

CTA STORAGE & HANDLING PROCEDURE
FOR
THE MARS CTAs

Concern 2 Cable Termination Assembly
stored in an ASN FRAME
with 80m of cable tails and a Remote Sea earth

Modifications successives : voir en page 2

Edition						
01						
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SUCCESSIVES ISSUES

FILE CONTENT - MODIFICATION

issue	Date	Modification status	History of Changes
1	03/12/04		First issue

SUMMARY

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CALAIS CTA HANDLING REFERENCE DOCUMENTS

K338 A.....	CTA with cable tail and remote sea earth Loading in the Frame
K 336 A	Frame preparation prior equipment storage and transportation
K 331 D1	Frame Loading on a Lorry (for repeater frame or BU frame).

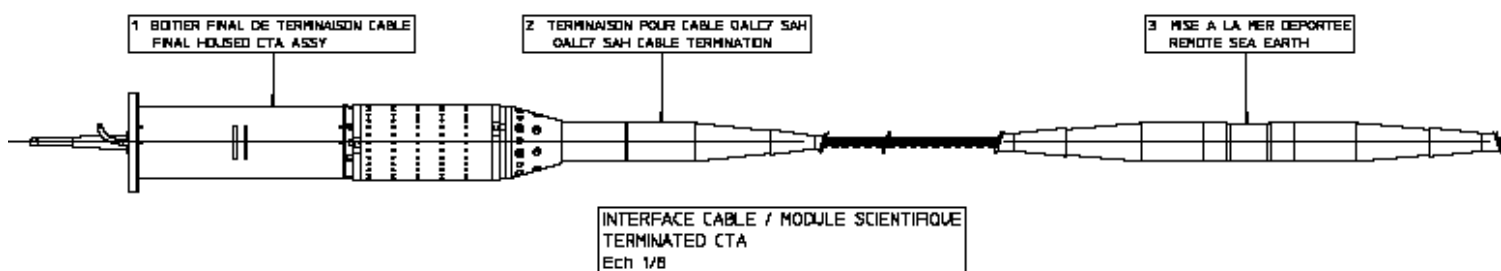
INTRODUCTION

This procedure describe the different handling operations to store the 2 MARS CTAs in the dedicated ASN frame and the reverse operations to remove it from the frame prior to be assembled to the Base TRF .

A - CTA DESCRIPTION (WITH CABLE TAIL AND REMOTE SEA EARTH)

The CTA is assembled as following :

- A Final Housed CTA from Greenwich which include the 2 flexible Hoses and the associated mate/demate connectors (optical and electrical).
- 1*80 m of cable tail OALC-7 SAH jointed to the CTA through a BU termination with the associated electro-optic connections to the fibers and main conductor of the cable and to the electrode fixed at about 7/8 m from the cable extremity.(refer to the drawing)



drawing reference : Z0 426A

B - FRAME DESCRIPTION (FOR 2 CTAs IN 1 FRAME)

The frames to be used for the MARS CTAs is the one used for the ASN BU with their remote sea earth .

It will have some special adaptation to support 2 CTAs and to store the flexible hoses and the connectors:

The Base Documented ref of this frame is 29T JG00 301 ABV corresponding to a Large BU Frame

this adapted Frame will be able to contain 2 CTA parts with 80 m of cable OALC-7 SAH and the associated hoses and connectors t.

This procedure describe the handling for the storage of 2 CTA : CTA#1 et CTA#2

- The CTA#2 (spare) will be the one stored first in the bottom of the frame.
- The CTA#1 corresponding to the line CTA will be stored in second on top of the frame

Support « Haut »
to store
the Line CTA

2 storage Plot for the ODI
optical and electrical hoses
and connectors.
(1 per CTA)



2 Remote sea earth
storage gutter
(1 per CTA sea earth)

support « Bas »
to store
the spare CTA

Detail of a Storage Plot used for the electrical and optical flexible hoses & connectors

