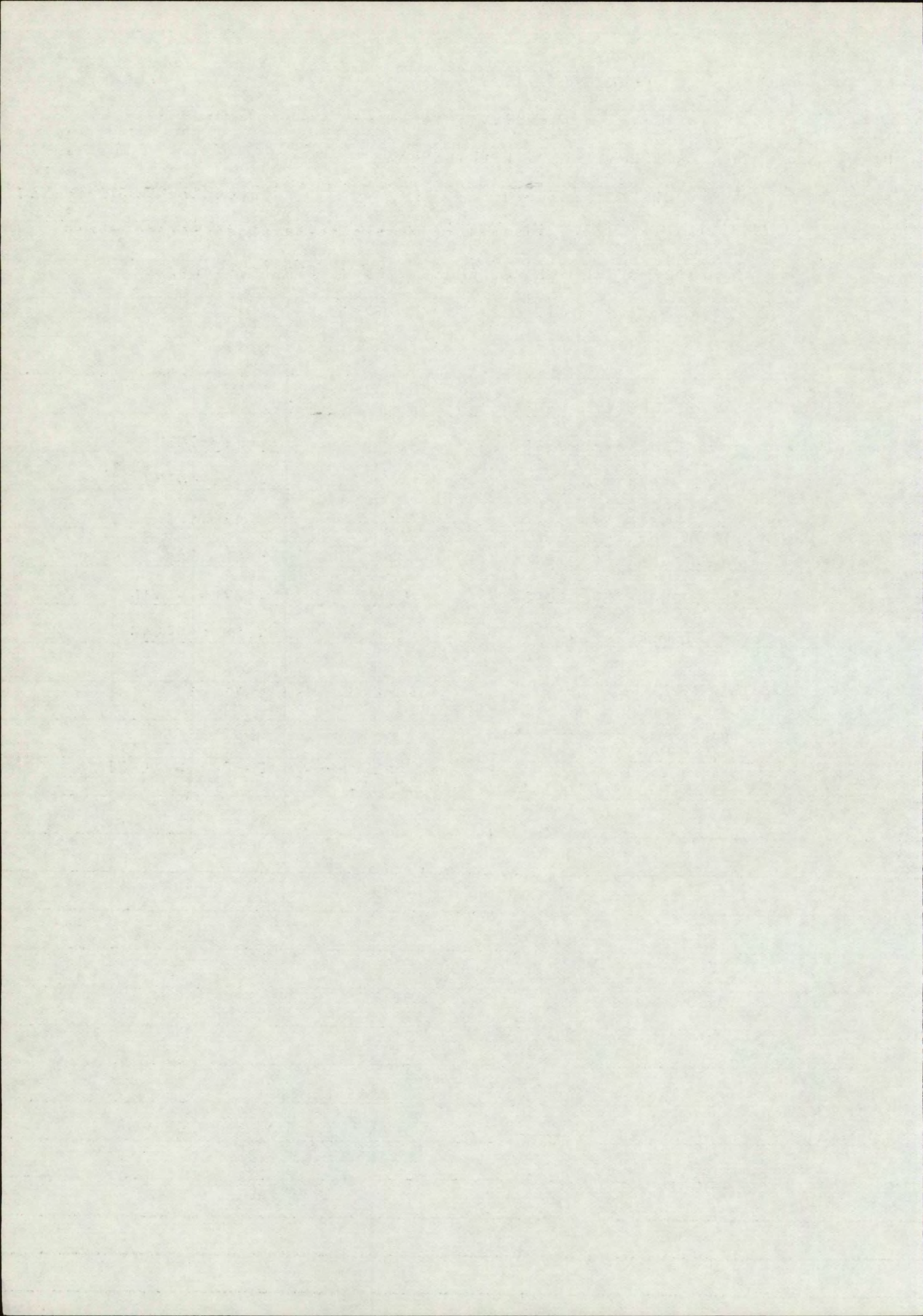
72

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90

		NOTICE IN DAYS	
		BEFORE Z	
		1ST	2ND
- AUTHCRITIES :			
1	RYKSHAVENDIENST		
-	RYKSHAVENMEESTER	42	7
2	RYKSWATERSTAAT DIRECTIE NOOPDZEE	42	7
3	GEMEENTELYK HAVENBEDRYF ROTTERDAM		
-	HAVENMEESTER	42	7
4	LOODSWEZEN RYMCNC	42	7
5	RYKSWATERSTAAT DELTADIENST	42	7
-	CREW OF STRUCTURE	21	7
-	FIRM FOR DIVERS	28	14
-	FIRM FOR SHEERLEG	28	7
-	NCBLE, DENTON AND ASSOCIATES	42	7
-	DET NCRSKE VERITAS	42	7
-	K.N.M.I. DE BILT	-	7
-	POSITIONING SYSTEM	42	14
-	SPELL EXPRO U.K.	42	7
-	MINISTERIE VAN DEFENSIE	14	1
-	RYKSLUCHTVAARTDIENST	-	1
- TUGOWNERS : THE DELIVRY DATE FOR THE CCEANGOING TUG			
IS 7TH JULY 1976			
AT 00.01 HOURS			

FOR NAMES AND ADDRESSES SEE ENCLCSURE 10.




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*****
*
MAIN= 04 * B 04 SURVEY OF TCW CUT ROUTE *
PARG=BC4 * *
ELCK=SURVEY * REV 03 DATE 01/04/76 * SEQUENCE NR.0085 * SEQ
*
*****

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05 RELEVANT SOUNDINGS ARE SENT TO ANDOC REGULARLY BY:

10 - GEMEENTEWERKEN ROTTERDAM (A+B)

15 - RYKSWATERSTAAT (C+D+E+F)

20 NORMAL SOUNDING FREQUENCIES ARE :

25 A. CONSTR. AFLOAT SITE - BEERKANAAL : EVERY MONTH

30 B. BEERKANAAL : EVERY MONTH

35 C. MAASMOND-CALAND-BEERKANAAL : EVERY WEEK

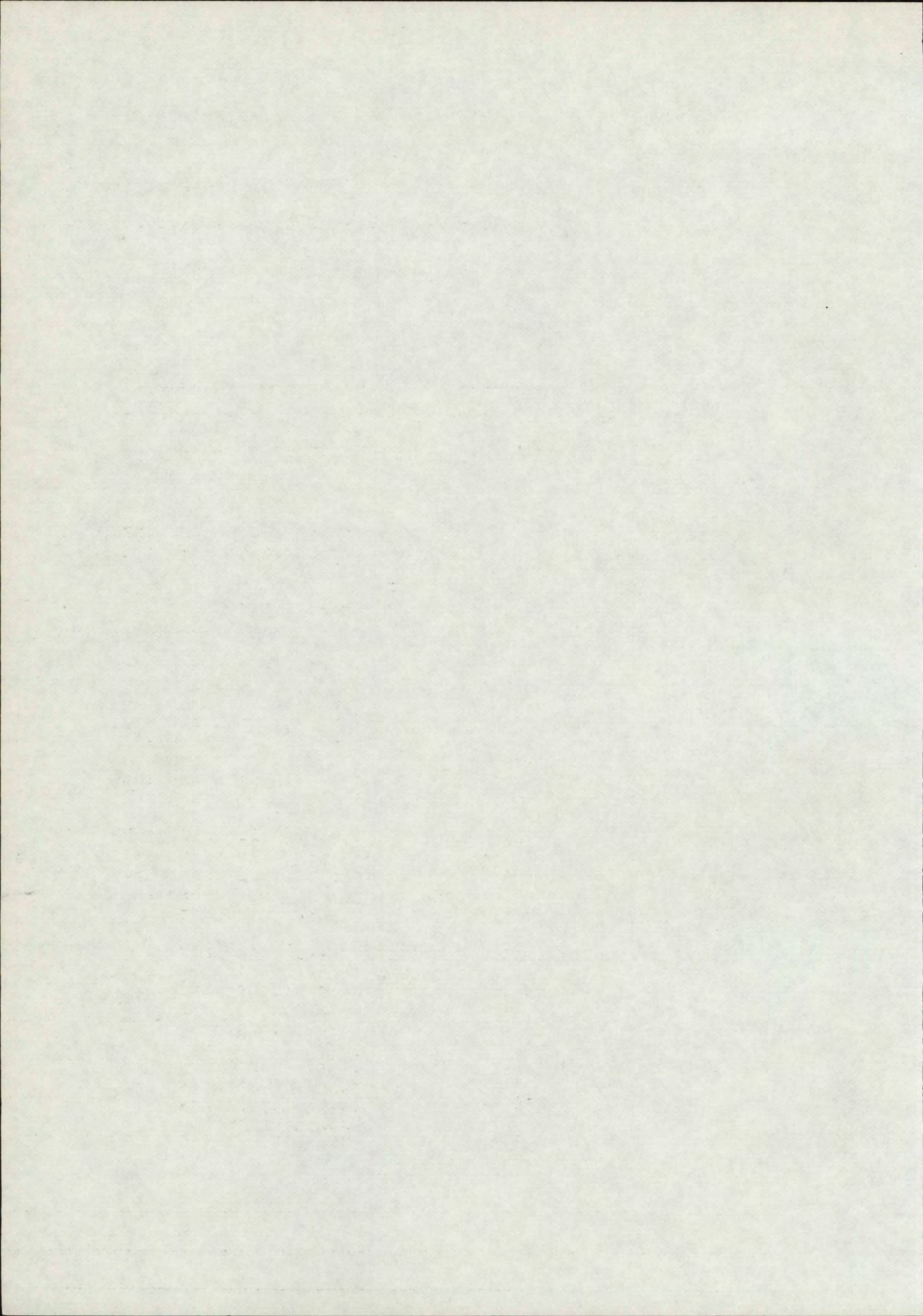
40 D. MAASGELL : EVERY WEEK

45 E. NOCDANKERGEBIED : EVERY 6 WEEKS

50 F. EUFOGELL : EVERY 6 WEEKS

55 SOUNDING-DATA ARE AVAILABLE WITHIN A FEW DAYS OF
60 SOUNDING

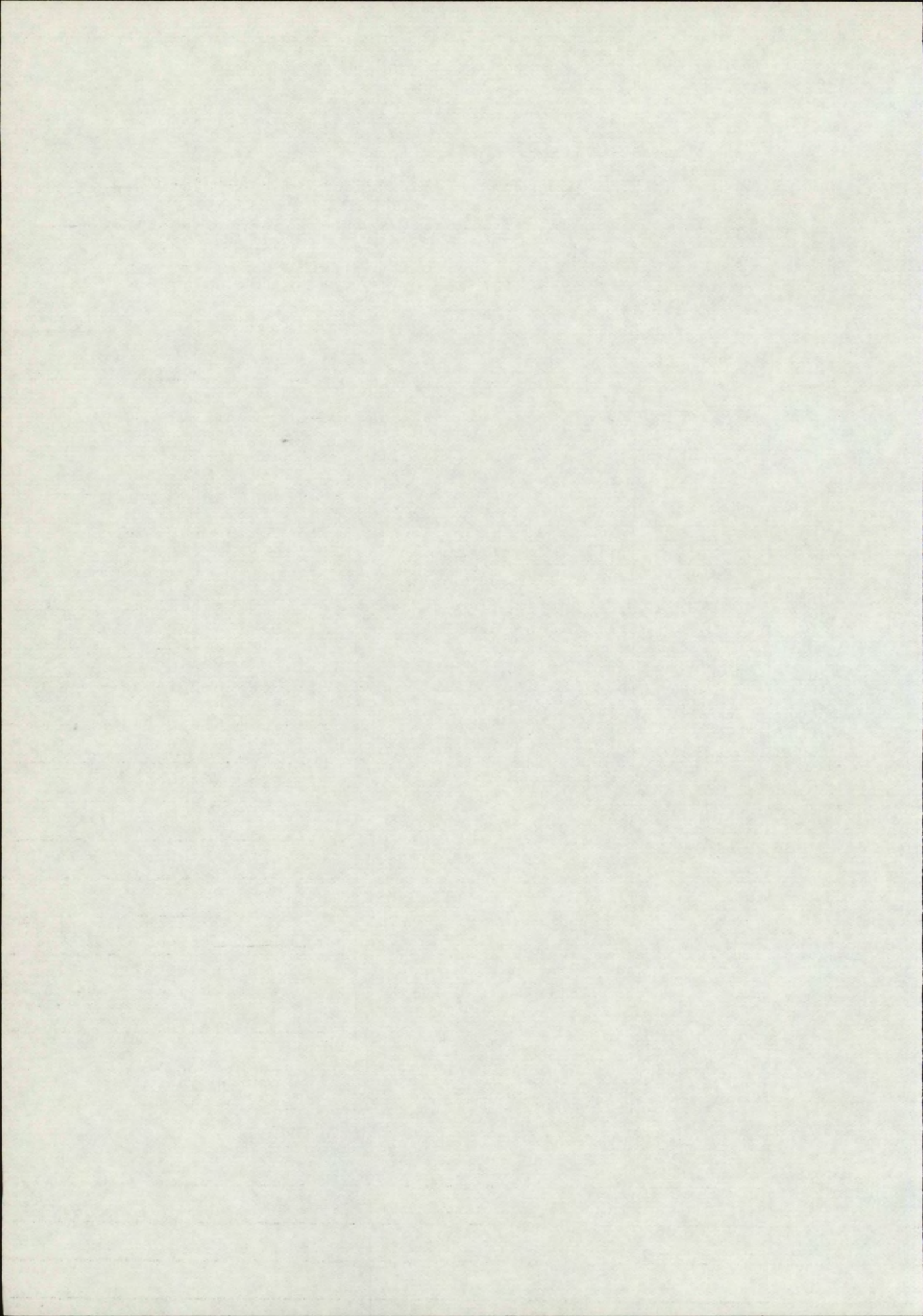
65 THE SOUNDING-PROGRAM PRIOR TO ROTTERDAM TCW-CUT WILL BE
70 GEARED TO THE ACTUAL TCW-CUT DATE.



 *
 MAIN= C4 * B 05 APPROVALS OF AUTHORITIES *
 PARG=B05 * * SEE
 BLCK=APPROV * REV 09 DATE 14/06/76 SEQUENCE NR.0090 * SEQ
 *

05 BEFORE THE ACTUAL TOW OUT OF THE STRUCTURE CAN BE
 06 PERFORMED THE APPROVALS OF THE FOLLOWING AUTHORITIES
 07 ARE REQUIRED

15	TIME	SUEJECT	AUTHORITIES
16			
17			
20	MARCH 76	LIGHTS FOR AIRCRAFT	RYKSLUCHTVAARTDIENST
21			
25	Z-42 DAYS	TRAFFIC REGULATIONS FOR	RYKSHAVENDIENST
27		TOW-OUT DATE	GEMEENTELYK HAVENBE-
29			DRYF ROTTERDAM
30			RYKSWATERSTAAT
37	Z-28 DAYS	ORGANISATION	NOBLE, DENTON AND ASS.
40	Z-28 DAYS	SOUNDINGS, TIDELEVELS	NOBLE, DENTON AND ASS.
41	TILL Z	AND CURRENTS	
45			
46	Z-14 DAYS	TOWING PROVISIONS	NOBLE, DENTON AND ASS.
47		SEALING OF CAISSONROOF	NOBLE, DENTON AND ASS.
55			
56	Z- 7 DAYS	AIRCUSHION EQUIPMENT	NOBLE, DENTON AND ASS.
58		WEATHERLIMITATIONS	NOBLE, DENTON AND ASS.
60		TUGS AND EQUIPMENT	NOBLE, DENTON AND ASS.
62		NAVIGATION EQUIPMENT	NOBLE, DENTON AND ASS.
64		MOORING SYSTEM AT DEEP-	NOBLE, DENTON AND ASS.
66		WATERSITE	
67		SEAFASTENING	NOBLE, DENTON AND ASS.
68		DRAUGHT OF CAISSON	
69			
70		START FINAL TOW-OUT	SPELL EXPRC U.K.
72		PREPARATIONS 'FINPRE'	NOBLE, DENTON AND ASS. 0110
74		PARG. C 02	SCHEEPVAARTINSPECTIE
76		TRAFFIC REGULATIONS FOR	G.H.B. ROTTERDAM
78		TOW-OUT DATE	RYKSHAVENDIENST
81			
82	Z - 31 HR	ENVIRONMENTAL CONDITION	SPELL EXPRC U.K.
84		FINAL DOLPHIN DISCON-	NOBLE, DENTON AND ASS.
85		NECTION AND DEPARTURE	RYKSHAVENDIENST
86			G.H.B. ROTTERDAM
87			RYKSWATERSTAAT
89			
90	Z - 4 HRS	DEPARTURE FROM BEER-	SPELL EXPRC U.K.
91		KANAAL	NOBLE, DENTON AND ASS.
92		CONNECTION OF TUGS	RYKSHAVENDIENST
93			G.H.B. ROTTERDAM



CLIENT NR. 112

RUNDATE 02/11/77

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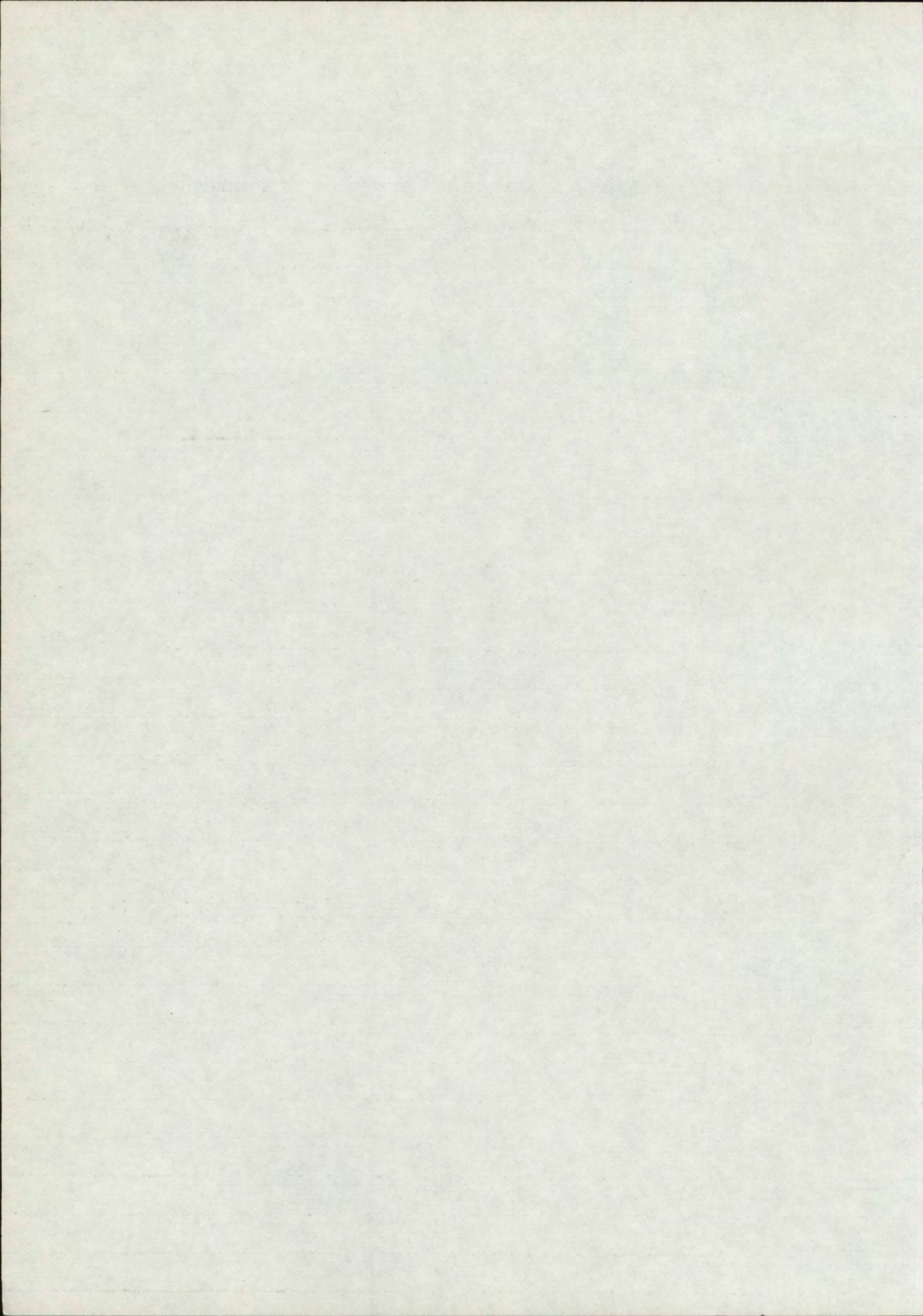
94
95

|
|

RYKSWATERSTAAT

99

Z = ZERO = TIME OF F.W. DURING PASSAGE SPLITSINGSDAM



 *
 MAIN= 04 * B 06 REVISION OF TCW OUT SCHEDULE *
 PARG=B06 * * SEE
 ELCK=FEVISI * REV 08 DATE 14/06/76 SEQUENCE NR.0095 * SEQ
 *

02 FROM 29 JUNE 1976 THERE WILL BE A 72-HOUR WEATHERPRE-
 03 DICTION DAILY AT 16.00 HCUR

05 ON 1 JULY 1976 THERE WILL BE A WEEK-WEATHERPREDICTION
 06 AND THE FOLLOWING TCW-CUT CRITERIA WILL BE CHECKED :

10 - EXPECTED WEATHER DURING ROTTERDAM TCW-CUT
 15 - TRAFFIC REGULATIONS
 17 - AVAILABILITY OF TLGCAPACITY
 20 - CONFIRMATION OF WATERDEPTH OF THE TCW-CUT ROUTE
 21 AND THE BREAK-OFF AREAS RELATED TO N.A.P.

