DANGEROUS GOODS PANEL (DGP)
WORKING GROUP MEETING (DGP-WG/19)

Montréal, 1 to 5 April 2019

Agenda Item 2: Managing air-specific safety risks and identifying anomalies
2.1: Develop proposals, if necessary, for amendments to Annex 18 — *The Safe Transport of Dangerous Goods by Air*

FRENCH APPROACH TO COMPETENCY-BASED TRAINING FOR DANGEROUS GOODS

(Presented by P. Tatin)

French Approach of CBT related to DG

Montreal - April 2019

Pascal Tatin - Martial Cosset

Direction Générale de l'Aviation Civile

Ministère de la Transition Ecologique et Solidaire

Philosophy of the French Approach
Materials
Questions/Answers
Case study & Conclusion

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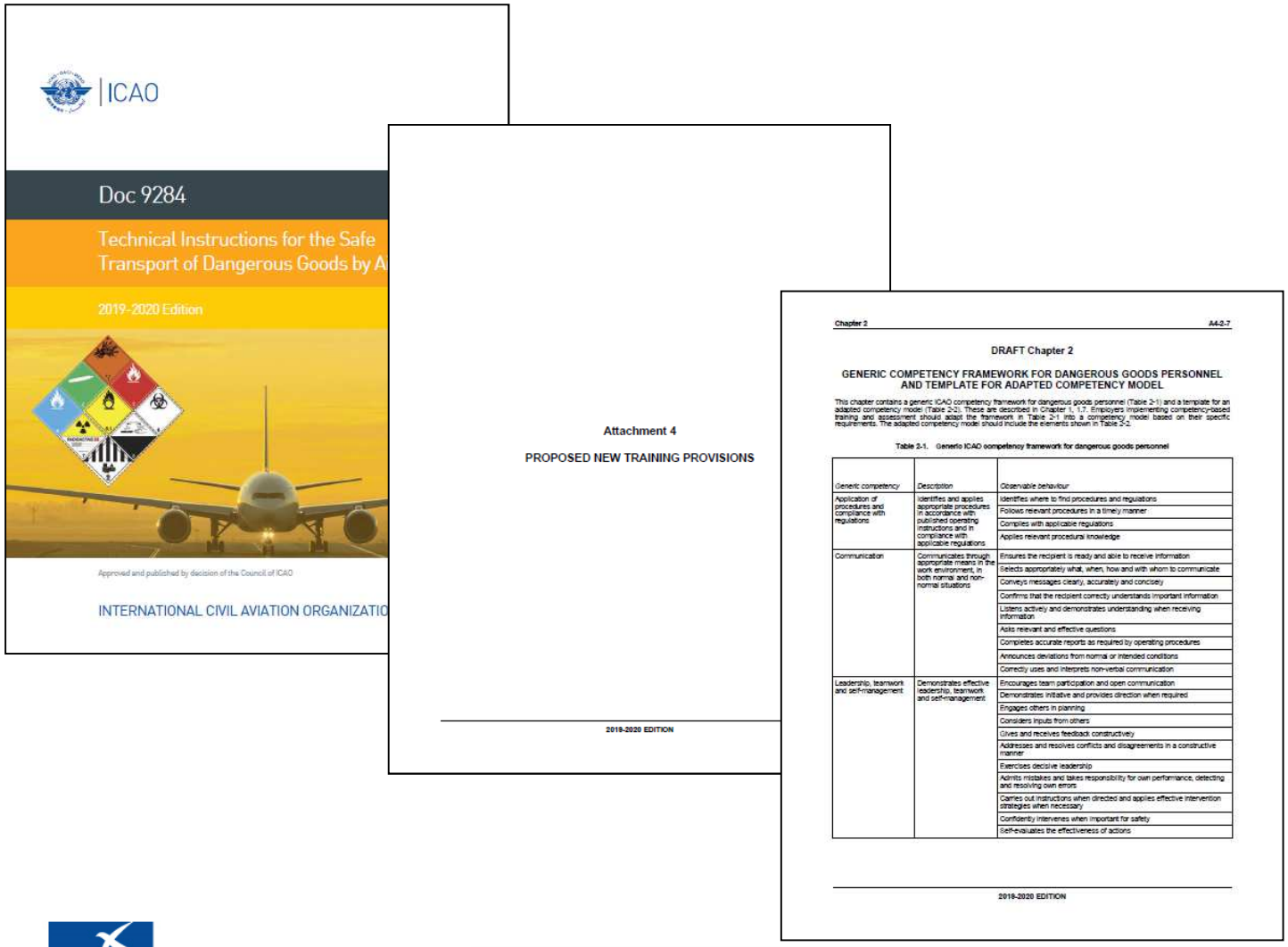
French Approach of CBT related to DG