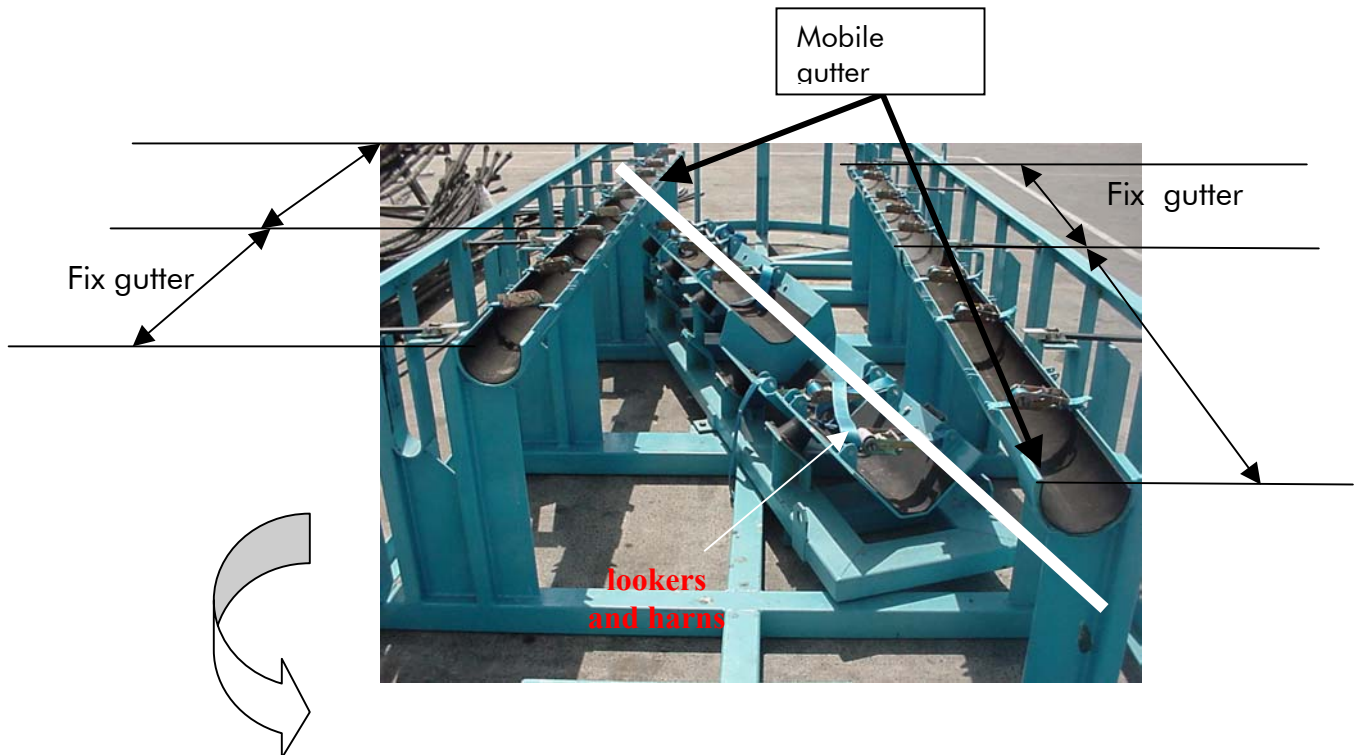


Special support for
the ODI electrical
connector

Special support for
the ODI optical
connector

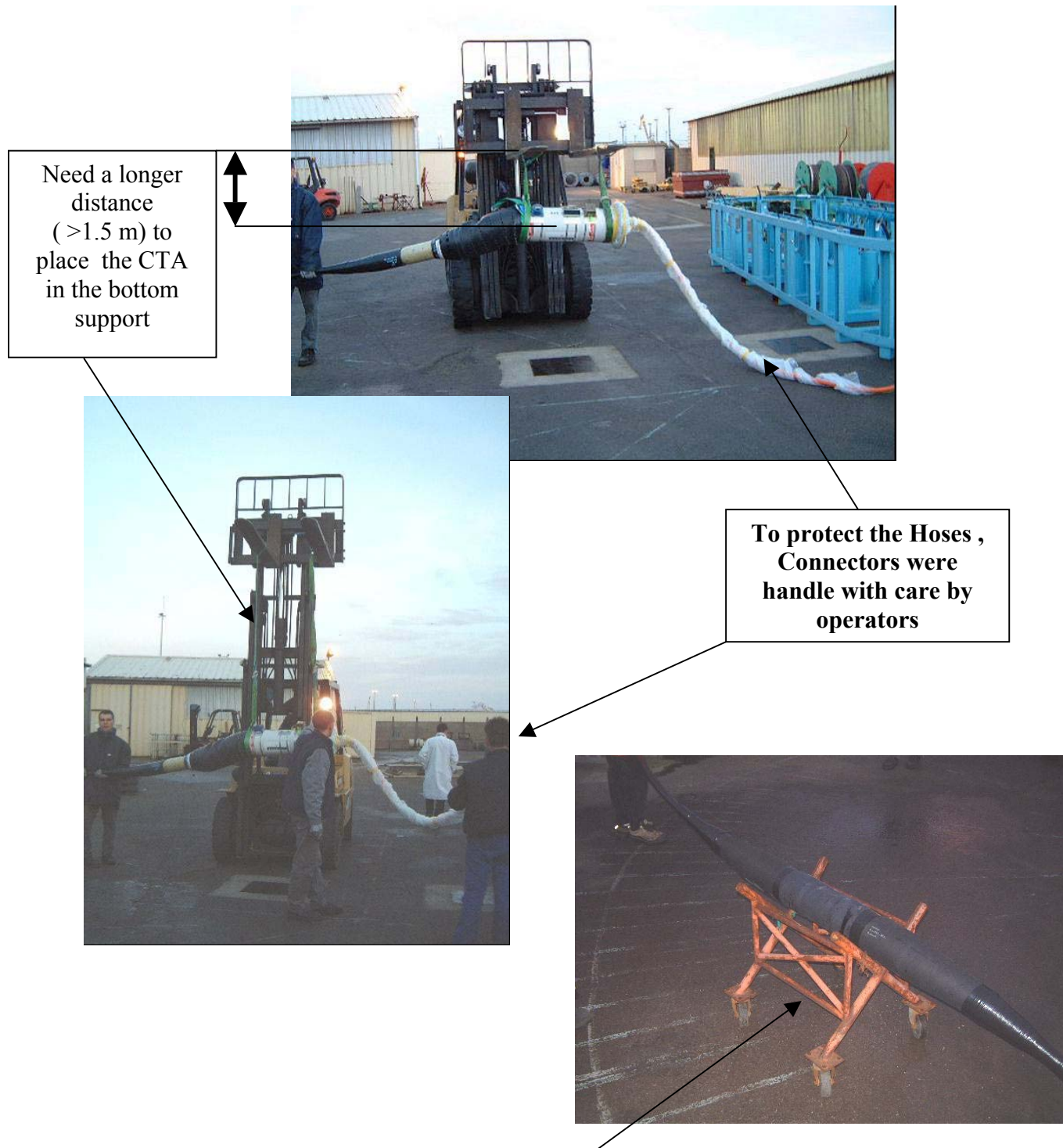
C - CTA STORAGE IN THE FRAME –OPERATIONAL PROCEDURE**1) Remove the mobile gutter to free the access to the 2 CTA supports**

- Open all the lookers placed on the frame , gutters and CTA supports