25 DETERMINE TCW OUT DATE ON SUCH A DAY THAT THE
 30 TCW-OUT CRITERIA, SEE PAR. B 01 'TOWCRI' ARE EXPECTED 0070
 31 TO BE MET

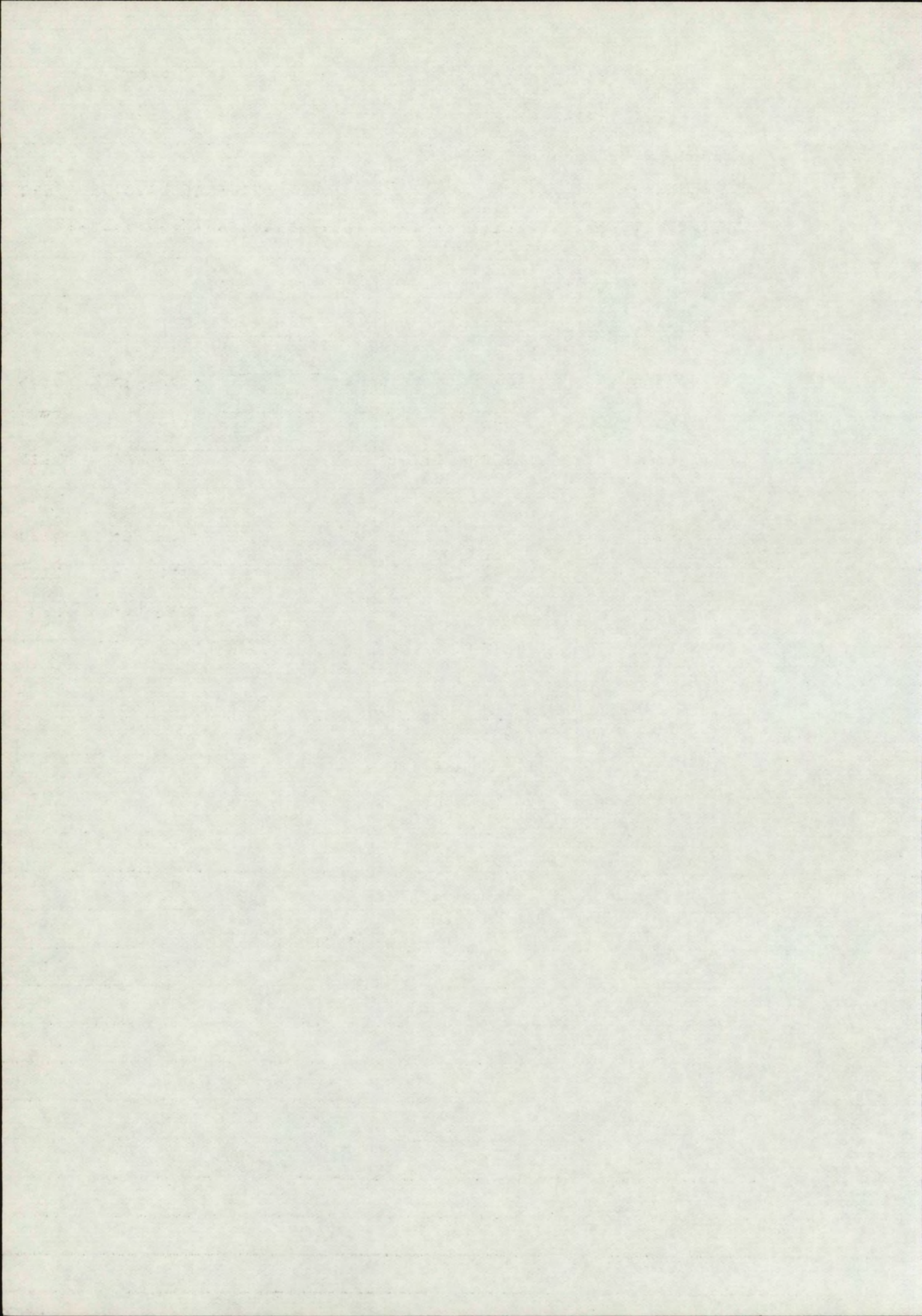
35 START MONITORING ACTUAL TIDELEVEL OF HOEK VAN HOLLAND
 36 AND COMPARE ACTUAL FIGURES WITH PREDICTIONS

40 REVISE TIMESCHEDULE FOR TCW OUT IN ACCORDANCE WITH
 42 THE EXPECTED TIDELEVEL

45 START FINAL TCW-OUT PREPARATIONS, SEE PARG-02 'FINPRE' 0110

50 ON 5 JULY 1976 THERE WILL BE A WEEK-WEATHERPREDICTION
 52 BY TELEPHONE AND AT 19.00 HOURS THERE IS A BRIEFING
 54 BY THE K.N.M.I. ON ANDOC SITE FOR THE WEATHER- AND SEA-
 56 CONDITIONS OF THE NEXT 72-HOUR

60 FROM 2-30 HOUR THERE WILL BE EACH 6 HOURS A PREDICTION
 62 OF WEATHER- AND SEACONDITIONS FOR A PERIOD OF 72-HOURS
 64 TILL THE STRUCTURE IS AT THE END OF THE EUROGEUL




```

*****
*
* PART C THE TCW-CUT SCHEME
*
* REV 02 DATE 22/01/76
*
*****

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* SEE
* SEQ

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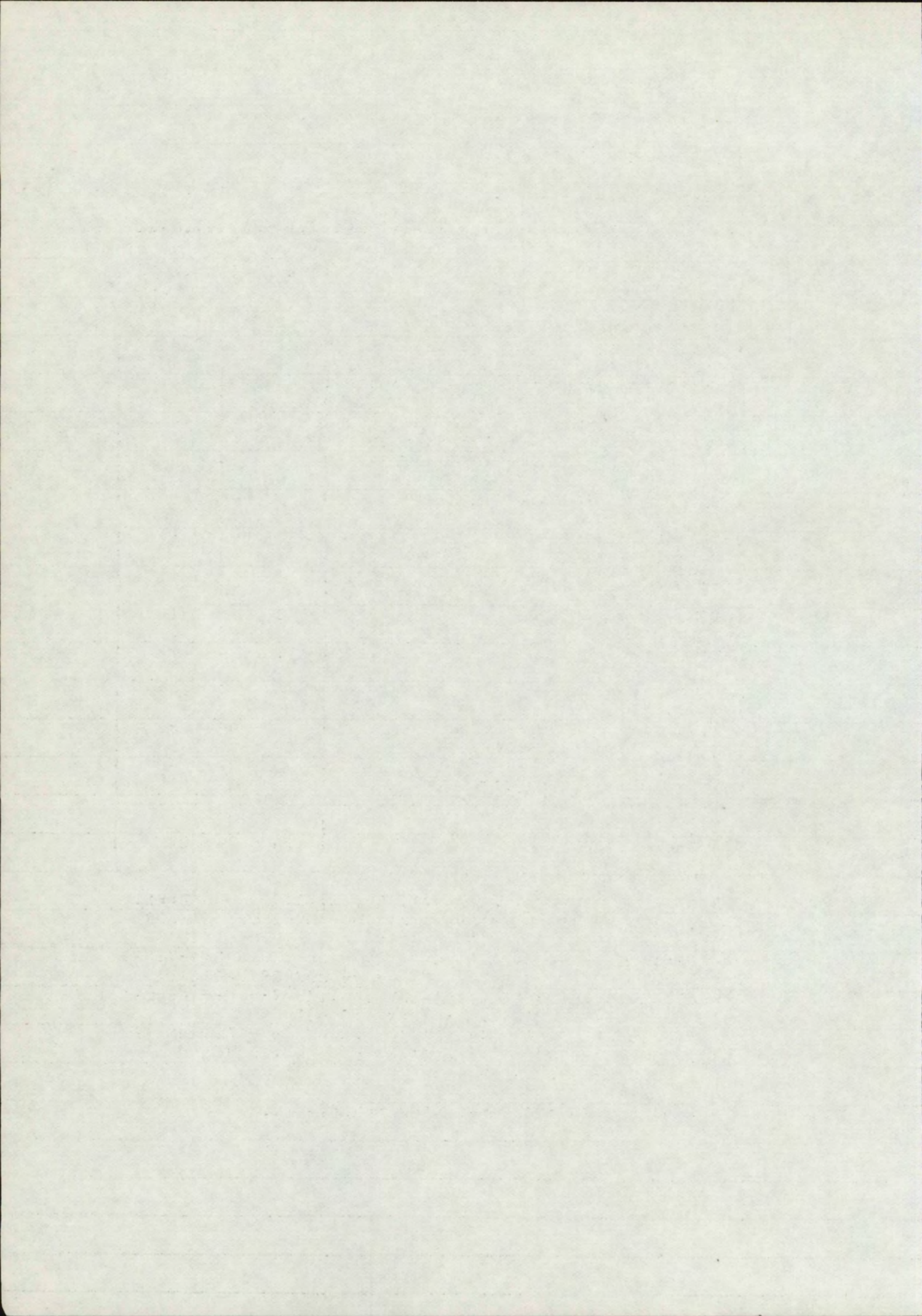
SEQUENCE NR. 0105

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05 THE PART C OF THIS TCW-CUT MANUAL DESCRIBES THE
10 ACTIONS DURING THE TCW-CUT ITSELF

```

20	C 01 ORGANISATION	'ORGANI'	0105
22	C 02 FINAL TCW-OUT PREPARATIONS	'FINPRE'	0110
24	C 03 DISCONNECTION FROM DCLPHIN A	'DISC A'	0115
26	C 04 DISCONNECTION FROM DCLPHIN C	'DISC C'	0120
28	C 05 TCW TO BEERKANAAL	'TCWBEE'	0125
30	C 06 TCW TO MAASCENTER	'TCWMAA'	0130
32	C 07 TCW TO EURC 1	'TCWEUR'	0135



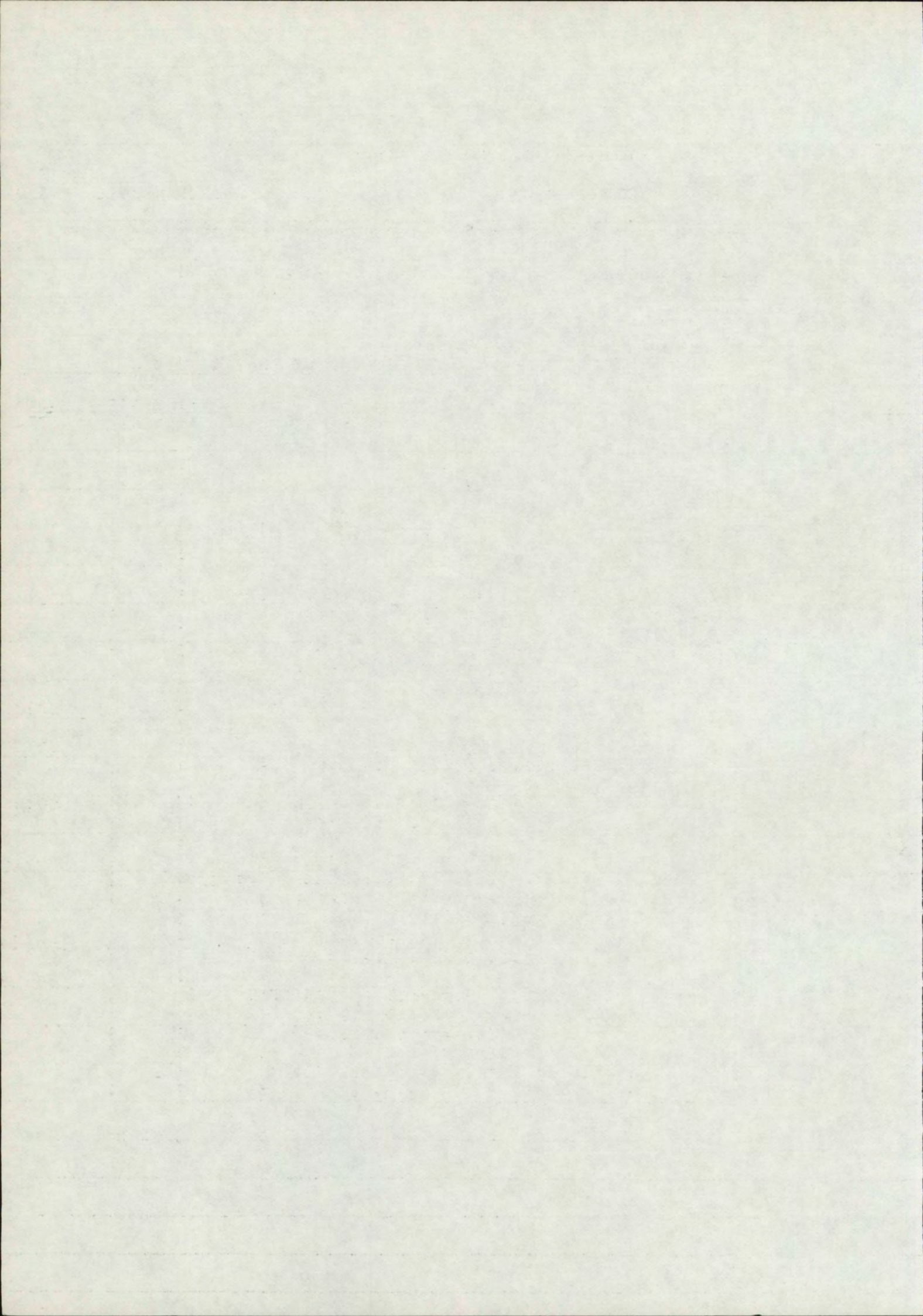

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*****
*
MAIN= C4 * C 01 ORGANISATION *
PARG=C01 * * * SEE
BLCK=OPGANI * REV 08 DATE 14/06/76 SEQUENCE NR.0105 * SEQ
* * *
*****
    
