



NAVAL GROUP – TRAINING ORGANIZATION
Activity recorded under reference 1175 47047 75 by prefect

Training Certificate OJT CMS

NAVAL GROUP Company, located 40-42 Docteur Finlay Street – F75732 Paris Cedex 15, **Vouch for:**

Mr/Mrs LT (NE) CAPELETTO NETO FERNANDO JOSÉ

Has followed the training: **CMS Deputy Technical Manager OJT – Phase 1 – in France**

From **09/2012** until **07/2013**

In accordance with Program established **CMS OJT Plan ref. DOC-2011-900343 Issue E**

The list of activities attendance is described in document DOC-2013-904923 Issue A for OJT CMS phase 1 report

Certificate established: **06/03/2018**


By *(name and forename, signatory title)*: **GIANGRECO Christian**

Company stamp, signature:

Christian GIANGRECO
SBR-SC PROJECT MANAGER

NAVAL
GROUP

Naval Group Ollioules - Technopôle de la Mer
199, Avenue Pierre-Gilles de Gennes
83190 OLLIOULES
SA au Capital de 163 000 000 € - Siret 441 133 808 00104

			
Doc nr: NA	Doc. status:	Doc. revision: E	Date: 24/10/2012

2 CMS ON-THE-JOB TRAINING OBJECTIVES

2.1 General objectives

It is reminded that CMS OJT is performed in the scope of the S-BR Logistic Package which “is conceived in order to make the NAVY self-sufficient to perform the independent operation and full maintenance of the S-BR Submarines, reaching an excellent availability and functionality of the S-BR Submarines, through controlled costs along the whole useful life of the S-BR Submarines. The S-BR Logistic Package includes support and Tests of the equipment, initial spare parts package and management of obsolescence”

As such (see [CR03], Annex I – Chapter 7, and see [CR05]), the OJT is firstly the involvement of the BN engineers during the CSE and CSI phases, “in order to:


- Be trained for the on-board integration and validation phases,
- Gain a strong level of independence in supporting the SUBTICS over the long term,
- Be trained regarding the Brazilian future SSN design and realization”.

In compliance with the above, and taking into account the CMS in its current development cycle, the main goals retained for the CMS OJT are the following:

- A. Gain a strong level of independence in supporting the CMS over the long term,
- B. Acquire a comprehensive and detailed knowledge of all CMS hardware and software engineering and implementation,
- C. Be trained for the CMS integration and validation phases.

These generic goals can be detailed in generic sub-goals A.i.j.k.l B.i.j.k.l and C.i.j.k.l , each of them being an objective “Obj-X” according to the following correspondence table:

Doc nr.: DOC-2011-900343	Status: Issued	Revision: E	24/10/2012
Sheet 11 / 71			

			
Doc nr: NA	Doc. status:	Doc. revision: E	Date: 24/10/2012

OJT OBJECTIVES DESCRIPTION		
Goals ID		Objectives ID
A	Gain a strong level of independence in supporting the CMS over the long term	
A.1	To be able to set up a maintenance platform	OBJ-1
A.2	To be able to perform software corrective maintenance	
A.2.1	To be able to identify failures	OBJ-2
A.2.2	To be able identify failure causes	OBJ-3
A.2.3	To be able to replace the equipment or implement the software correction	OBJ-4
A.2.4	To be able to install upgraded software	OBJ-5
A.2.5	To be able to test and validate the modification on the platform	OBJ-6
A.3	To be able to perform a software evolution (add new equipment or function)	
A.3.1	To be able to perform an impact analysis	OBJ-7
A.3.2	To be able to perform a detailed design	
A.3.2.1	<i>To be able to describe the modification at system level (SSS, SSDD)</i>	OBJ-8
A.3.2.2	<i>To be able to describe the modification at software (SRS) or hardware level (HRS)</i>	OBJ-9
A.3.2.3	<i>To be able to perform a CDR review at CMS level</i>	OBJ-10
A.3.3	To be able to realize and test the modifications	
A.3.3.1	<i>To be able to perform software and architecture modelling</i>	OBJ-11
A.3.3.3	<i>To be able to implement the software evolution (or follow implementation)</i>	OBJ-12
A.3.3.4	<i>To be able to update a test plan</i>	OBJ-13
A.3.3.5	<i>To be able to install upgraded software</i>	OBJ-5
A.3.3.6	<i>To be able to test and validate the modification on the platform</i>	OBJ-6
A4	To be able to manage an obsolescence issue	OBJ-14