- Remove the 2 opposite and removable gutter parts
- Open the harness placed on the CTA supports (free access for the CTA)



IMPORTANT
IT IS RECOMMENDED
TO REMOVE THE TOP
SUPPORT TO FACILITATE
THE HANDLING OF THE
BOTTOM CTA AND
ASSOCIATED HOSES

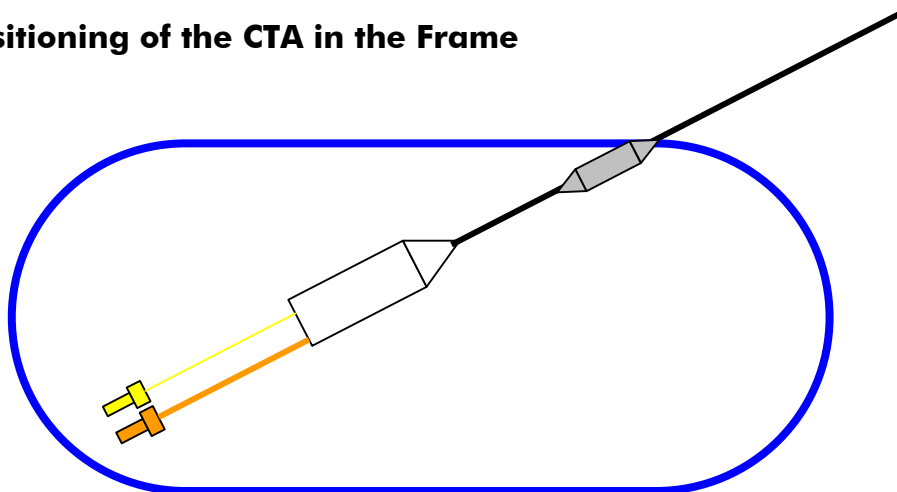
2) Storage of the SPARE CTA - How to use the Fork-lift