```

		TOW-CUT	NORTH SEA
			TOW
05	PERSONS ON BOARD		
06			
07	-----		
10	MARINE SUPERINTENDANT	1	1
12	ASSISTANT MARINE SUPERINTENDANT	2	2
14	TOWMASTER V.S.P. TUGS AND ASSISTANT	2	-
16	TOWMASTER OCEANGOING TUGS + ASSISTANT	3	3
18	PILOT	3	-
20	METEO-HYDRO OFFICER	2	-
22	CURRENT OFFICER (RWS DELTADIENST)	1	-
24			
28	AIRCUSHION-CONTROL /-OPERATOR	1	1
30	AIRCUSHION OPERATOR / ENGINEER	1	1
35			
42	DECCA SURVEYOR	1	1
44	SENIOR SURVEYOR	1	-
46	PLOTTER	2	-
50			
54	ENGINEER	1	1
55	ELECTRICIAN	1	1
57	COCK	2	2
60			
61	DECKHANDS	3	3
62			
65	N.D.A. INSPECTOR	2	2
67	SHELL EXPRO U.K. INSPECTOR	2	2
69	ANDOC DESIGN	1	-
70	RYKSWATERSTAAT MCCRDZEE	2	2
74	-----		
75			
76	TOTAL OF PERSONS	34	22

80 DURING FINAL TOW OUT PREPARATIONS, START Z - 6 DAYS,
 82 THERE WILL BE A CENTRAL POST AT THE ANDOC OFFICE FOR
 84 THE METEO-HYDROGRAFIC INFORMATION AND OTHER RELEVANT
 86 INFORMATION. TILL Z - 30 HOURS IT WILL BE IN DAY-TIME
 88 ONLY, BUT FROM Z - 30 HRS TO Z + 24 HRS OR UNTIL
 89 STRUCTURE IS CLEAR OF EURO EUCY (K 111) THE OFFICEPOST
 90 WILL BE MANNED CONTINUOUSLY (DAY AND NIGHT)
 92 IN CASE THE TELEPHONE LINE OF THE ANDOC SITE OFFICE IS
 94 OUT OF ORDER THE CENTRAL POST WILL BE MOVED TO
 95 THE CH-3 OFFICE AT MAASVLAKTE

99 - FOR NAMES AND ADDRESSES SEE ENCLOSURE 10



 *
 MAIN= 04 * C 02 FINAL TCW-CLT PREPARATIONS *
 PARG=002 * *
 BLCK=FINPRE * REV 09 DATE 04/06/76 SEQUENCE NR.0110 * SEQ
 *

01 T.C. = TRAFFIC CONTROL = CENTRE FOR VERKEERSLEIDING,
 02 RYKSHAVENDIENST, HAVENBEDRYF GEMEENTE ROTTERDAM
 03 AND LOODSWEZEN (PILOTAGE) = PCST WATERWEG
 04 TELEPHONE 01819-12411 OR VHF CANAL 14

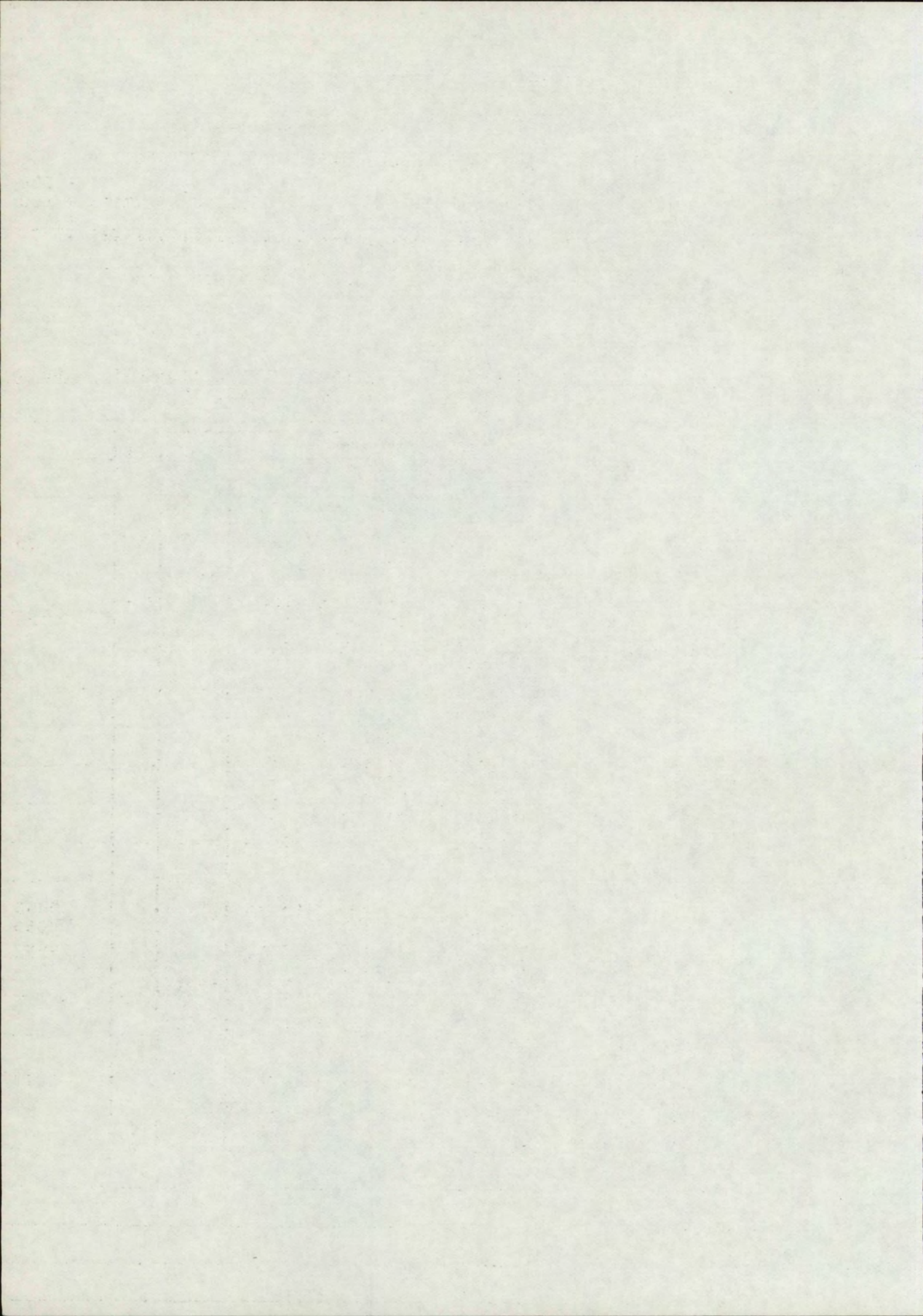
05 Z = ZERO = TIME OF HW DURING PASSAGE OF SPLITSINGSDAM

07 SITUATION :- TIME Z IS DETERMINED SEE PARG.002 'TCWCAT' 0075
 08 - TOW-OUT CRITERIA ARE POSITIVE SEE 'TOWCRI' 0070

TIME IN	DESCRIPTION OF ACTION	DRWG.	ENCL.
12			
14	DAYS		
15	Z - 7	-INFORM T.C. OF TCW-OUT DATE	
16		-DRAUGHT OF CAISSON	
17		-SEAFASTENING OF OUTFIT	
18			
20	Z - 6	-CHECK THAT PART A AND B OF	
22		THIS MANUAL ARE PERFORMED	
23		-INFORM T.C. OF TCW-CLT DATE	
24		-WEATHERPREDICTION FOR 1 WEEK	
30		-AIRCUSHIONSYSTEM OPERATIONAL	
32		-FUELSUPPLY ABCARD	
33		-CHECK TOW OUT CRITERIA 'TOWCRI'	0070
34			
45	Z - 5	-CHECK TOW OUT CRITERIA 'TOWCRI'	0070
46		-INFORM T.C. OF TCW-OUT DATE	
49			
55	Z - 4	-CHECK TCW-OUT CRITERIA 'TOWCRI'	0070
56		-INFORM T.C. OF TCW-OUT DATE	
60			
64	Z - 3	-REMOVE PCNTCCNS FOR ACCESS	
66		-CHECK THAT ALL MATERIALS ON	T-031
68		STRUCTURE ARE WELL-SECURED	
70		OR REMOVED	
71		-CHECK TOW OUT CRITERIA 'TOWCRI'	0070
72		-INFORM T.C. OF TCW-CLT DATE	
73			
74	Z - 2	-8 PENNANTS FROM TUGS ON CAISSON	
75		-CHARTS FOR NORTH SEA TCW TO	
76		LEADING TUG AND GUIDESHIP	
77		-BRIEFING OF PERSONAL	
78		-DOLPHIN A : CUT 4 STEELWIPES	11-4
79		NO 1,2,5,6	

80		-DOLPHIN C : CUT 4 STEELWIRES	
81		NO 1,2,5,6	11-4
82		-INFORM T.C. OF TCW-CUT DATE	
85			
86	Z - 1	-INFORM RYKSLUCHTVAARTDIENST	E 10
87		OF TCW-CUT TIME	
88			

90



 *
 MAIN= 04 * C 03 DISCONNECTION FROM DOLPHIN A *
 PARG=CC3 * * SEE
 BLCK=DISC A * REV 11 DATE 14/06/76 SEQUENCE NR.0115 * SEQ
 *

05 Z = ZERC = TIME OF HW DURING PASSAGE OF SPLITSINGS DAM

10 SITUATION :- DOLPHIN A AND C PARTLY DISCONNECTED
 12 - AIRCUSHION OF 3 METERS SEE 'AIRCUS' 0055
 14 - PONTOONS AND BARGES REMOVED
 16 - TOW OUT CRITERIA ARE POSITIVE SEE 'TOWCRI' 0070
 18 - CENTRAL POST AT OFFICE CONTINUOUSLY MANNED

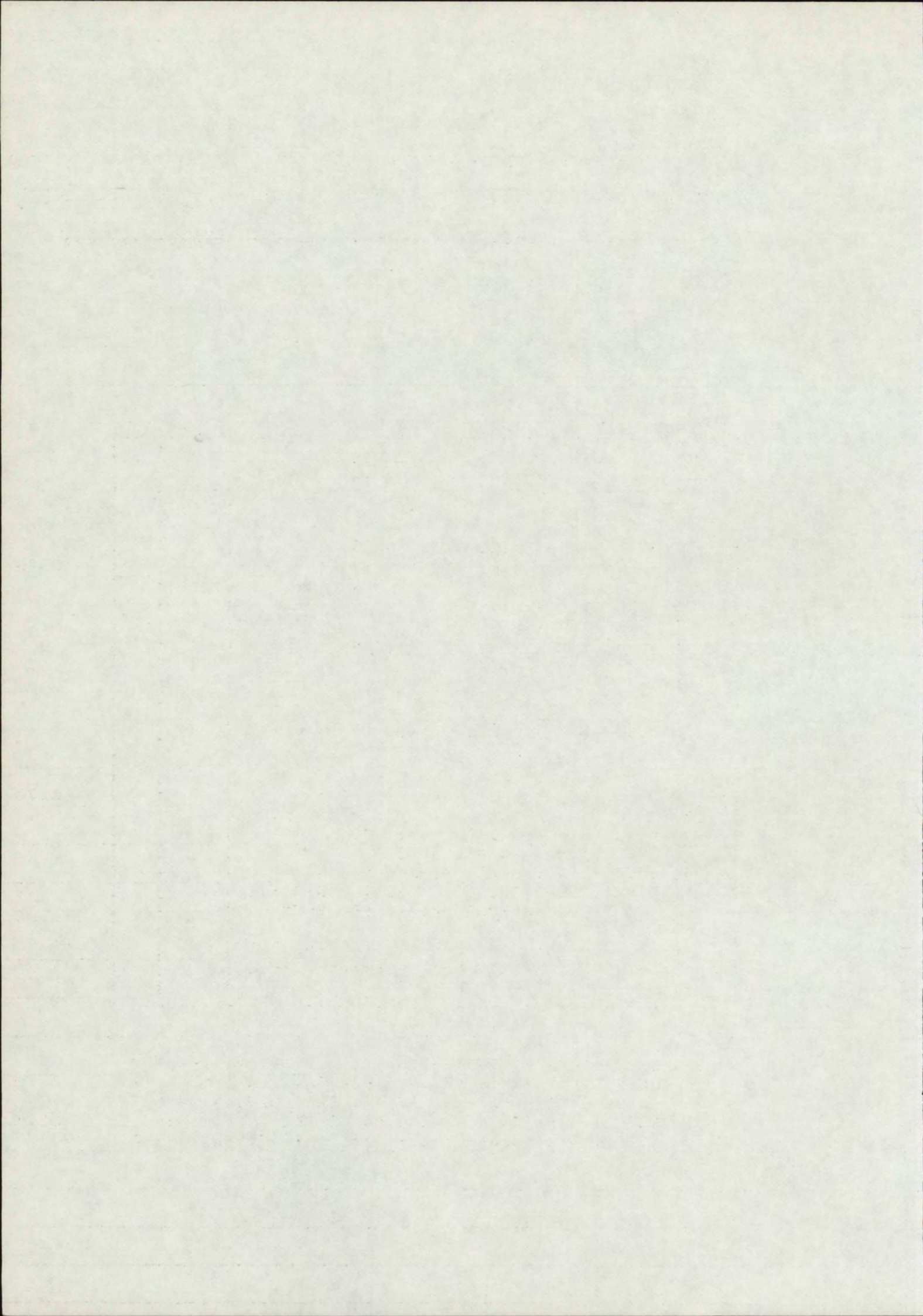
19	-----			
20	[HOUR]	DESCRIPTION OF ACTION	[DRWG.]	[ENC]

21				
22	Z-40	-72 HR PREDICTION OF WEATHER AND SEA		
23				
24	Z-30	-IN CASE 'TOWCRI' ARE NEGATIVE, TIME		0070
25		FOR Z HAS TO BE POSTPONED AT LEAST		
26		24 HRS.		
27		-INFORM T.C. OF TCW-OUT TIME AND ALL	E10	
28		PERSONS, SEE PARG. 003 'PRCWAR'		0080
29		-ORDER 3 LAUNCHES WITH BOATMEN FOR		
30		TIME OF Z-S HOUR		
34				
35	Z-29	-PERSONS TO BE ON BOARD :		
36		TOWMASTERS + ASS. 5		
37		MARINE SUPERINTENDANT 1		
38		ASSISTANTS MSI 2		
39		METEG-HYDRC OFFICERS 2		
40		AIRCUSHION CONTRCL 2		
42		POSITICNING SYSTEM 4		
43		ELECTRICIAN 1		
44		ENGINEER 1		
45		DECKHANDS 3		
46		COCK 2		
47		-CHECK POSITICNING SYSTEM A05 'POSSYS'		0040
48		-CHECK AIRCUSHION A08 'AIRCUS'		0055
49		-CHECK COMMUNICATION A06 'COMMUN'		0045
55	Z-28	-FINAL CONFIRMATION OF SIMS FOR TLGS		
57		-BRING SHEERLEG IN POSITION	T-017	
60				
61	Z-26	-CONNECT VSP. TLGS A.B.D TO CAISSON	T-017	
62		-CHECK DOLPHINRING A TO SHEERLEG		
63				
70	Z-25	-CHECK TOW OUT CRITERIA E-01 'TOWCRI'		0070
72		-DOLPHIN A :		
73		CUT LAST 4 STEELWIPES		11
74		CUT TENSIONEAP		11-3

75		CUT 4 STEELWIRES NO 3,4,7,8		11-5
77				
80	Z-20	-TURN CAISSON OVER 30 DEGREES	T-017	
81		MAXIMUM TURN IS 45 DEGREES		
82		-PUT DOLPHIN RING A ON BARGE		
83				
90				

95 NOTE : IF CIRCUMSTANCES ARE CHANGED SUCH THAT TOW-OUT
96 OPERATION HAS TO BE INTERRUPTED, CONTINUE WITH
97 PARG. D 01 BREAK-OFF POINT CONSTRUCTION AFLGAT
98 SITE 'BRCF 1'

0145



 *
 MAIN= 04 * C 04 DISCONNECTION FROM DOLPHIN C *
 PARG=CC4 * * * SEE
 ELCK=DISC C * REV 09 DATE 14/06/76 SEQUENCE NR.0120 * SEQ
 *

05 Z= ZERO = TIME OF HW DURING PASSAGE OF SPLITSINGS DAM
 10 SITUATION :- DOLPHIN A DISCONNECTED
 12 - DOLPHIN C PARTLY DISCONNECTED
 14 - VSP TUGS A.B.D CONNECTED TO CAISSON

20	HCLR	DESCRIPTION OF ACTION	DRWG.	ENC
21				
22				
23				
25	Z-19	SHIFT SHEERLEG TO DOLPHIN C	T-017	
27		CONNECT VSP TUGS C.M.S TO CAISSON	T-017	
30				
31	Z-18	HOOK DOLPHIN RING C TO SHEERLEG		
33		CHECK TOW OUT CRITERIA E-01 'TOWCRI'		0070
35				
40	Z-17	DOLPHIN C :		
41		CUT TENSIONBAR		11-3
42		CUT STEELWIRES NO 3,4,7,8		11-5
45				
47	Z-15	ON BOARD :PILCT	3	
48		RYKSWATERSTAAT	2	
49		NDA INSPECTOR	2	
50		SHELL INSPECTOR	2	
51		ANCC DESIGN	1	
52		-ALL PERSONS TO BE ON BOARD		
53	Z-13	CHECK TOW OUT CRITERIA E-01 'TOWCRI'		0070
55	Z-12	STRUCTURE DISCONNECTED FROM DOLPHIN C		
60		MANOEVRING OF STRUCTURE FROM		
61		CONSTRUCTION AFLCAT SITE		
65		INFORM T.C. OF START MANOEVRING		
67		BEACNSHIP WILL BE PRESENT AND ASSIST		
68		UNTIL STRUCTURE HAS PASSED BUOY		
69		EURO 1		
72		LAUNCHES GHD AND RHD 5 TO BE PRESENT		
74		SHIPPING FOR 8TH PETROLEUMHAVEN FLD		
75				
77				

80 NOTE : IF CIRCUMSTANCES ARE CHANGED SUCH THAT TOW-CUT
 81 OPERATION HAS TO BE INTERRUPTED, CONTINUE WITH
 82 PARG. D 01 BREAK-OFF POINT CONSTRUCTION AFLCAT
 83 SITE 'BROF 1'; OR AS SOON AS THE DOLPHIN RING C 0145
 85 IS BEING DISCONNECTED (TIME IS Z-17 HOURS) THE

CLIENT NR. 112

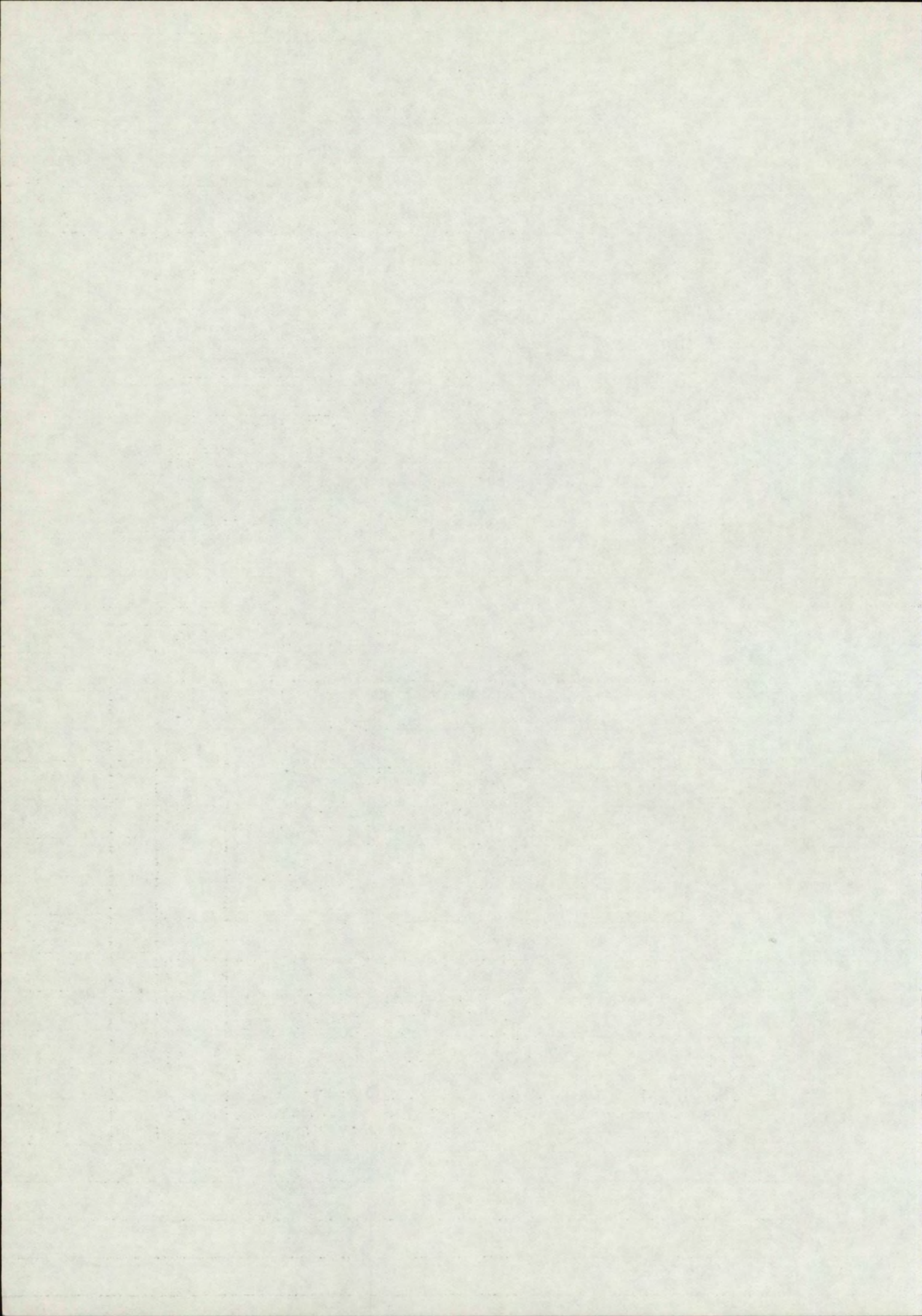
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87

BREAK-OFF POINT IS IN THE BEERKANAAL, SEE PARG.
D 02 BREAK-OFF POINT BEERKANAAL 'BRCF 2'.

0150




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*****
*
MAIN= 04 * C 05 TOW TO BEERKANAAL *
PARG=005 * * * SEE
ELCK=TCWEE * REV 09 DATE 14/06/76 SEQUENCE NR.0125 * SEQ
* * *
*****
    
```