OJT OBJECTIVES DESCRIPTION		
Goals ID		Objectives ID
B	Acquire a comprehensive and detailed knowledge of all CMS hardware and software, engineering and implementation	
B.1	To acquire knowledge about CMS design and management process	
B.1.1	<i>To acquire the knowledge for the definition and the interfaces</i>	OBJ-15
B.1.2	<i>To be able to analyse the logistic process</i>	OBJ-16
B.1.3	<i>To be able to analyse the schedule</i>	OBJ-17
B.1.4	<i>To be able to analyse risks</i>	OBJ-18
B.1.5	<i>To be able to analyse the documentation</i>	OBJ-19
B.1.6	<i>To be able to analyse validation process</i>	OBJ-20
B.2	To be able to purchase external equipment (up to FAT)	
B.2.1	To be able to perform a supplier CDR	OBJ-21
B.2.2	To be able to perform a supplier FAT	OBJ-22
B.2.3	To be able to integrate external equipment	OBJ-23
B.3	To acquire knowledge about technical and functional architecture (at CMS level)	OBJ-24
B.4	To acquire knowledge about CMS equipments	OBJ-25

Doc nr.: DOC-2011-900343	Status: Issued	Revision: E	24/10/2012
Sheet 12 / 71			

OJT OBJECTIVES DESCRIPTION		
Goals ID		Objectives ID
C	Be trained for the CMS integration and validation phases	
C.1	To be able to operate a CMS	OBJ-26
C.2	To acquire knowledge to install (upgraded) software	OBJ-5
C.3	To acquire knowledge to manage functional integration and validation test	
C.3.1	To be able to verify and track requirements	OBJ-27
C.3.2	To be able to update a test plan	OBJ-13
C.3.3	To be able to manage integration and validation documentation (procedures and reports)	OBJ-28
C.4	To be able to manage CMS Configuration	OBJ-29

Table 5: OJT Objectives ID and Description

Therefore the CMS OJT Plan is defined to focus on these key objectives for the Brazilian Navy.

4.4.2.2 OJT Plan Description

In order to continue addressing the objectives listed in paragraph 2, an OJT plan is defined including 8 major modules consistent with CMS development cycle:

- CMS project management
- CMS Engineering
- CMS Hardware manufacturing
- CMS Logistics
- CMS software production
- CMS lab platform for practical activities (detailed in paragraph 5)
- CMS Integration & Validation of COMSYS release
- CMS Integration & Validation of CMS release

The modules are broken down into units which are separated into unitary activities, each of them connected to OJT objectives.

6.7 Training location

The training will be located mainly in DCNS premises in Toulon - Le Mourillon.

On a case by case basis, OJT activities can be held on other DCNS sites or on supplier sites. In that case, a two week notice will be provided.

6.8 Course duration, typical week, free time

Refer to the CS Master OJT Plan [OJT01], paragraph on Course duration, typical week, free time.

The average amount of the OJT Activities, in a week, shall be 40 (forty) working hours (exceptions shall be made to accommodate Brazilian and French, Vacations and Holidays).