3) Handling of the Remote sea earth

All the cable tail is uncoiled on the ground prior to be stored in the Frame , as both Cable tails and associated sea earth will be only loaded after the loading of the 2CTA
it is recommended to use a small trawley to handle the sea earths

4) Positioning of the CTA in the Frame

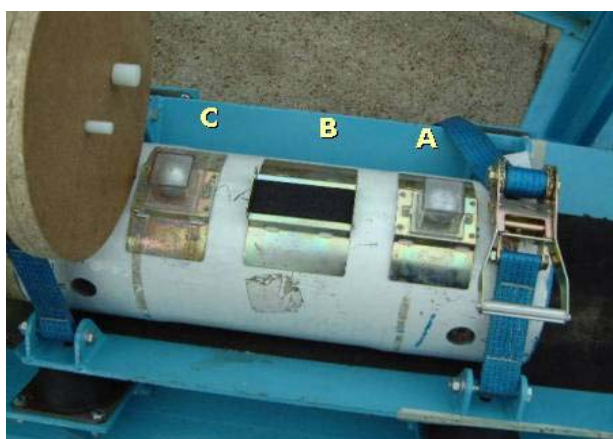


Attention : the CTA side with its Hoses and connectors must be orientated to the top support .(inside the frame)
The coupler and sea cable are oriented to the outside of the bottom support

Storage Plot of ODI
hoses & connectors

6 cm

5) To fix the body of the SPARE CTA with the Harns and to position the impactograph as show below:



From the Armardillo
A = 150 mm,
B = 320 mm
C = 480 mm

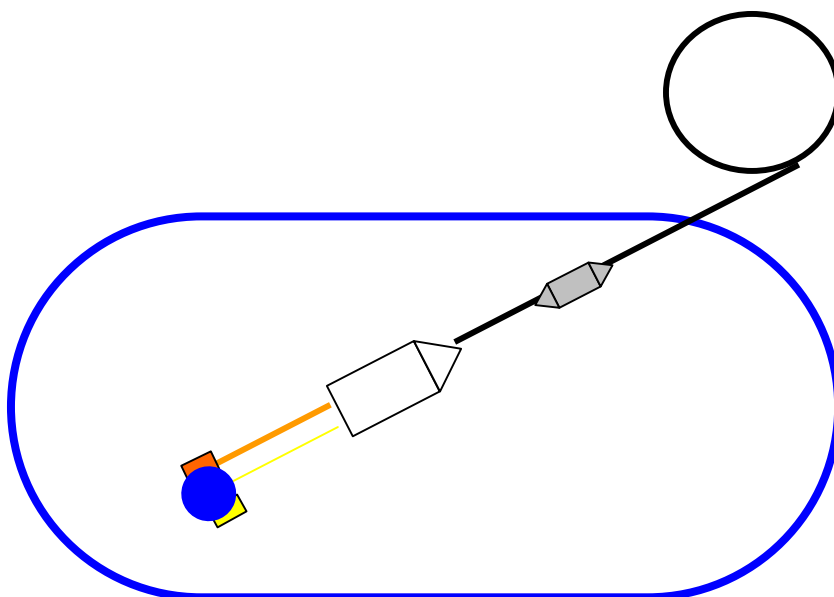
6) To store the flexible hoses and the 2 connectors :