05 Z = ZERO = TIME OF FW DURING PASSAGE OF SPLITSINGSDAM

10 SITUATION :- VSP.TUGS A,B,C,D,M,S CONNECTED TO CAISSON
 12 - STRUCTURE DISCONNECTED FROM DOLPHINS
 14 - TOW CUT CRITERIA ARE POSITIVE

20 RECORD : INTERVAL : BY :
 22 - POSITION 5 MIN PLCTTER
 23 CONTINUOUS COMPUTER
 24 - WATERLEVEL H.V.H. 15 MIN METEC/HYDRO OFFICER
 26 - DRAUGHT (AIRC.) ALTERATION AIRCUSHION CONTROL
 28 - TUG POWER SETTING ALTERATION METEC/HYDRO OFFICER

35 CALCULATE EACH 15 MINUTES (SEE ENCLOSURE 12) :
 37 - ACTUAL SPEED
 39 - EXPECTED PROGRESS

45				
46	HOUP	DESCRIPTION OF ACTION	DRWG.	ENC
47				
48				
50	Z-11	-START TOW FROM CONSTRUCTION AFLCAT		
51		SITE TO BEERKANAAL	T-016	
52	Z-9	-3 LAUNCHES WITH BOATMEN PRESENT		
53				
54	Z- 8	-ARRIVAL AT BEERKANAAL. INFORM T.C.		
55		-SHIPPING FOR 6 PET AND VCM HCLD		
57		-POSITION 22.000 IHP TUG IN FRONT OF	T-034	
58		STRUCTURE WITH VSP.TUG OF 1.250 IHP		
59		-BOATMEN BRING LINE FROM TUG TO		
60		CAISSON AND CONNECT TO WEAKLINK		
61		-PULL WEAKLINK TO TUG AND CONNECT TO		
62		NYLON HAWSER		
63		-CHANGE POSITION OF VSP.TUG M	T-017	
64				
65	Z- 7	-CONNECT TWO 11000 IHP TUGS TO CAISSON	T-034	
66				
67	Z- 6	-CONNECT 12.500 AND 9.000 IHP TUGS TO	T-034	
68		-START CROSS-CURRENT MEASUREMENTS		E14
69		-APPROVAL OF RYKSHAVENMEESTER FOR TCW		
70	Z- 5	-CONNECT 12.500 IHP TUG TO CAISSON	T-034	
71				
72	Z- 4	-ALL COANGCING TUGS WITH A TOTAL		
73		CAPACITY OF 78.000 IHP IS CONNECTED	T-034	
74		-CHECK TOW-CUT CRITERIA B-01 'TCWCRI'		0070

75
76
78

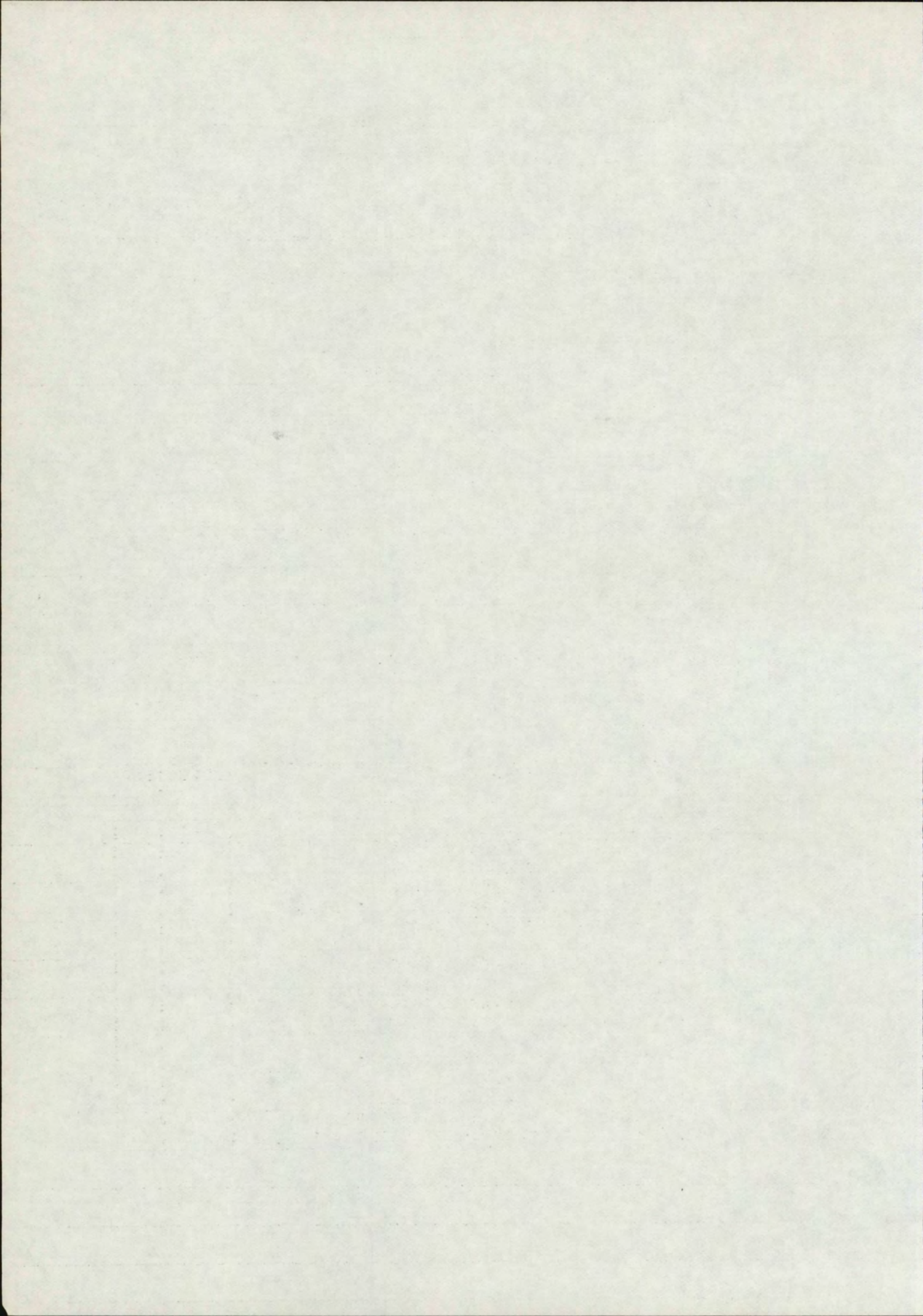
| | -INFORM MINISTERIE VAN DEFENSIE | |

| E10 |

80
81
82

NOTE : IF CIRCUMSTANCES ARE CHANGED SUCH THAT TCW-OUT
OPERATION HAS TO BE INTERRUPTED, CONTINUE WITH
PARC. D 02 BREAK-OFF PCINT BEERKANAAL 'BRCF 2'

0150



 *
 MAIN= 04 * C 06 TCW TO MAAS CENTER *
 PARG=C06 * *
 BLCK=TCWMAA * REV 10 DATE 14/06/76 *
 *

SEQUENCE NR.0130 * SEE SEQ

05 Z = ZERC = TIME OF TW DURING PASSAGE OF SPLITSINGSDAM

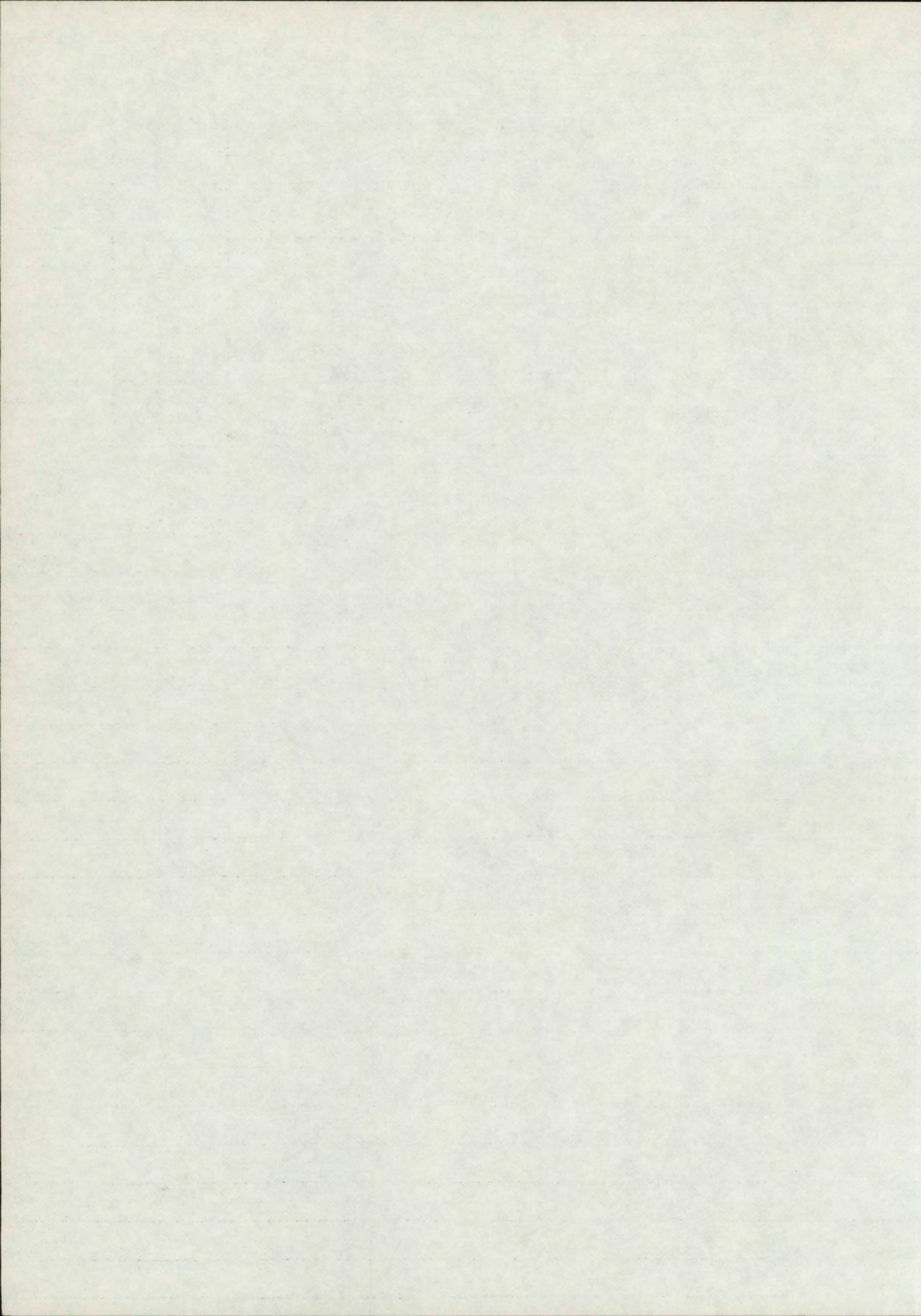
10 SITUATION :- VSP.TUGS CONNECTED TO CAISSON
 11 - STRUCTURE AT BEERKANAAL
 12 - CCEANGCING TUGS CONNECTED TO CAISSON
 14 - TOW OUT CRITERIA ARE POSITIVE

20 RECORD : INTERVAL : BY :
 21 - POSITION 5 MIN PLOTTER
 22 CONTINUOUS COMPUTER
 23 - DRAUGHT (AIRC.) ALTERATION AIRCUSHION CONTROL
 24 - WATERLEVEL H.V.H. 15 MIN METEC/HYDRO OFFICER
 25 - TUG POWER SETTING ALTERATION METEC/HYDRO OFFICER
 26 - CROSS CURRENTS 30 MIN LAUNCHES MAASGEUL

27 CALCULATE EACH 15 MINUTES (SEE ENCLOSURE 12) :
 28 - ACTUAL SPEED
 29 - EXPECTED PROGRESS, CROSS-CURRENTS AND KEELCLEARANCE

30 THE DEPARTURE FROM BEERKANAAL AT TIME Z-3 HOUR MAY VARY
 31 IN BETWEEN Z-4 AND Z-1 HOUR, DEPENDING ON THE PROGRESS
 32 OF THE PREVIOUS OPERATIONS (SEE DRAWING T-079 REV A.)

	HOUR	DESCRIPTION OF ACTION	DRWG.	ENC
35				
36				
37				
38				
40	Z- 3	-START TOW TO MAASCENTER	T-016	
41		-INFORM T.C. OF START TOW		
42		-LAUNCH RFD 7 TO BE PRESENT		
43		-SHIPPING IN BEERKANAAL HOLD		
44		-MOVEMENTS OF FERRIES AND BOPPERS		
45		CONSIDERED INDIVIDUAL		
46				
47	Z- 2	-SHIPPING IN EUROPCOERT HOLD		
48				
49	Z- 1	-STRUCTURE IN CALANCKANAAL		
50		-BLCY MAAS 3 REMOVED		
51				
52	Z	-PASSAGE END OF SPLITSINGSDAM		
53		-BLCY CA/RW REMOVED		
54		-SHIPPING IN MAASMOED HOLD		
55		-ADJUST SPEED OF STRUCTURE SO THAT		
56		CROSS-CURRENTS IN MAASGEUL ARE NOT		



57			MORE THAN 0.5 KNOT DURING PASSAGE	T-048		
58						
59	Z+ 2		-STRUCTURE NEAR HARBOURLIGHTS			
60			-CHECK WEATHER FORECAST			
61	Z+ 4		-STRUCTURE NEAR BLOK MAASVLAKTE NCCRD			
62			-SHIPPING IN EUROPEUL HOLE AND FOR			
63			ROTTERDAMSCHER WATERWEG FOR SHIPS			
64			OVER 40 FEET DRAUGHT			
65			-BUOYS REPLACED IN POSITIONS			
66						
67	Z+ 5		-STRUCTURE NEAR BLOK MAAS-OOST			
68			-SHIPPING FOR ROTTERDAMSCHER WATERWEG			
69			OF SHIPS OVER 40 FEET DRAUGHT ALLOWED			
70						
71	Z+ 7		-STRUCTURE NEAR BLOK MAASCENTER			
72			-SHIPPING IN EUROPEUL STILL HOLD			
75						

80 NOTE : IF CIRCUMSTANCES ARE CHANGED SUCH THAT TCW-CUT
 81 OPERATION HAS TO BE INTERRUPTED, CONTINUE WITH
 82 PARG. D 03 BREAK-OFF POINT NOODANKERGEBIED
 83 *BROF 3*

0155


```

*****
*
MAIN= 04 * C 07 TCW TO ELRO 1 *
PARG=007 * * * SEE
ELCK=TCWELR * REV 09 DATE 14/06/76 * SEQUENCE NR.0135 * SEQ
* * *
*****
    
```

05 Z = ZERO = TIME OF H_w DURING PASSAGE SPLITSINGSCAM

10 SITUATION : CAISSON NEAR NOCDANKERGEBIED
 12 TCW TO ELRG 1 DECISION POSITIVE

14	RECORD	:	INTERVAL	:	BY :
16	-POSITION		5 MIN		PLCTTER
17			CONTINUOUS		CCOMPUTER
18	-WATERLEVEL P.V.H.		15 MIN		METEO/HYDRO OFFICER
20	-DRAUGHT (AIRC)		ALTERATION		AIRCUSHION CONTROL
22	-TUGPOWER SETTING		ALTERATION		METEO/HYDRO OFFICER
23	-CRCS CURRENT		30 MIN		LAUNCHES MAASGEUL

24 CALCULATE EACH 15 MIN. (SEE ENCLOSURE 12) :
 26 -ACTUAL SPEED
 28 -EXPECTED PROGRESS

	HOUR	DESCRIPTION OF ACTION	DRWG.	ENC
30				
32				
34				
36				
38	Z+ 7	-CHECK WEATHERFORECAST		
39		-TCW TO END OF ELROGELL		
40				
42	Z+12	-PASSING CF BREAK-OFF PCINT 'BROF 4'		0160
43				
45	Z+18	-PASSING CF BREAK-OFF PCINT 'BROF 4'		0160
47				
55	Z+23	-ARRIVAL END CF ELROGELL		
56		-SHIPPING IN ELROGELL ALLOWED		
60		-DISCONNECTION VSP.TLGS	T-017	
65		-NOT REQUIRED PEOPLE TO LEAVE CAISSON		
67				
68	Z+24	-START NORTH SEA TCW		
69		-PROVISORIAL WARNING FOR FARBCURTUGS		
70		IN NORWAY CF E.T.A.		
71				
75				

80 NOTE : IF CIRCUMSTANCES ARE CHANGED SUCH THAT TCW-OUT
 81 OPERATION HAS TO BE INTERRUPTED, CONTINUE WITH
 82 PARG. D 04 BREAK-OFF POINT ELROGELL 'BROF 4' 0160


```

*****
*
* PART D THE BREAK-OFF POINTS
*
* REV 02 DATE 30/01/76
*
*****

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MAIN= 04
PARG= D
BLCK=PART D

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SEQUENCE NR.0140

```

```

* SEE
* SEQ

```

05 THE PART D OF THIS MANUAL DESCRIBES THE SEVERAL
10 EMERGENCY-ANCHORAGE AREAS, WHERE THE STRUCTURE
15 CAN BE HELD IN POSITION IN CASE OF ANY DELAY.