		OBJ-1	OBJ-2	OBJ-3	OBJ-4	OBJ-5	OBJ-6	OBJ-7	OBJ-8	OBJ-9	OBJ-10	OBJ-11	OBJ-12	OBJ-13	OBJ-14	OBJ-15	OBJ-16	OBJ-17	OBJ-18	OBJ-19	OBJ-20	OBJ-21	OBJ-22	OBJ-23	OBJ-24	OBJ-25	OBJ-26	OBJ-27	OBJ-28	OBJ-29
1	Follow CMS project	50	53	28	26	15	11	15	4	18	2	13	32	9	1	2	1	3	2	13	4	1	1	1	2	11	1	8	13	1
1.1	Follow up Hardware Engineering																													
1.1.1	Understand general context of CMS project	X																	X	X	X									
1.2	Follow up CMS Planning																													
1.2.1	Follow up CMS planning	X																	X											
1.3	Follow up CMS Risks																													
1.3.1	Follow up CMS Risks	X																		X										
1.4	CMS/ OJT Coordination meeting																													
1.4.1	Follow up OJT planning	X																		X										
1.5	Follow up the LYB provider																													
1.5.1	Participate to definition meeting	X															X													
1.5.2	review LYB ICD definition	X														X														
1.5.3	participate to DCNS reception for LYB simulator		X																			X								
1.5.4	Install and Integrate LYB Simulator on TDL platform	X																					X							
2	Follow up Engineering Phase																													
2.1	Follow up Hardware Engineering																													
2.1.1	Read system engineering documents		X							X																	X			
2.1.2	Attend to CDR and pre-CDR if any	X	X								X											X								
2.2	Follow up System and software Engineering																													
2.2.1	Follow CMS design phase								X	X																				
2.2.2	Follow CMS design phase	X									X																			
2.2.3	Presentation of CMS functional capacities		X					X	X															X	X	X				
2.3	Follow TDL design phase																													
2.3.1	Follow TDL design Phase		X					X	X																X					
2.3.2	Follow TDL design Phase							X	X																					
3	Follow up Hw manufacturing phase																													
3.1	ASRU																													
3.1.1	Follow up DCNS Factory Reception Test (FRT) ASRU and environment qualification process		X																								X			
3.1.2	ASRU integration with SONAR		X																							X				
3.1.3	ASRU IHM presentation		X																							X				
3.2	GPU/DPU-OSW																													
3.2.1	Follow up DPU/GPU Bench assessment and OSW customisation		X																								X			
3.3	MFCC																													
3.3.1	Follow up DCNS Factory Reception Test (FRT) MFCC		X																								X			
3.4	LLC/VDU																													
3.4.1	Follow up DCNS Factory Reception Test (FRT) LLC/VDU		X																								X			
3.5	Tactical Table																													
3.5.1	Follow up DCNS Factory Reception Test (FRT) tactical Table		X																								X			
3.6	NSC																													
3.6.1	Follow up DCNS Factory Reception Test (FRT) NSC		X																								X			
3.7	Follow up Hw Configuration																													
3.7.1	Follow up Hw PBS		X																								X			X
4	Follow up Logistics activities																													
4.1	ILS general presentation																													
4.1.1	ILS general presentation	X															X													
4.2	Analyze CMS subsystem ILS documentation																													
4.2.1	Analyse ILS documentation		X							X																	X			
4.2.2	Treat obsolescence	X													X															
5	Follow up sw production phase																													
5.1	Understand Elink project																													
5.1.1	Overview Elink project	X		X								X																		
5.2	Follow GPRO tutorials																													
5.2.1	GPRO Introduction and Gateway TUTORIAL	X		X								X																		
5.2.2	GPRO SERVER TUTORIAL	X		X								X																		
5.2.3	GPRO DISPLAY TUTORIAL	X		X								X																		
5.3	Follow Functional CMS Overview Training																													
5.3.1	CMS Functional Overview	X		X					X	X	X											X								
5.4	Understand COMSYS sw component																													
5.4.1	NAVI	X		X					X	X	X											X								
5.4.2	MMI	X		X					X	X	X											X								
5.4.3	USW	X		X					X	X	X											X								
5.4.4	PMFL	X		X					X	X	X											X								
5.4.5	MMI	X		X					X	X	X											X								
5.5	Understand TDL Domain software component																													
5.5.1	EXTTM	X		X					X	X	X											X								
5.5.2	TDL	X		X					X	X	X											X								
5.6	Understand TACTICAL SITUATION Domain component																													
5.6.1	TBEP	X		X					X	X	X																			