To open the Hose
storage lockers

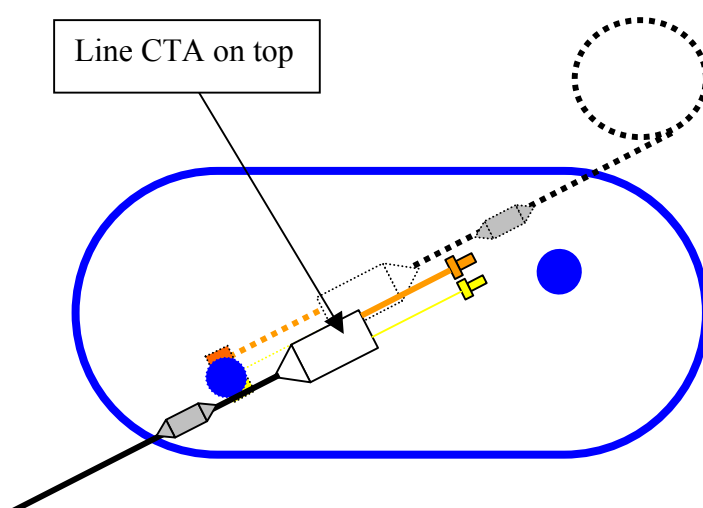
- 1- To store the electrical flexible hose (Orange)
- 2- To store the optical flexible hose (Jaune)

**7) To prepare à temporary cable storage ring of 2 m diameter of the OALC-7 SAH cable tail**

If possible this cable will be stored in the frame during the storage of the second line CTA. And until the second cable tail will be ready for loading into the frame .



8) to Store in the Frame the line CTA (using a Fork Lift as for the first one) on the Top support

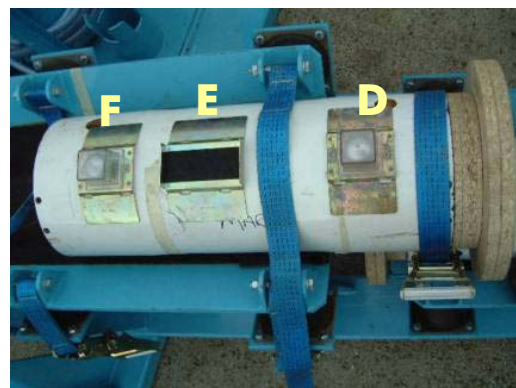


Attention : the CTA side with its Hoses and connectors must be orientated to the Bottom support .(inside the frame)
The coupler and sea cable are oriented to the outside of the upper support



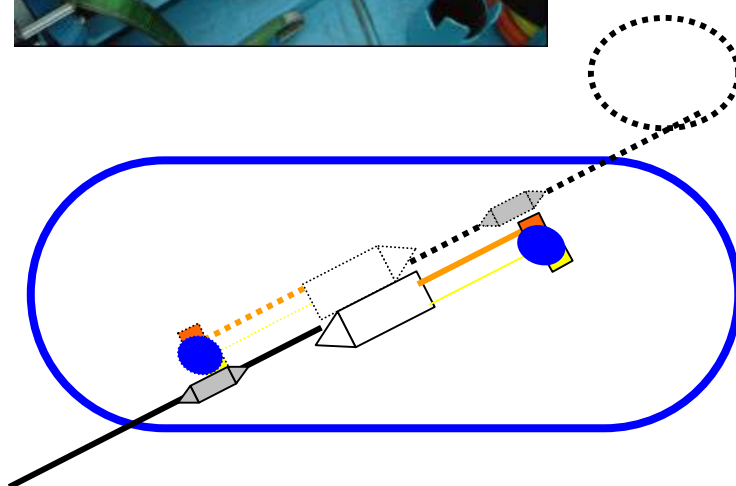
Storage plot for ODI hoses & connectors

9) To fix the body of the CTAs with the Harns and to position the impactographs as described below :