20	D 01	BREAK-OFF POINT CCNSTRUCTION AFLOAT SITE	'BROF 1'	0145
22	D 02	BREAK-OFF POINT BEERKANAAL	'BROF 2'	0150
24	D 03	BREAK-OFF POINT NCCDANKERGEBIED	'BROF 3'	0155
26	D 04	BREAK-OFF POINT ELRCGELL	'BROF 4'	0160
30	D 05	EMERGENCY HOLDING PROCEDURE	'EMERHC'	0165

 *
 MAIN= 04 * D 01 BREAK-OFF POINT CONSTRUCTION AFLCAT SITE *
 PARG=D01 * * * * *
 BLCK=BPDF 1 * REV 02 DATE 30/01/76 * SEQUENCE NR.0145 * SEE SEQ *
 * * * * *

05 AT THE CONSTRUCTION AFLCAT SITE THE STRUCTURE CAN BE
 10 HELD IN POSITION BY THE VSP.TUGS A,B,C,D AND M AS LONG
 15 AS THE DOLPHINRING C IS NOT DISCONNECTED. THE STRUCTURE
 20 HAS TO TURN OVER 15 DEGREES (MAXIMUM IS 45 DEGREES).
 25 AS SOON AS THE CIRCUMSTANCES ARE CHANGED SUCH THAT THE
 30 TOW-OUT CRITERIA ARE BEING MET SEE PARG. B 01 'TOWCRI' 0070
 35 PROCEED WITH THE TOW-OUT OPERATION ON PARG. C 04
 40 DISCONNECTION FROM DOLPHIN C 'DISC C' 0120

 *
 MAIN= 04 * D 02 BREAK-OFF POINT BEERKANAAL *
 PARG=D02 * *
 BLCK=BRDF 2 * REV 04 DATE 08/04/76 * SEQUENCE NR.0150 * SEE SEQ
 *

05 THE BREAK-OFF POINT BEERKANAAL IS LOCATED NEAR THE
 10 POSITION, WHERE THE OCEANGONG TUGS WILL BE CONNECTED
 15 WITH THE STRUCTURE. THE STRUCTURE WILL BE TOWED BACK TO
 17 THE EIGHTH PETROLEUMHAVEN IN CONSULTATION WITH THE
 19 HARBOURMASTER. IN THIS POSITION THE STRUCTURE WILL BE
 20 IN POSITION BY THE SIX VSP-TUGS A,B,C,D,M AND S.

25 IT MAY BE THE CASE THAT SOME OCEANGONG TUGS ARE
 27 ALREADY CONNECTED TO THE STRUCTURE. IF THIS IS THE CASE *****
 30 THESE OCEANGONG TUGS HAVE TO BE KEPT IN
 35 POSITION BY EXTRA VSP-TUGS, WHICH ARE STAND BY IN THE
 40 SCHELPHAVEN

50 AS SOON AS THE CIRCUMSTANCES ARE CHANGED SUCH THAT THE
 52 TOW-OUT CRITERIA ARE BEING MET SEE PARG. E 01 'TOWCRI', 0070
 54 PROCEED WITH THE TOW-OUT OPERATION ON PARG. C 06 TOW TO
 56 MAASCENTER 'TOWMAA' 0130

70 IN THE PERIOD OF THIS BREAK-OFF POINT THERE HAS TO BE
 72 AT LEAST ONE HIGH-WATER PERIOD

 *
 * D 02 BREAK-OFF POINT NOCDANKERGEIED *
 *
 * REV 04 DATE 08/04/76 * SEQUENCE NR. 0155 *
 *

MAIN= 04 *
 PARG=D03 *
 ELCK=BRCP 3 * SEE
 * SEQ

05 THE BREAK-OFF POINT NOCDANKERGEIED IS LOCATED AT MAAS-
 10 CENTER AT THE NORTHSIDE OF THE MAASGEUL. HERE THE
 15 STRUCTURE WILL BE HELD IN POSITION BY THE SIX VSP.TUGS
 20 A,B,C,D,M,S. FOR MANOEVRING OF THE OCEANGING TUGS
 25 THERE WILL BE SUMMONED EXTRA VSP.TUGS FROM THE
 30 SCHEURHAVEN
 35 IN CASE THE WINDSPEED INCREASES, THERE WILL BE ALSO
 37 ORDERED MORE VSP.TUGS FROM THE SCHEURHAVEN.

50 AS SOON AS THE CIRCUMSTANCES ARE CHANGED SUCH THAT THE
 52 TCW-OUT CRITERIA ARE BEING MET SEE PARG. E 01 'TCWCRI', 0070
 54 PROCEED WITH THE TOW-OUT OPERATION CN PARG. C 07 TOW TO
 56 EURC 1 'TOWEUR' 0135

70 IN THE PERIOD OF THIS BREAK-OFF POINT THERE HAS TO BE
 72 AT LEAST ONE HIGH-WATER PERIOD

 *
 MAIN= 04 * D 04 BREAK-OFF POINT EURCGEUL *
 PARG=C04 * *
 BLCK=BR0F 4 * REV 04 DATE 04/06/76 * SEQUENCE NR.0160 * SEE SEQ *
 *

05 THE BREAK-OFF POINT EURCGEUL IS LOCATED NEXT TO THE
 10 EURCGEUL. THERE ARE TWO LOCATION OF 500 METERS SQUARE,
 15 WHICH COORDINATES ARE GIVEN HERE BELOW
 20 THE STRUCTURE WILL BE HELD IN POSITION BY THE SIX VSP.
 25 TUGS A, B, C, D, M AND S. FOR MANOEUVRING OF THE OCEANGOING
 30 TUGS THERE WILL BE SUMMONED EXTRA VSP. TUGS FROM THE
 35 SCHEURHAVEN

50 AS SOON AS THE CIRCUMSTANCES ARE CHANGED SUCH THAT THE
 52 TCW-OUT CRITERIA ARE BEING MET SEE PARG. B 01 'TCWCRI', 0070
 54 PROCEED WITH THE TOW-OUT OPERATION ON PARG. C 07 TCW TO
 56 ELRC 1 'TCWEUR' 0135

70 IN THE PERIOD OF THIS BREAK-OFF POINT THERE HAS TO BE
 72 AT LEAST ONE HIGH-WATER PERIOD

80	DISTANCE	N.L	E.L.
81	21 KM	52- 1-23.48	3-44-46.18
82		52- 1-39.66	3-44-46.45
83		52- 1-39.49	3-45-12.68
84		52- 1-23.31	3-45-12.41
90	31 KM	52- 0-40.57	3-35-50.47
91		52- 0-56.76	3-35-50.68
92		52- 0-56.62	3-36-16.91
93		52- 0-40.44	3-36-16.69

 *
 MAIN= 04 * D 05 EMERGENCY HOLDING PROCEDURES *
 PARG=DC5 * *
 BLCK=EMERHG * REV 01 DATE 04/06/76 SEQUENCE NR.0165 * SEE SEQ *
 *

10 WHENEVER NO USE CAN BE MADE OF THE BREAK-OFF POINTS
 14 DESCRIBED IN THE PARG. C 01/02/03/04 AND THE TOW
 18 OPERATION WOULD NOT BE ABLE TO PROCEED FOR WHATEVER
 20 REASON, A UNFORSEEN EMERGENCY-SITUATION HAS ARISEN.
 24 ALTHOUGH FULL-HOLDING POWER MAY NOT BE AVAILAELE, IT
 26 MAY BE ASSUMED THAT SOME TUG-ASSISTANCE WILL ALWAYS BE
 28 AVAILABLE.

40 WHEN THIS HAPPENS IN MAASGELL OR EURCGEUL THE STRUCTURE
 42 WILL BE ALLOWED TO DRIFT SLOWLY TOWARDS THE SIDE OF
 44 THE CHANNEL UNTIL THE SKIRTS TOUCH THE SLOPES
 46 WHERE THIS NOT POSSIBLE, FOR INSTANCE IN THE HARBOUR
 48 WHERE SLOPES MAY BE DAMAGED, THE POSSIBILITY OF
 50 GROUNDING THE STRUCTURE ON FLAT BOTTCM EXISTS. THE
 52 SKIRT CAN EASILY TAKE THE LOADS CAUSED BY THIS PROCE-
 54 DURES

60 THE PROCEDURES AS DESCRIBED HERE, WILL BE DONE ONLY IN
 62 UTMOST EMERGENCY AND HAVE TO BE APPROVED BY THE CON-
 64 CERNED AUTHORITIES

 *
 MAIN= 04 * PART E : LIST OF ENCLOSURES *
 PARC= E * * SEE
 BLCK=PART E * REV 02 DATE 04/06/76 SEQUENCE NR.0200 * SEQ
 *

05	E 01	NAVIGATION CABIN	'NAVIGA'	0205
10	E 02	ACCOMODATION	'ACCCMO'	0210
15	E 03	WORKSHOP-STORE	'WRKSH'	0215
20	E 04	LIFE-SAVING / FIREFIGHTING APPLIANCIES	'LIFESA'	0220
25	E 05	ELECTRIC INSTALLATION	'ELECTR'	0225
30	E 06	FRESH-WATER INSTALLATION	'FRESHW'	0230
35	E 07	LEAK-WATER EQUIPMENT	'LEAKWA'	0235
40	E 08	FUEL AND LUBRICANTS	'FUELUB'	0240
45	E 09	COMMUNICATION	'ENCCOM'	0245
50	E 10	NAMES/ADDRESSES OF PERSONS TO BE INFORMED	'NAMES'	0250
55	E 11	RELEASE PROCEDURE OF DOLPHINRING A CR C	'RELEAS'	0255
60	E 12	LOGBOOK	'LOGBOOK'	0260
65	E 13	TIME SCHEDULE	'TIMESC'	0265
70	E 14	CROSS-CURRENTS MEASUREMENTS	'CROCUR'	0270

 *
 MAIN= 04 * E 01 NAVIGATION CABIN ENCLOSURE 01 *
 PARG=401 * * SEE
 ELCK=NAVICA * REV 05 DATE 04/06/76 SEQUENCE NR.0205 * SEQ
 *

04 IN THE NAVIGATION CABIN THE TCW-CUT OPERATION IS
 05 CONTROLLED FOR POSITION OF THE STRUCTURE. THE NAVIGATION
 06 CABIN CONTAINS THE INVENTORY AS FOLLOWS :

08	NUMBER	ITEM
	1	CLOCK
10	6	VHF INSTALLATIONS SEE PARG. A 06 'COMMUN' 0045
12	1	RADIO-TELEPHONY INSTALLATION
13	1	INTERCOM
14	2	POSITIONING SYSTEM SEE PARG. A 05 'POSSYS' 0040
16	2	RECORDERS FOR 4 ECHOSOUNDERS
17	1	ANNOMETER
18	1	BAROMETER
19	1	PANEL FOR POWERSETTING OF CCEANGCING TUGS
20	1	SPHERICAL SPIRIT LEVEL INCLINOMETER
21		
24		PLTCHARTS FOR THE TCW-CUT ROUTE
26		CHARTS FOR NORTH SEA TCWAGE AND DEEPWATERSITE
27		APPRCACH SEE MANUAL NORTH SEA TCW ENCLOS. 1
28		NAUTICAL ALMANAC
29		DOCUMENTS SEE MANUAL NORTH SEA TCW ENCLOS. 2
30	1	NORWAY PILCT VCL. 11 A
31		NAVIGATION TABLES
32	1	METHOD STATEMENT ROTTERDAM TCW-CUT
34	1	METHOD STATEMENT NORTH SEA TCW AND DEEPWATER-SITE
35		APPRCACH
36	1	MANUAL NORTH SEA TCW DEEPWATERSITE APPRCACH AND MCCRING
37		
38	2	PAIR OF COMPASSES
39	1	PARALLEL RULE
40	2	BINCCULAR
42	1	FIRST-AID KIT WITH BOOKLET
43	1	MEGAPHONE
44	1	ALDIS-LAMP WITH BATTERY
46	2	TORCHES
48		SIGNAL FLAGS
52	3	BLACK BALL
65		THE DESCRIPTIONS AND DRAWINGS OF OPERABLE SYSTEMS
67		AND EQUIPMENT HAS TO BE ON BOARD OF THE CAISSON

 *
 * E 02 ACCOMODATION ENCLCSURE 02 *
 *
 * REV 00 DATE 01/04/76 SECLENCE NR.0210 * SEE SEQ
 *

05 THE ACCOMODATION ON THE CAISSONROOF HAS TO ACCOMODATE
 07 THE PEOPLE DURING THE TOW-OUT ROTTERDAM AND THE NORTH
 09 SEA TOW AND CONTAINS THE FOLLOWING ITEMS:

20 1 LIVING QUARTER COMPLETELY FURNISHED

22 1. KITCHENUNIT IN THE LIVINGQUARTER WITH A COMPLETE
 24 KITCHEN-UTENSILS AND DINNER THINGS FOR 35 PERSONS

28 2 SLEEPING ACCOMODATION COMPLETELY FURNISHED FOR A
 30 TOTAL OF 22 PERSONS

35 1 TOILET AND SHOWER-BATH UNIT

 *
 * E 03 WORKSHOP - STOPE ENCLOSURE 03 *
 *
 * SEE
 * REV 03 DATE 04/06/76 SEQUENCE NR. 0215 * SEQ
 *

05 NUMBER ITEM

10	1	TOOLCHEST
12	2	SLEDGE HAMMER -BIG
14	3	SLEDGE HAMMER -SMALL
16	1	TIPFOR 1 TON
18	1	JACK 1-2 TON
20	2	CRCWEAR HEAVY
22		DRILLING EQUIPMENT
24		WELDING- AND BURNING GEAR
30	3	LAMP PORTABLE
32	3	CABLES 20 M.
34		LAMPS SPARE
36	3	TORCH
40	1	COIL ROPE
42	3	HAULING LINES
44	4	STEEL STRAP 5-25 TON
46	4	STEEL WIRES LENGTH 50 M, DIAM. 20 MM
48	1	STEEL WIRE LENGTH 100 M, DIAM 12 MM
50	10	SHACKLES 1-25 TON
52	10	WIRE STRAINER
54	4	MOVABLE PULLEY-BLOCK (20 MM WIRE)
56	2	WIRE SHEARS
60		GREASE
62		BRUSHES
64	2	BRCCM
66		RAGS
70	4	OXYGEN BOTTLES
72	2	GAS BOTTLES
74	2	TROLLEY
80	2	LADDER 8 M.
82	22	SILCLIFTS
84		STEEL BARS AND -PLATES
86	1	BAG CEMENT

 *
 * E 04 LIFE-SAVING / FIRE-FIGHTING APPLIANCIES ENCL. 04 *
 *
 * REV 06 DATE 14/06/76 SEQUENCE NR.0220 *
 *

PAIN= 04
 PARC=404
 ELCK=LIFESA

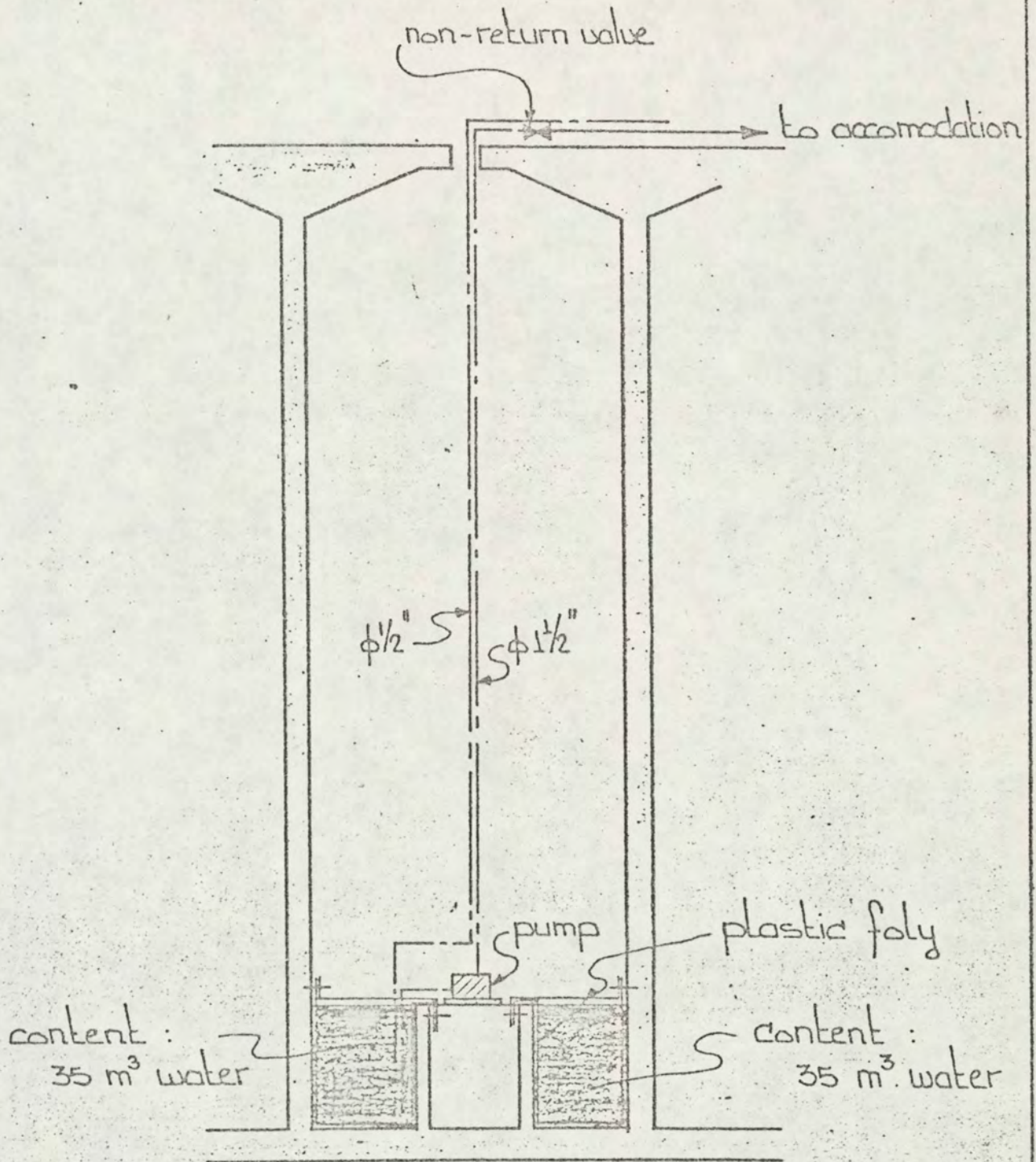
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05 NUMBER ITEM

- 10 25 LIFE-JACKETS
- 15 8 LIFE-BELTS (4 NUMBER WITH LINE AND LIGHT)
- 20 4 DINGHIES FOR 20 PERSONS EACH WITH CERTIFICATE
- 22 4 ROPE LADDER NEAR EACH DINGHY
- 24 4 PORTABLE LAMP NEAR EACH DINGHY
- 30 30 FIRE EXTINGUISHERS OF DIFFERENT KIND
- 32 2 FIRE AXES
- 35 4 SANDBOXES WITH SCOPPS
- 36 2 PUMPS WITH HOSES AND NOZZLES
- 38 2 PAIR ASBESTOS GLOVES
- 40 2 ASBESTOS BLANKETS
- 45 2 STRETCHERS
- 47 4 SAFETY BELTS WITH LINES
- 50 50 SAFETY HATS
- 70 INSTRUCTION OF SAFETY EQUIPMENT WILL BE ON BOARD OF THE
- 72 STRUCTURE AND PERSONS WILL BE TRAINED FOR THE OPERATION
- 73 OF THE EQUIPMENT

 *
 MAIN= 04 * E 06 FRESH-WATER INSTALLATION ENCLOSURE 06 *
 PARG=406 *
 ELCK=FREWAT * REV 03 DATE 14/06/76 SEQUENCE NR.0230 * SEE SEQ
 *