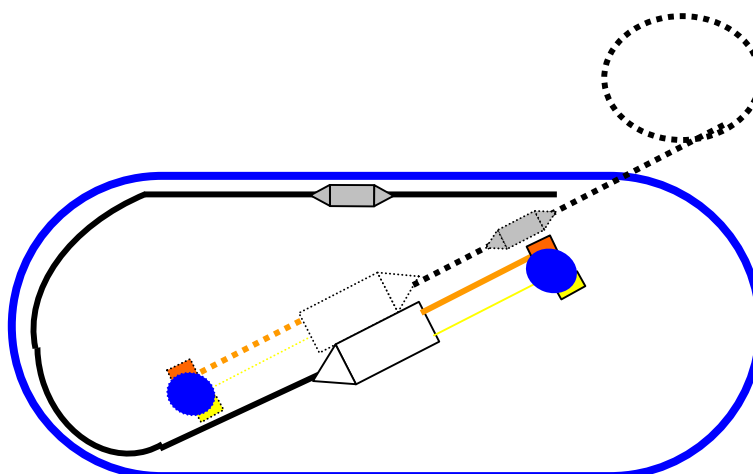
From the Armadillo
D = 150 mm,
E = 320 mm,
F = 560 mm

10) To store and fix the flexible Hoses and associated connectors as described for the Spare CTA



11) To store the Cable tail (80m) and the first remote sea earth of the line CTA (Top support)

Important : Need to replace and fix the 2 mobile Gutters which support the remote sea earths



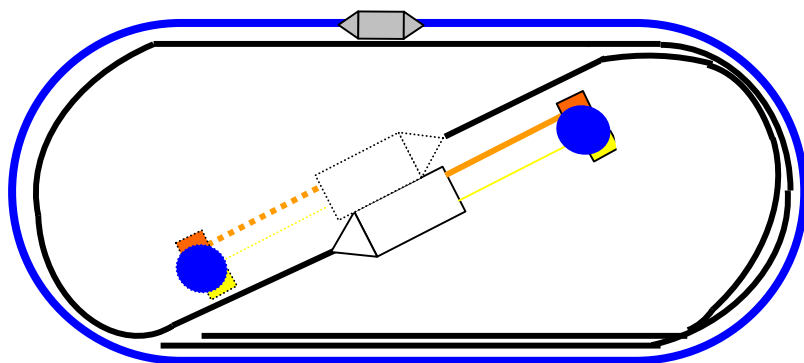
To place the electrode inside the Gutter opposite to the CTA support (by hand by operator)



to Store the cable of the line CTA (upper support) in the inside storage ring of the frame

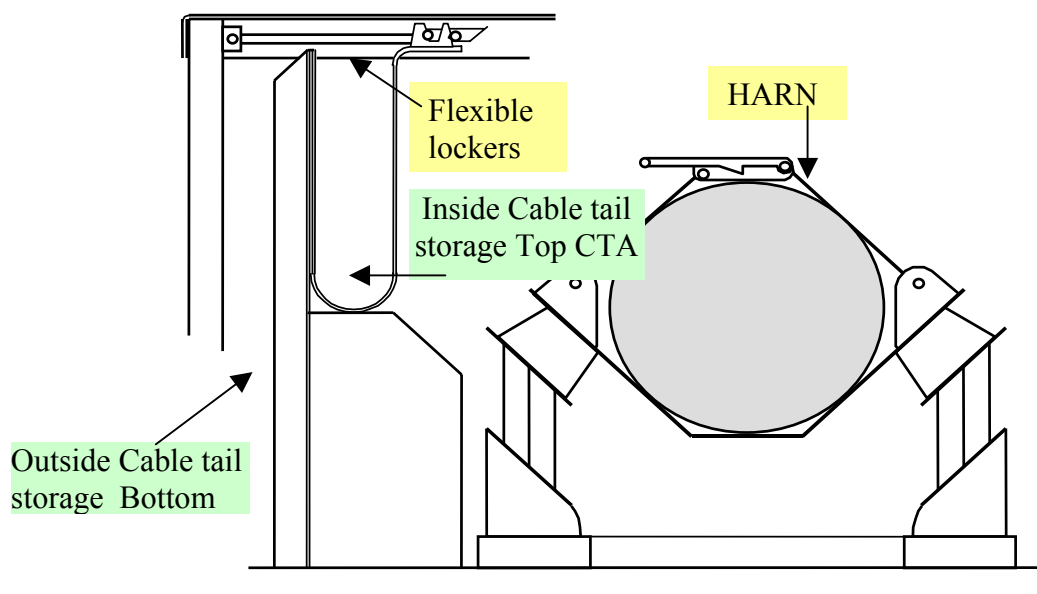
12) To store the Cable tail (80m) and the second remote sea earth of the spare CTA (bottom support)

to Store the cable of the spare CTA (bottom support) in the outside storage ring of the frame