10 THE FRESH WATER IS STORED IN 2 RIBCOMPARTMENTS OF
 12 CELL 7 FOR A VOLUME OF 70 CUBIC METER AND IS PUMPED
 14 TO THE ACCOMODATION BY A PUMP BASED ON TOP OF THE RIBS
 16 (LEVEL 4.80 M). PUMPCAPACITY IS 5 LITER PER MINUTE.
 18 ALSO A SPARE-PUMP IS PLACED IN CELL 7



FRESH - WATER STORAGE

 *
 * E 07 LEAK-WATER EQUIPMENT ENCLOSURE 07 *
 *
 * REV 02 DATE 01/34/76 SEQUENCE NR.0235 * SEE SEQ
 *

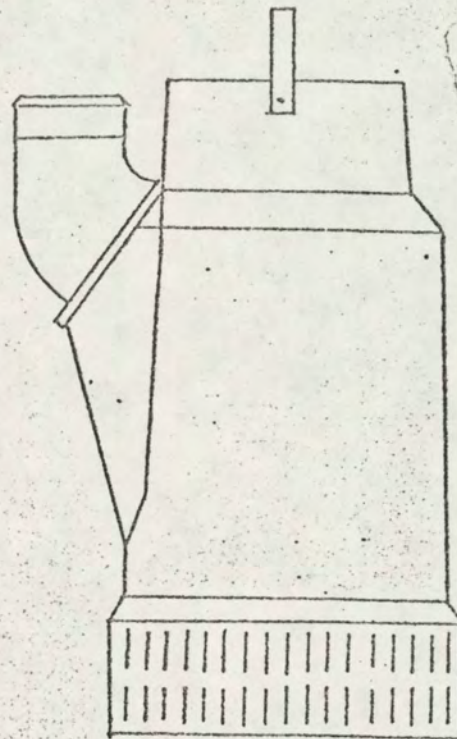
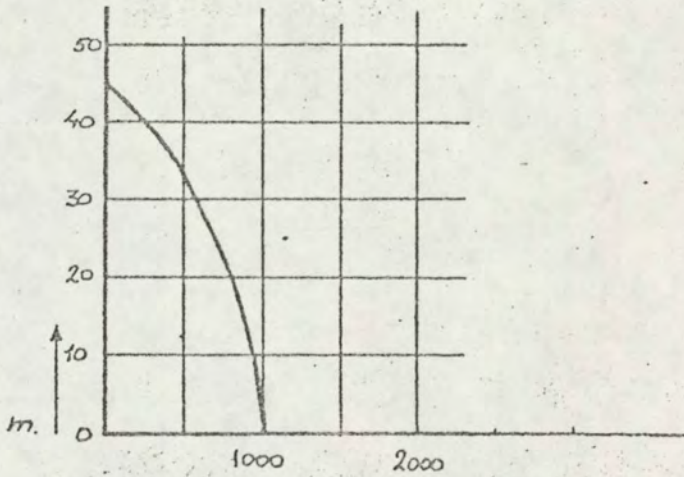
10 THE INSTALLATION FOR THE LEAKWATER OF THE CAISSON WILL
 12 BE A PORTABLE ONE WHICH CAN BE LOWERED DOWN INTO THE
 14 CELLS FROM THE CAISSONROOF THROUGH THE MANHOLES BY
 16 MEANS OF A WINCH OR MOBILE CRANE:

25 THE EQUIPMENT IS SPECIFIED AS FOLLOWS
 27 - 2 PUMPS OF 7 PK EACH, SUBMERSIBLE TYPE
 29 METER PER HOUR EACH, SUBMERSIBLE TYPE
 31 - 160 M. FLEXIBLE HOSES WITH COUPLINGS
 33 DIAMETER OF 3 INCHES

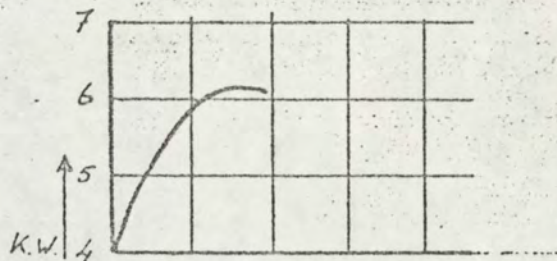
50 THE PUMPS ARE STORED ON THE CAISSONROOF AND WHEN THEY
 52 HAVE TO BE USED, THEY ARE TRANSPORTED WITH THE TRACTOR
 54 TO THE RELEVANT CELL, IN WHICH THEY ARE LOWERED BY
 56 MEANS OF A SILOLIFT-DEVICE COMPLETELY WITH HOSE AND
 58 ELECTRIC CABLE.

SUBMERSIBLE PUMP

Fabrication : Flygt
 Type : B 2102 HT
 Connection : 3"
 Power supply : 5200 W, 380 V, 50 Hz.
 Revolution : 2850 per minute.
 Weight : approx. 48 kg.



CAPACITY IN LITER/MIN.



ABSORPTION OF POWER

 *
 MAIN= 04 * E 08 FUEL AND LUBRICANTS ENCLOSURE 08 *
 PARG=406 * * * SEE
 BLCK=FUELUB * REV 01 DATE 14/06/76 SEQUENCE NR.0240 * SEQ
 *

05 FOR THE ENGINES ON BOARD OF THE STRUCTURE THE
 10 FOLLOWING CONSUMABLES ARE REQUIRED :

12 20.000 LITER OF GASCIL

14 400 LITER OF LUBRICATING OIL

16 50 KILOGRAMS OF GREASE

18 25 LITER OF PARAFFIN

20 2 PUMPS FOR GASCIL WITH HOSES

22 2 GREASE GUNS

		CANALS	TO BE SUPPLIED BY
VHF a	PORTABLE	6, 9	SIMS
" b	FIXED	1-14, 16, 18-22	ANDOC
" c	"	36 L	"
" d	"	36 H	"
" e	"	ALL CANALS	"
" g	PORTABLE	2, 3, 6, 14, 16, 18, 20	SEA PILOT
" h	"	" " " " " " " " " "	HARBOUR PILOT
" j	FIXED	39, 40	ANDOC
" k	"	1 UNTIL 28	"

CLIENT NR. 112

RUNDATE 02/11/77

PAGE 058.

*
MAIN= 04 * E 10 NAMES AND ADDRESSES OF PERSONS ENCLOSURE 10 *
PARG=410 *
ELCK=NAMES * REV 00 DATE 22/01/76 SEQUENCE NR.0250 * SEE
* SEQ

10 THIS ENCLOSURE WILL BE DISTRIBUTED LATER

ENCLOSURE 10: NAMES AND ADDRESSES

AUTHORITY	ADDRESS	TELEPHONE	TELEX
Shell Expro UET/221	Shell Centre, LONDON, SE1 7NA.	09.44. 19341234	919651 zc zc zz mmmm
Shell Expro Maasvlakte.	Maasvlakte, Rozenburg	01819. 62966	27015
Andoc, Design	P.O. Box 4, Delft	015.56 9281	33415
Noble Denton & Associates Ltd.	131, Aldersgate Street, LONDON EC1A 4EB	0944.1606 4961	885802
Det Norske Veritas	Greuseveyen 92, P.O. Box 6060, Etterstad. OSLO 6.		
S.I.M.S.	P.O.Box 1042, Westplein 5, Rotterdam 3002	010.362700	22247
Smit Tak Int.	Boompjes, Postbus 970, Rotterdam. 3001	010.141977	24446
Loodswezen	Pieter de Hoogweg 125b Rotterdam	010.761377	25377
Rijkshavendienst	Parklaan 15, Rotterdam, Atten: Rijkshavenmeester	010.363433	-
RWS Noordzee	Nijverheidsstraat 1, Rijswijk ZH, Atten: Mr. v.d. Wal.	070.906628 907640	33782
Havenbedrijf Gem. Rotterdam	Lloydstraat 35, Rotterdam: Atten: Mr. J.U. Budzma	010.766600	25720
RWS. Deltadienst	Kanaalweg 02 2 Hellevoetluis	01883.4100	-
KNMI	Utrechtsweg 297, de Bilt. Atten: Ir. W.D. Moens	030.764242	47096
Control Informatiecentrum	/.....		

Control Informa-
tie-centrum

01747.3791
01747-3843

Roeiers ver.
Eendracht

Heyplaatweg 7, Rotterdam

010.290491

Rijksluchtvaart-
dienst

070.747327

31435

Traffic Control
Post Waterweg

01819.12411

Ministerie van
Defensie
Chef der Hydro-
grafie

Badhuisweg 717,
Den Haag, Mr. v.d.
Oever

070.814261

31335

Ministry of
Defence. Hydro-
graphic Dept.

Taunton, Somerset,
TA1 2DN
England

09.44.
823.87900

46274

Pilot office
Kopervik
Chief Pilot

047.50118

047.50777

Harbour Master
Stord.

Lervick, Stord

054.11166

Weather Forecast
Bergen

Normal forecast
Special Forecast

05.016
05.215996

42239

FUNCTION	NAME	ADDRESS	PLACE	TEL.	COMPANY
S.I.	A. v. d. Merik	Werestcyn 48	Sliedrecht	01840-4328	Andoc.
S. M.S.I.	J. Vis	Jupiterlaan 8	Rockanje	01884-2009	Andoc.
Master Sims.	L. Westdijk	Smit International, Batteryplace 17	New York	(212) 344-7470	Sims.
s. Towmaster	W.S. v. d. Ham	Franshalsstraat	Papendrecht	078 -51561	Sims.
s. Towmaster	de Fris	Johannes Bolwerk 10	Hamburg	311281	Bugsier.
Wmaster	A.F. de Vries	Abelstraat 4	Rockanje	01884-2105	N.R.S.
s. Towmaster	R. Kemper	Willemdrielaan 11	Breda	01886-3093	N.R.S.
lot (Harbour)	C.H.A.v. Putten	G.I. Boogerdweg 7	Bricelle		Loodswezen.
lot (Sea)	C. Valkenier	P. de Hooghweg 256	Rotterdam	010 -761377	Loodswezen.
lot (Sea)	C. de Boer		" day/night	010 -761828	"
teco-Hydro Off.	A. Baldee	v. Alkemadestraat 79	de Lier	01745-4533	Andoc/Design
teco-Hydro Off.	T. Gijzel	F.v.d. Capellestr. 9	Krimpen a/d IJssel	01807-18963	Andoc/Design
irc. Operator	D.v.d. Brink	Torenvalklaan 163	Vlaardingen	010 -714021	Andoc.
ngineer					
irc. Contr.	A.P. Degenars	Westerhoutstraat 17	Haarlem	023 -314754	Andoc.
tecca surveyor					
nior surv.	B.v. Grafhorst	Schaperstraat 18	Dordrecht	078 -70337	Andoc.
otter	F. Drouwer	Noordsingel 87 b	Rotterdam	010-241264	Andoc.
otter					
ngineer	P. Stolk	Rembrandlaan 119	Voorschoten		Andoc.
ectrician	J. de Jong	Socratesstraat 191	Rotterdam	010 -329211	Andoc.
ok	J.A.v.d. Linde	Guido Gezellestr. 91	Bergen op Zoom		Andoc.
Cook	C. van 't zant	p/a Schaepmanstr. 47	Dieren		Sims.
ckhand	D. v.d. Oever	Meeuwenhof 57	Scheveningen	08330-17139	Sims.
ckhand	L.C. de Neeff	Meezenhof 2	Rozenburg	070 -546370	Sims.
ckhand	D.P.R. Zwart	Schoutendreef 361	Den Haag	01819-13368	Sims.
spector Shell	P. Rusbridge	16 Harecroft Leatherhead	Den Haag	070 -292037	Sims.
spector Shell	T. Bijlsma	Kijkduinsestraat 830	Den Haag	Bookham 52184	Shell Expro U.K
spector NDA	P. Donoclift	8 Lightsfield	Den Haag	070-252903	Shell Expro U.K
spector NDA	J. Huntington	Glendower Lodge, Straigh	Oakley, Hants	256-781384	N.D.A.
S Deltadienst	J.H. Bossinade	Voorstraat 82	Road, Old Winson, Barkshire	Winsor 51639	N.D.A.
S Noordzee	R.A.M. Pollen	Meno ter Braaklaan 115	Stellendam		R.W.S.
S Noordzee	C. Minnes	Warboesstraat 54	Delft, A'dam	015-563409	R.W.S.
ndoc Design	M. Otto	Waldeckpjrmanstr. 7	Den Burg p/a C.I.C.	01747-3791	R.W.S.
			Zoetermeer	079 -167091	ANDOC.

 *
 MAIN= 04 * E 11 RELEASE PROCEDURE OF DOLPHIN ENCLOSURE 11 *
 PARC=411 * * * * *
 ELCK=RELEAS * REV 00 DATE 22/01/76 SEQUENCE NR.0255 * SEE * SEQ *
 * * * * *

10 THIS ENCLOSURE GIVES THE FIVE STAGES OF THE RELEASE
 12 PROCEDURE FOR THE DOLPHIN CONNECTIONS :

15 11-0 SITUATION

20 11-1 HOOK RING TO TOWINGHOOK

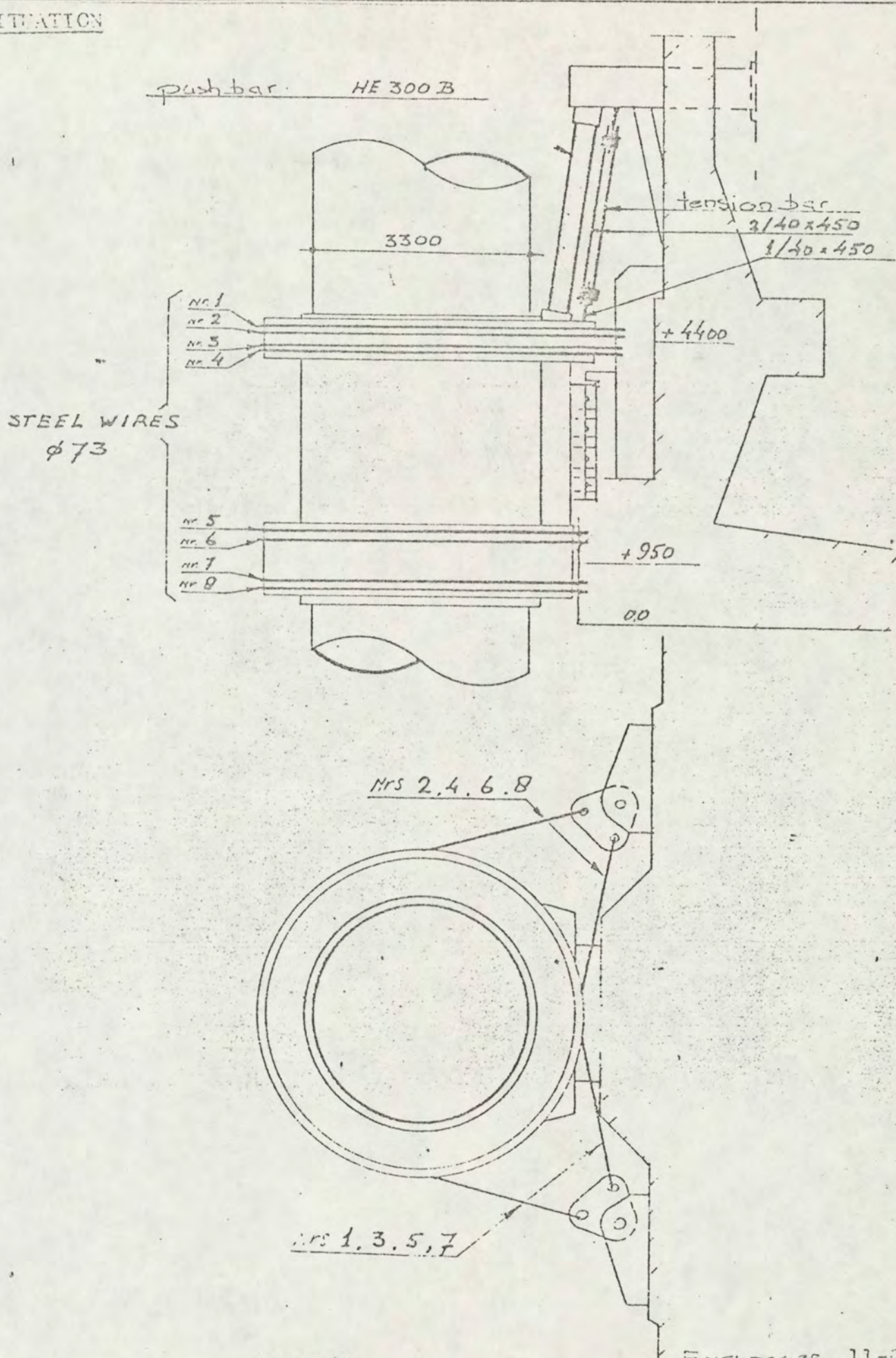
25 11-2 FIX PUSHBAR TO GALLON

30 11-3 CUT TENSICBAR

35 11-4 CUT STEELWIRES NO. 1,2,5,6

40 11-5 CUT STEELWIRES NO. 3,4,7,8

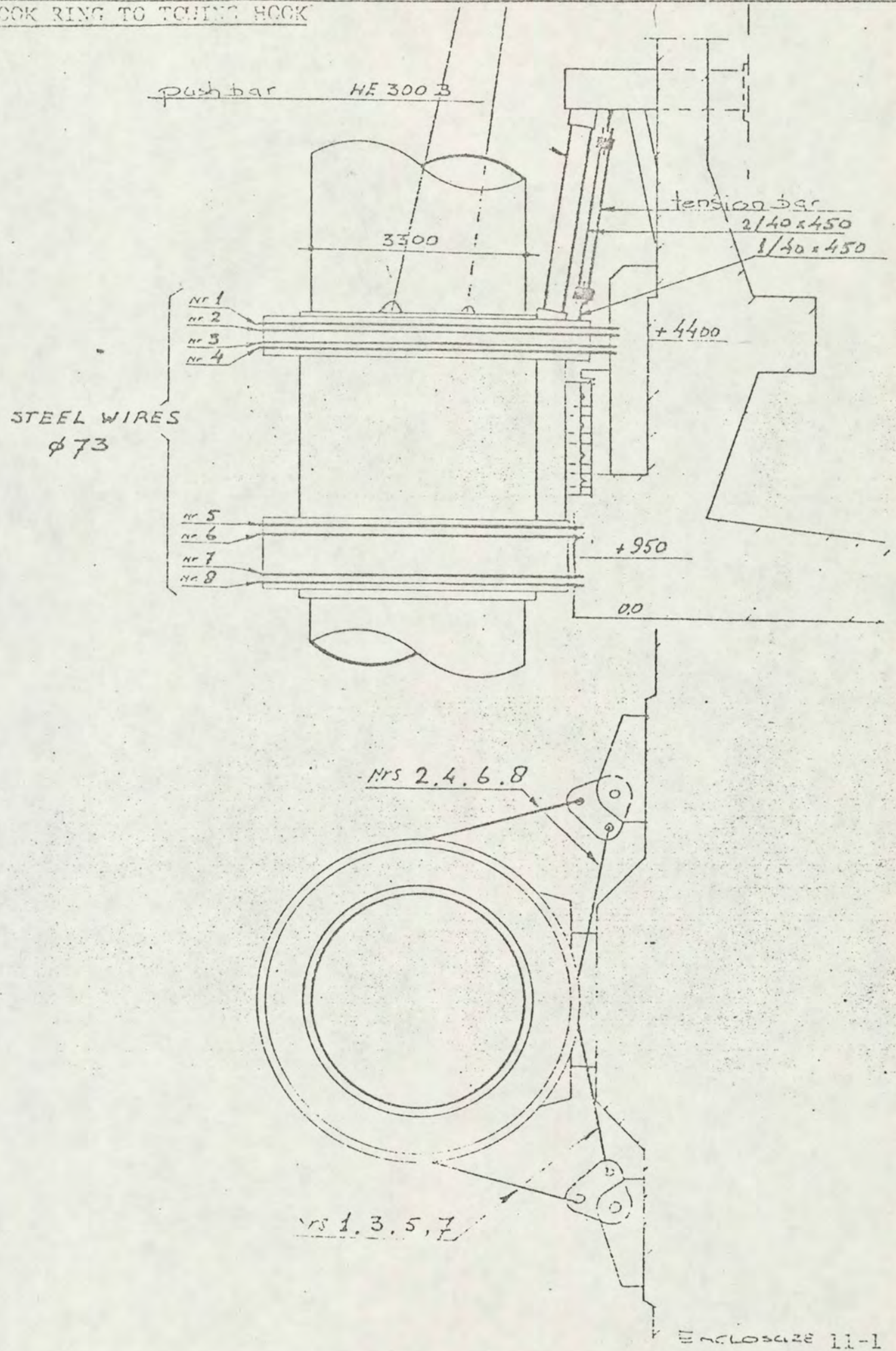
SITUATION



ENCLOSURE 11-0

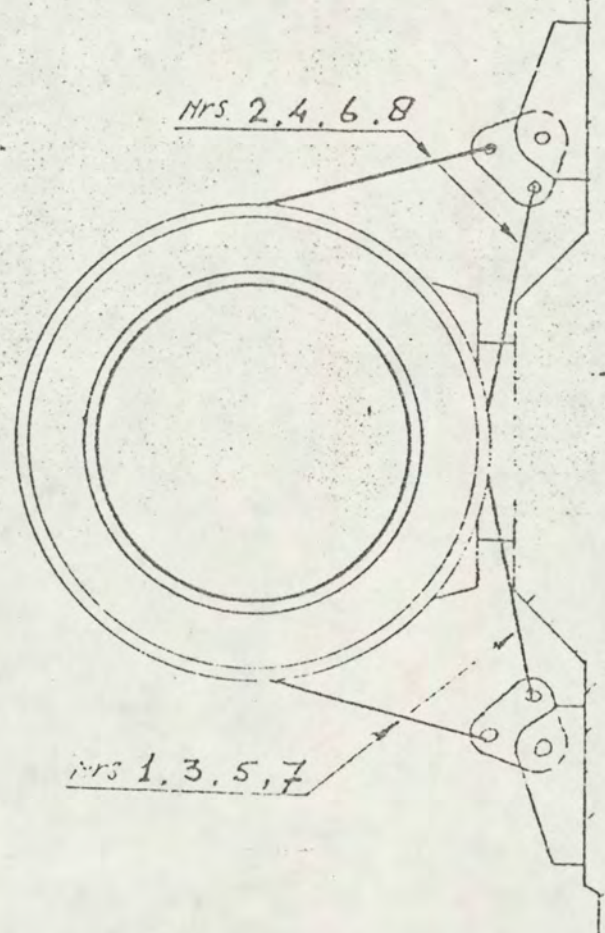
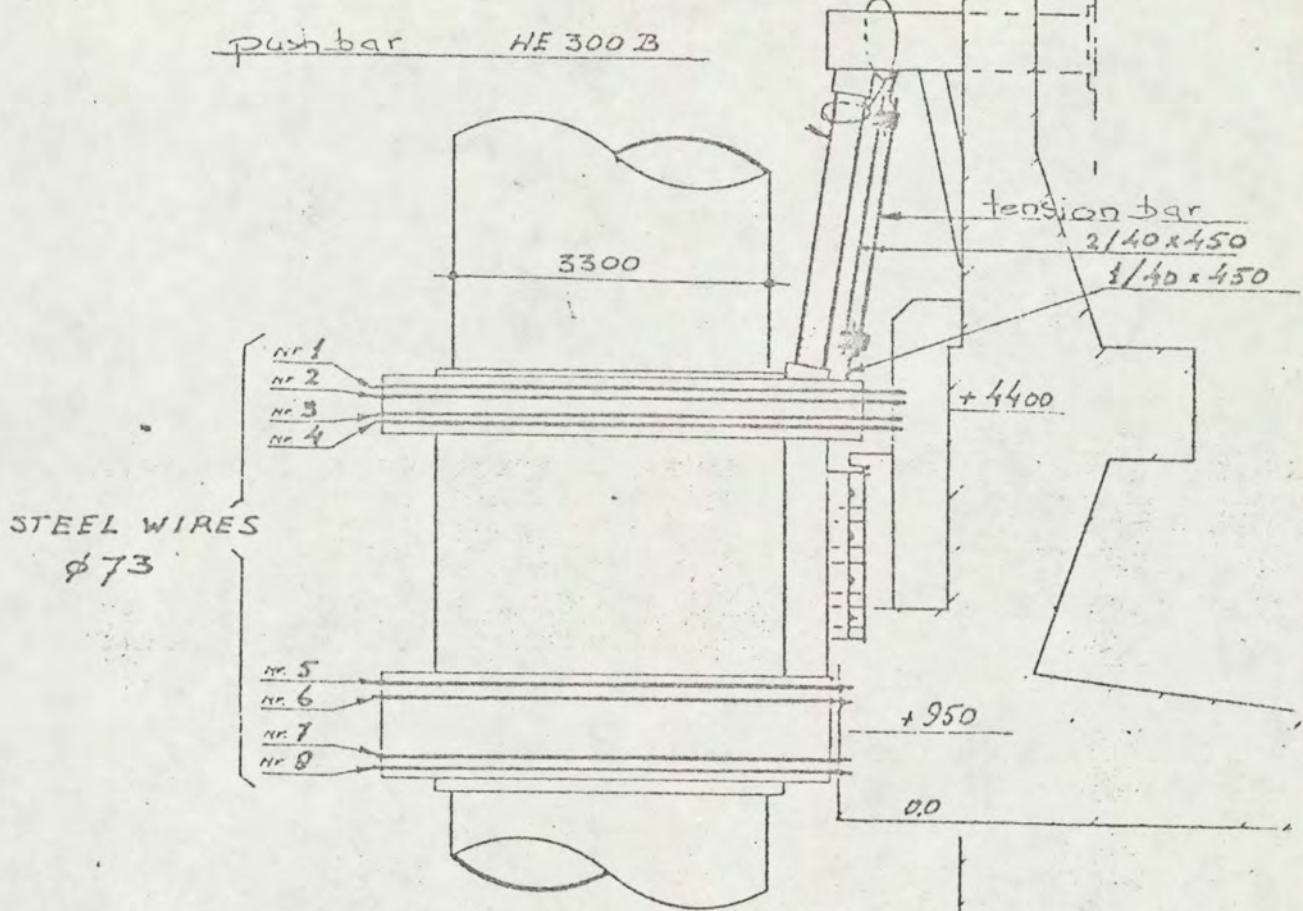


HOOK RING TO TOWING HOOK



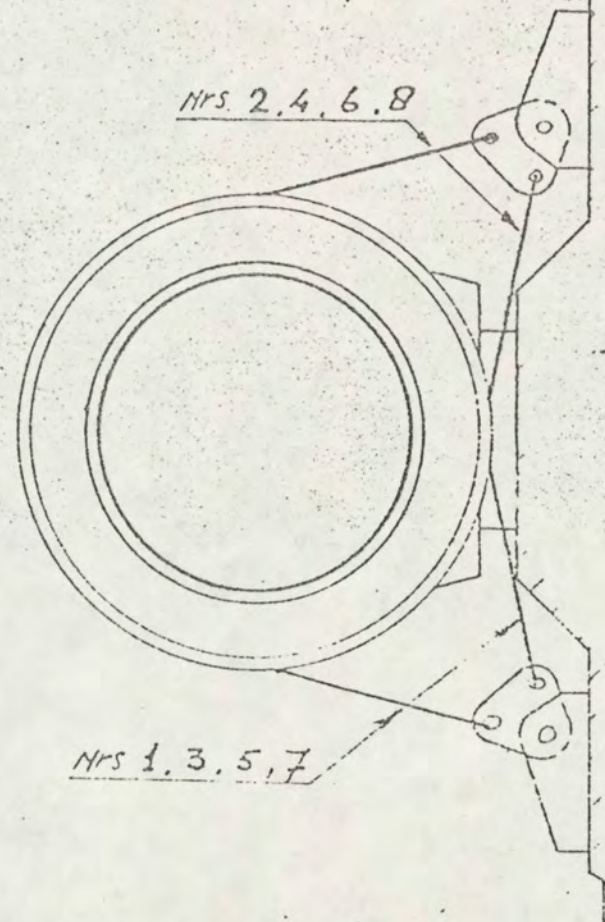
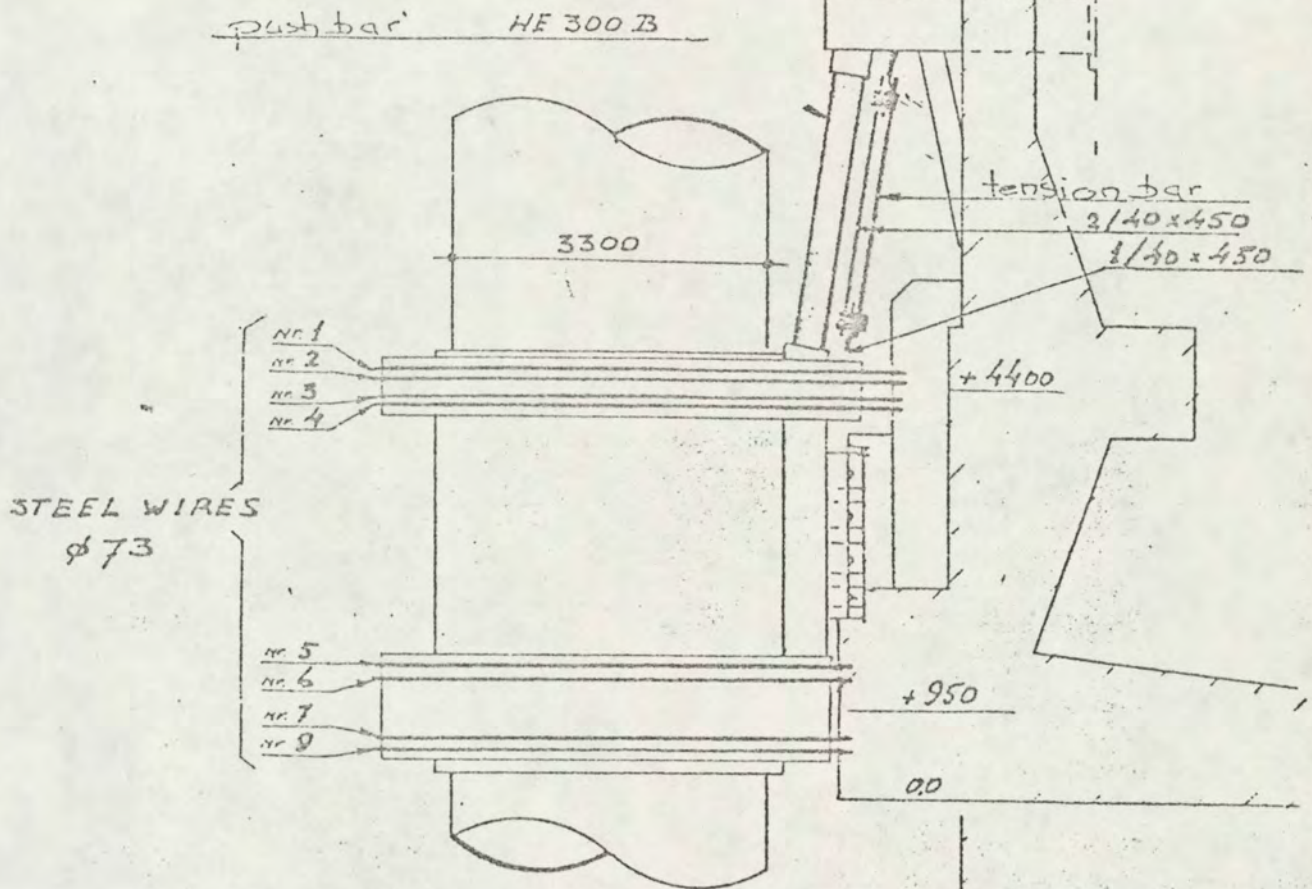
ENCLOSURE 11-1

FIX PUSH BAR TO GALLON



ENCLOSURE 11-2

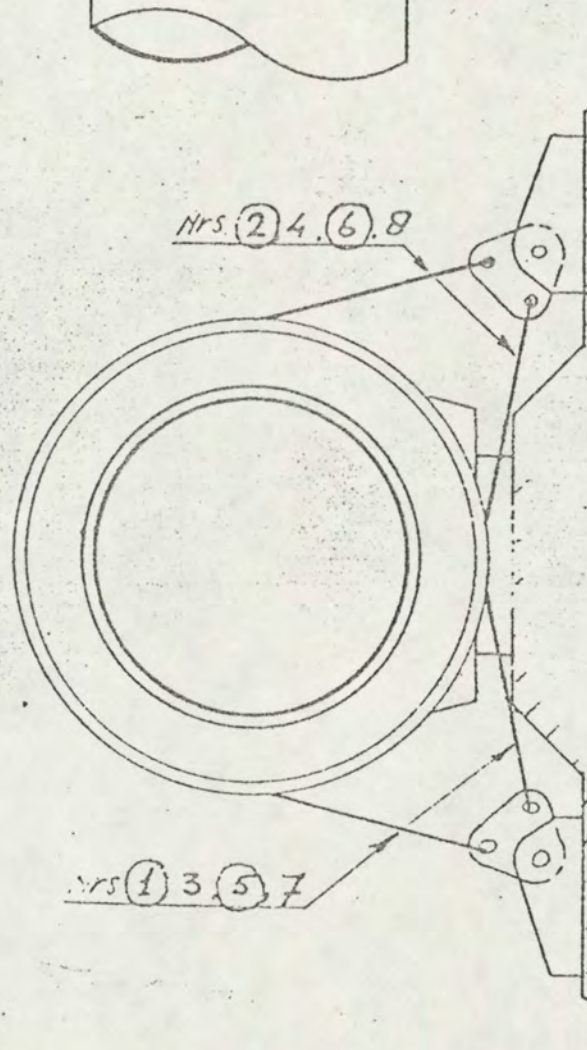
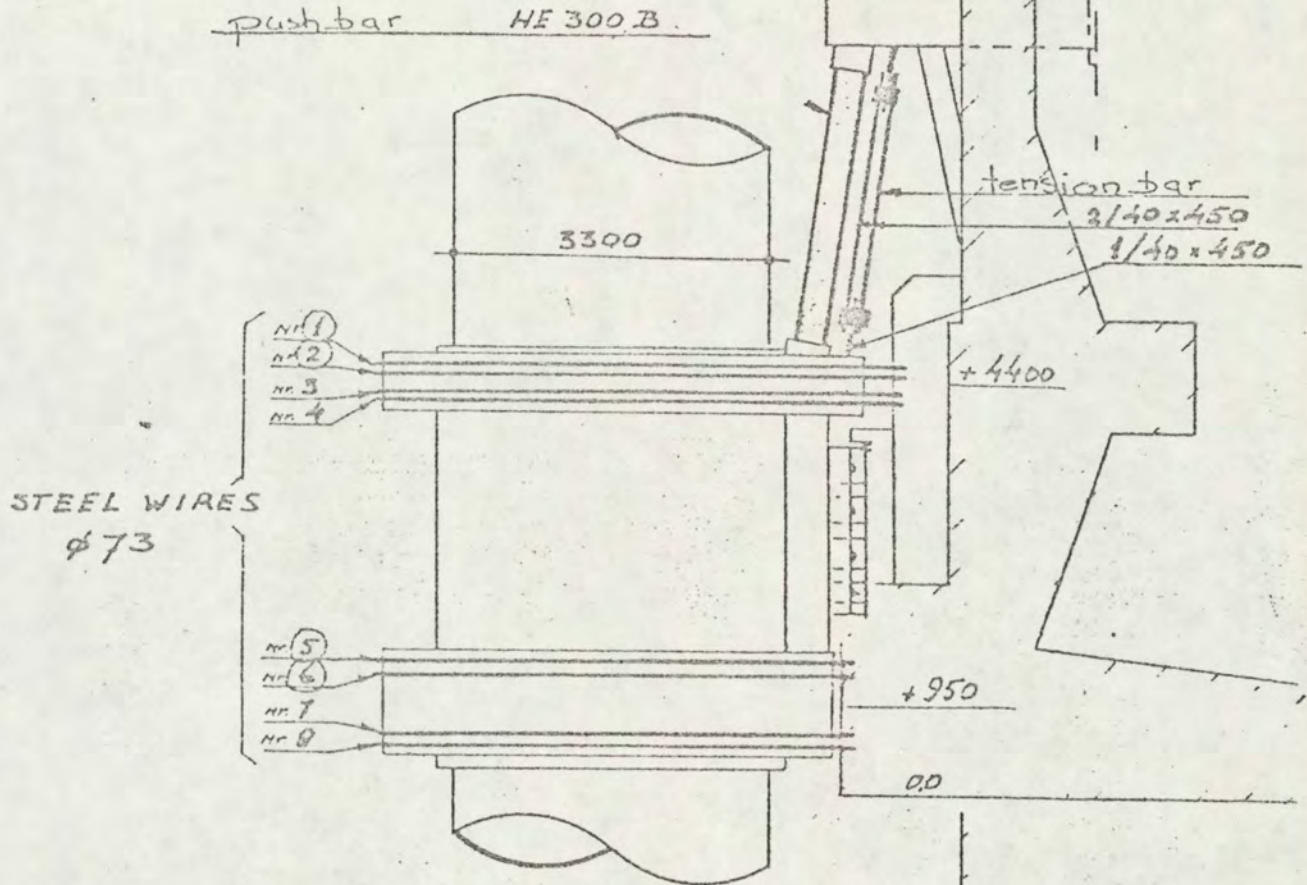
OUT TENSION BAR