NOTE : The 2 cable Extremities are terminated by a small box containing the bare Fibres of the system for test or splicing with adequate fiber connectors

13) use of locker and of the harns



14) frame protection for the transport

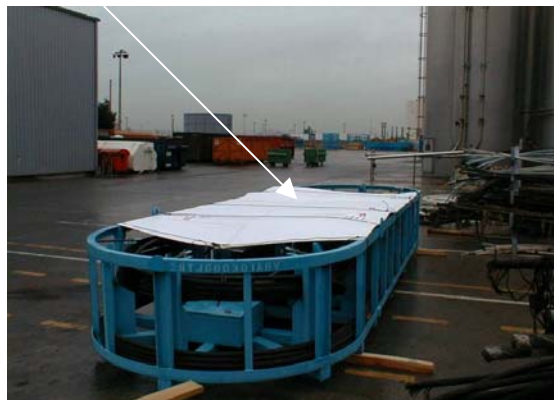
Sea earth protection (plastic Cardboard)



CTA covered by hard Wooden Carboard



Warning Signs on the top over protection in plastic cardboard



D - CTA OUT OF THE FRAME - RECOMMENDED PROCEDURE

1) Frame Weight

	1 CTA in the frame		2 CTAs in the frame	
Units	kg	Lbs	kg	Lbs
Frame Empty	3080	6776	3080	6776
CTA untailed	222	488.4	444	976.8
80m Tail OALC7	296	651.2	592	1302.4
Earth	69	151.8	138	303.6
Armadillo	84	184.8	168	369.6
Extremity	8	17.6	16	35.2
GRP	10	22	20	44
Buffer	8	17.6	16	35.2
TOTAL weight	3 777 kg	8309.4 lbs	4 474 kg	9842.8 lbs

CTA Tailed :: 697 kg (1533.4 lbs)

2) Support for the CTA unloading Operation

- -Need a fork-Lift able to move the CTA from the Frame
- -Need some Harns (some are always in place)to attached the CTA to the Forklift
- -Need a small trawley to handle the Sea earth during CTA handing
- -Could be useful to have a Trawley (1m high) to Support the CTA outside of the frame
- Need at least 8/10 persons to handle with care the cable, the flexible hose and the connectors .

3) LINE CTA UNLOADING PHASES

Note : the process is to reproduce in reverse the CTA loading operation

- Remove the different over protection of the CTAS (card boards , plastic etc..)
- Open the cable and sea earth lockers
- Remove the 2 Cable tails and the associated sea earths outside of the Frame ; the cable can be coiled on 2m diameter and the sea earth must be handle with care
- As heavy it is recommended to place the sea earth on a small trawley
- Remove the 2 mobile gutter parts supporting the sea earth
- Remove the Hoses and connectors of the Line CTA (upper support)
- Plae this ODI hoses and the connectors in a protective box
- Fix the CTA Harns to the forklift and move carefully the line CTA out of the frame
- Lay the CTA on a stable trawley and move it with the cable tail , the sea earth and the ODI hoses & connectors to the Assembling place

4) SPARE CTA ON FRAME –HANDLING & STORAGE

- The spare CTAs will be re-stored in the frame , At the end of the line CTA unloading operation , it will be necessary to replace and fix the mobile gutter on the frame prior to reload the sea earth and the cable tail in the Frame as previously stored.
- Later or if necessary for test this spare CTA could be unloaded from the frame . In this case it is strongly recommended to remove completely the metallic upper support to facilitate the handling of the bottom spare CTA with the Forklift .

5) TEST BOXES

- The electrical and optical test boxes used for the ASN FAT CTA test (small parts) are send separately by air to avoid to be lost or damaged .

6) ASN INVOLVEMENT IN THIS UNLOADING ENVIRONMENT

- To support this specific unloading operation, ASN want assist directly to this operation
- **NOTE 1** : at the same time , the ASN representative will have to change the 2 anti-rotates Screw installed for the CTAs transport by the final operational ones .
- **NOTE 2** : ASN is interested to received the optical and electrical test results of the CTAS Incoming and the result of the test of the CTA assembling with the ODI parts already supplied for the mobile Node (as defined in the contract).

END of Document