ENCLOSURE 11-3

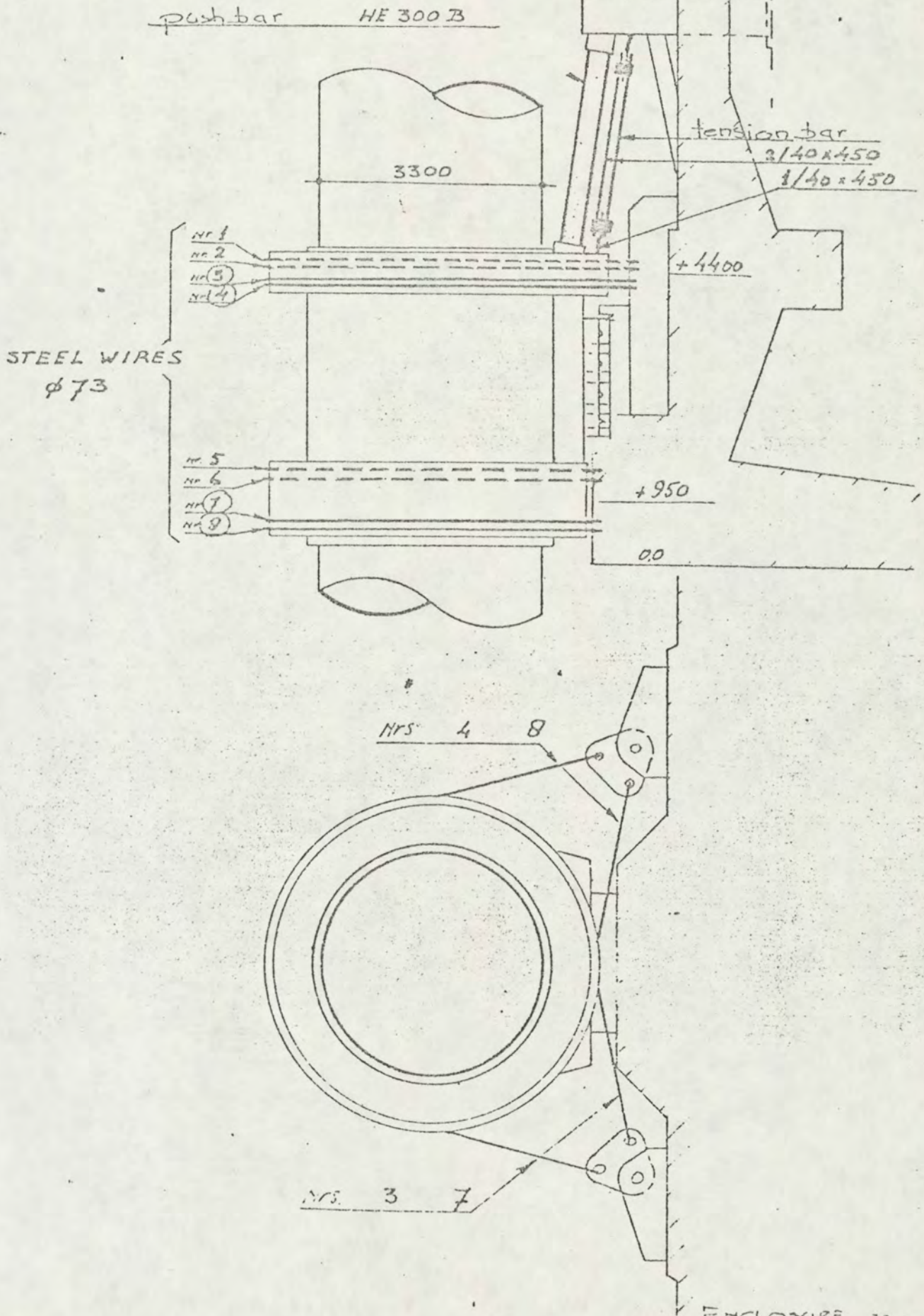


CUT 4 WIRES NRS., 1, 2, 5 & 6



ENCLOSURE. 11-4

CUT 4 WIRES NRS 3,4,7,8



ENCLOSURE 115

 *
 MAIN= 04 * E-12 LOGBECK ENCLOSURE 12 *
 PARG=412 * * SEE
 ELCK=LOGE0C * REV 00 DATE 22/01/76 SEQUENCE NR.0260 * SEQ
 *

10 THE FOLLOWING SHEETS WILL BE USED DURING THE TOW-CUT
 12 OPERATION FOR THE RECORDING OF THE REQUIRED DATA,
 14 SUCH AS THE WEATHERFORCAST, HW- AND LW-LEVELPREDICTION,
 16 POSITION AND ACTUAL WATERLEVEL.

19

METEOROLOGISCHE DIENST ZIERIKZEE

WEERSVERWACHTING
VOOR
H. v. Holland

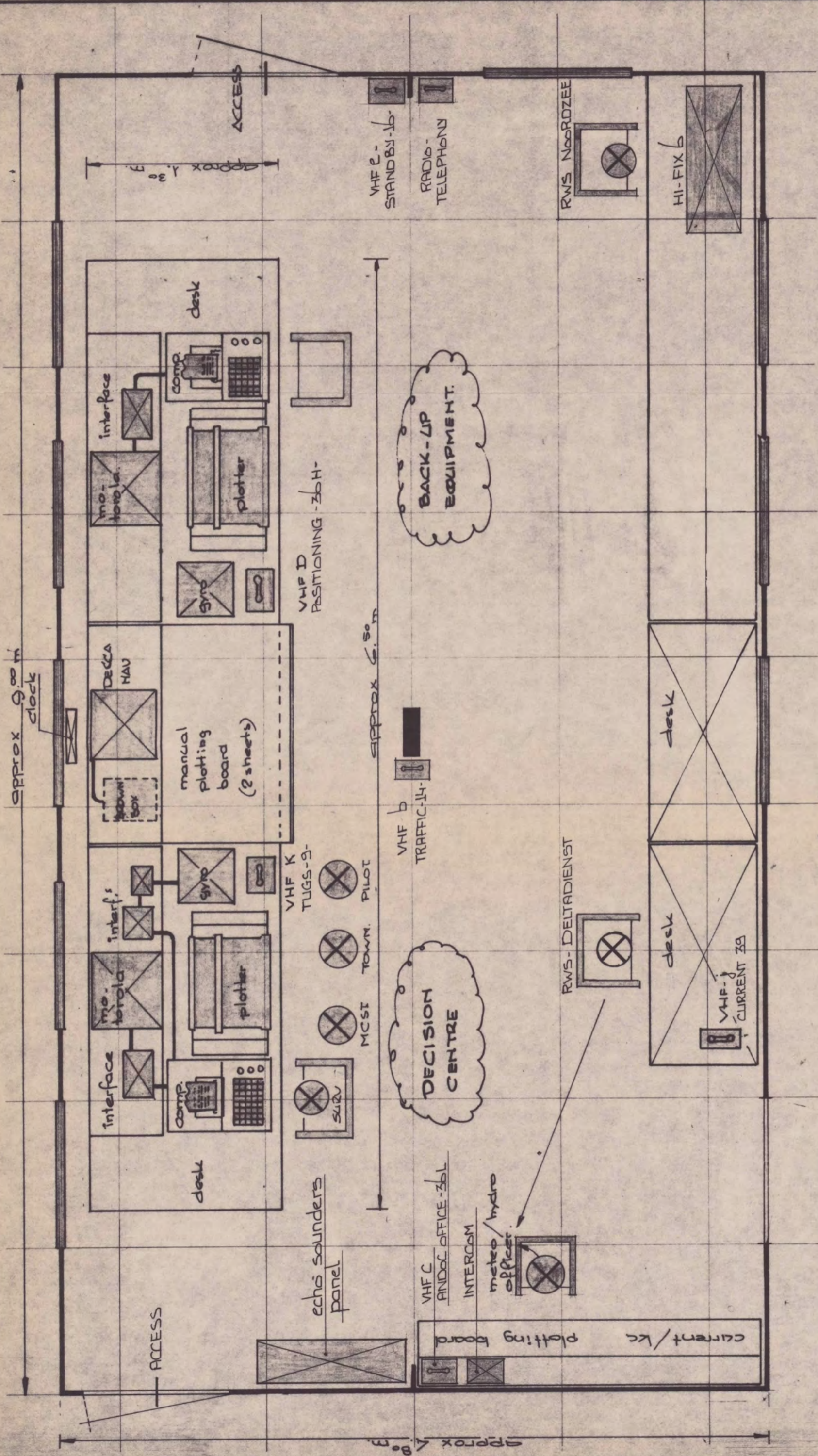
DAG	VERWACHTING		VERWACHTING	
	VAN	UUR D.D.	VAN	UUR D.D.
	TOT	UUR D.D.	TOT	UUR D.D.
-WINDRICHTING				
WINDKRACHT				
ZICHT				
NEERSLAG				
TEMPERATUUR	MAX. °C	MIN. °C	MAX. °C	MIN. °C
WATERSTANDEN	GETIJAPEL		GETIJAPEL	
	TIJD	STAND	TIJD	STAND
BIJ H.W.	VERWACHTE AFWIJKING	OPGETREDEN STAND	VERWACHTE AFWIJKING	OPGETREDEN STAND
	VERWACHTE STAND		VERWACHTE STAND	
BIJ L.W.	VERWACHTE AFWIJKING	OPGETREDEN STAND	VERWACHTE AFWIJKING	OPGETREDEN STAND
	VERWACHTE STAND		VERWACHTE STAND	
ZEEGANG				
DEINING				
STORMWAARSCHUWING				

 *
 MAIN= 04 * E 14 CROSS-CURRENT MEASUREMENTS ENCLOSURE 14 *
 PARC=414 * * SEE
 ELCK=CROCUR * REV 00 DATE 14/06/76 SEQUENCE NR.0270 * SEQ
 *

04 FOR THE HYDROMETRIC INFORMATION ON BOARD OF THE
 06 STRUCTURE DURING THE ROTTERDAM TOW-OUT THERE WILL BE
 08 LAUNCHES STATIONED ON FIVE POSITIONS ALONGSIDE THE
 10 TOW-OUT ROUTE AS SHOWN ON THE NEXT PAGE, THE POSITIONS
 12 ARE ONE (A) INSIDE THE ENTRANCE AND FOUR (B,C,D,E)
 14 OUTSIDE THE HARBOUR-ENTRANCE OVER A DISTANCE OF
 16 APPROXIMATELY 10 KM. POSITON E IS NEAR BUOY MAASCENTER

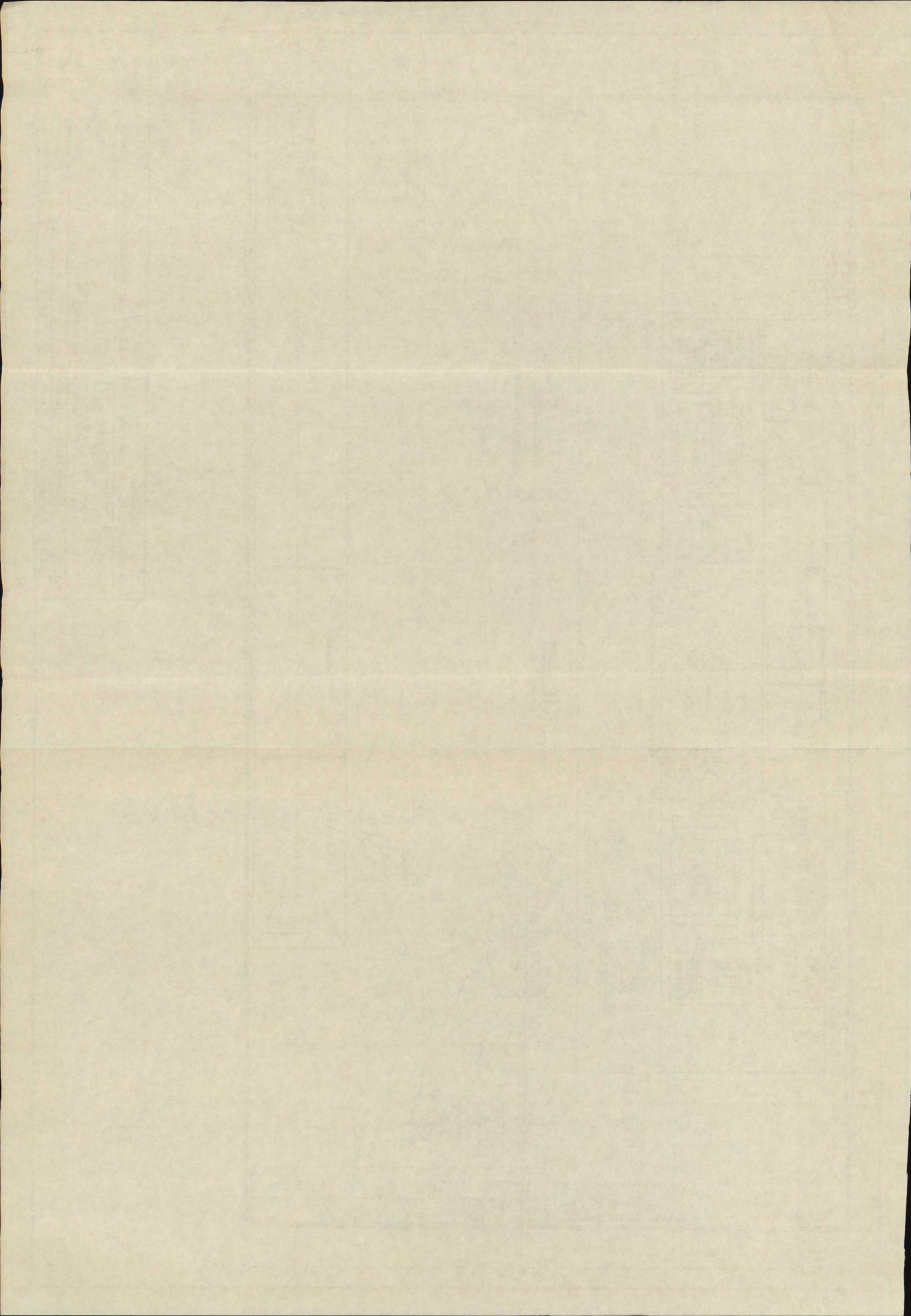
20 THE POSITONS A,B,C ARE MANNED FROM Z-6 TILL THE TIME
 22 (Z+7). THE STRUCTURE IS NEAR BUOY MAASCENTER
 24 THE POSITON D AND E ARE MANNED FROM TIME Z UNTILL THE
 26 TIME (Z+23). THE STUCTURE IS PASSED THE EUROGEUL IF
 28 REQUIRED

40 THE AVERAGE CURRENT WILL BE CALCULATED ON THE POSITIONS
 42 AND THE VALUE WITH DIRECTION WILL BE REPORTED TO THE
 44 CURRENT-OFFICER (RIJKSWATERSTAAT DELTADIENST) ON BOARD
 45 OF THE STRUCTURE.

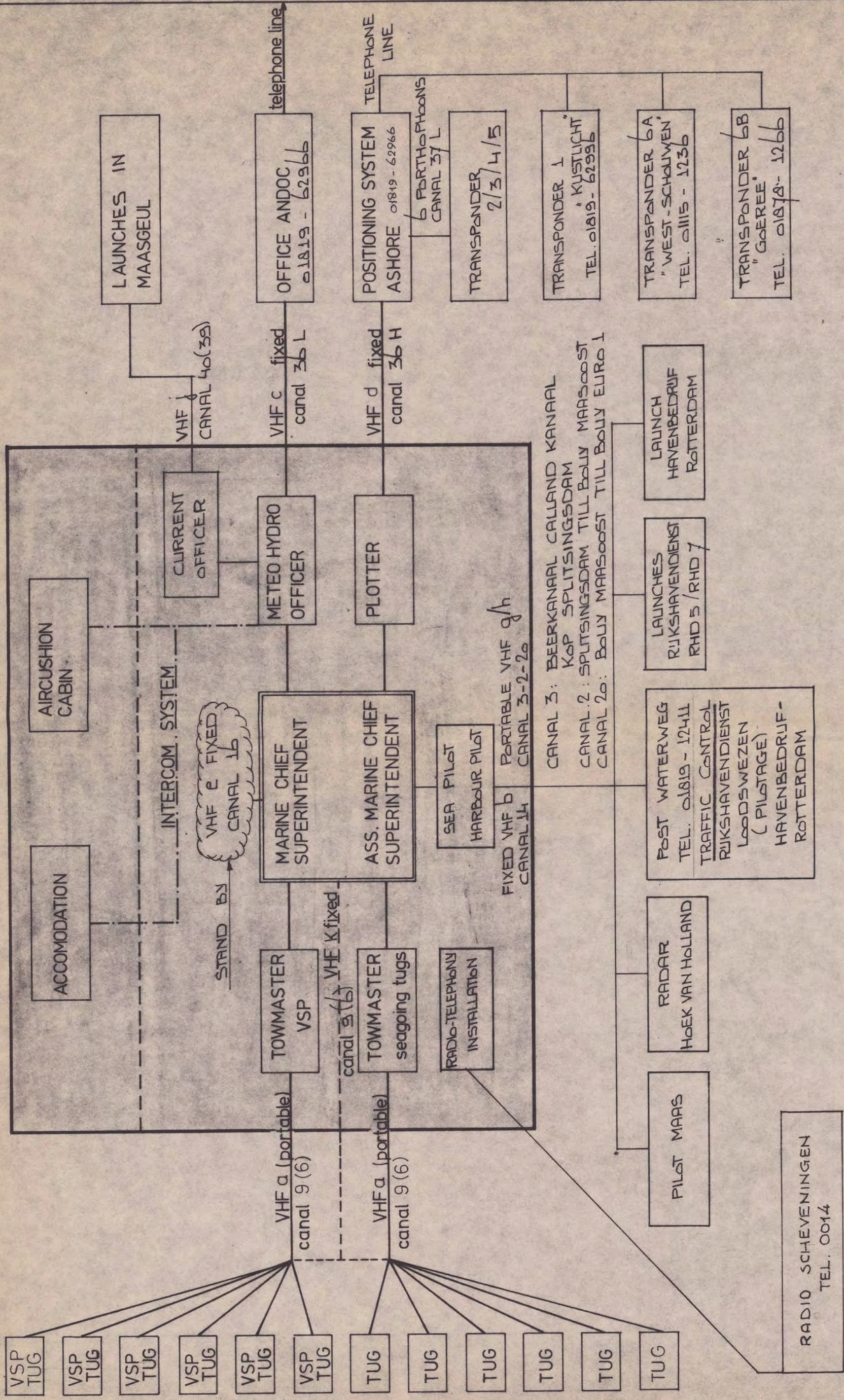


PLAN (1:25)

ANDOC ANGLO DUTCH OFFSHORE CONCRETE	SHELL U.K. EXPLORATION AND PRODUCTION LTD	DUNLIN PLATFORM A CONTRACT 117/74
SUBJECT ROTTERDAM TOW-OUT LAYOUT NAVIGATION CABIN		
SCALE 1:25	DRAWN TGG DATE 24-02-76	CHECKED APPR.
DRAWING NO ENCLOSURE E-01		REV.
PAGE 046		



" DUNLIN H PLATFORM "



MARINE MANUAL
 ROTTERDAM TOW OUT
 COMMUNICATION
 REV. 01-06-76