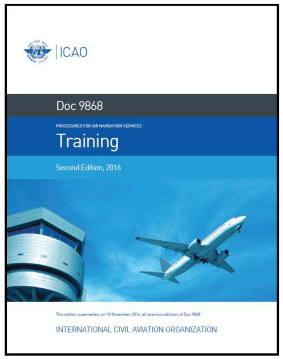
Philosophy of the French Approach



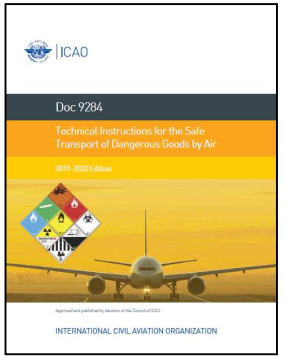
French Approach of CBT related to DG

Philosophy of the French Approach

The CBTA is already implemented in many trainings and is extending.



Even if in stand-by for the moment,
the basement of the CBTA related to DG
is defined.



As a CAA, it's not our role to modify/rewrite the ICAO requirements when applicable.

However, we can do our best to appropriate them

and make them understandable to everybody
by providing materials/tools with an emphasis on pedagogy

Philosophy of the French Approach

As a consequence,
the French DG experts workgroup decided to work upfront on this matter.

Phase 1: full understanding of the CBT philosophy and its purposes

Phase 2: involving our operators in the considerations about its application

with a particular attention on how the individuals are taken into account.

Philosophy of the French Approach

The CBTA asks the operators to:

thoroughly customize their training plan
while taking into account the human factors.

Individual's competencies and inherent assessment:

- to follow the evolution of the employees (impact on operations);
- to assess the efficiency of the program.

The French Approach will particularly focus on how these points are taken into account by the operators.

Philosophy of the French Approach

The purpose of the CBTA is not just assessing if the trainees meet the minimum requirements.

It is to assess their real profile and its evolution in a laps of time, by verifying:

- what they really know;
- how they behave;
- and what they are capable of.

ATTITUDES

Philosophy of the French Approach

Several keys are provided for the definition of the requirements
- How to do -

Means which can be used for trainings and assessments
- Generalities on what could be done -

→ Many operators will want thorough guidelines on this matter.

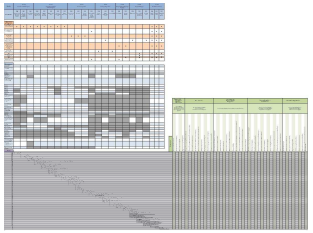
French Approach of CBT related to DG

Philosophy of the French Approach

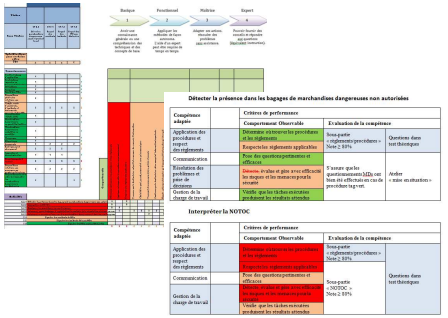
DGAC objectives:

1) Understanding of the CBTA and explaining it with a pedagogic approach (Guide)

2) Providing a tool to the operators (Matrix)
   - as an illustration of the explanation
   - as a means that could be used for the approval process



3) Giving concrete examples from A to Z



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French Approach of CBT related to DG

Materials: guide

Purpose:
Providing all the elements
to allow the operators to create their own training plan
and submit it to the DGAC for approval.

Logics:
Explaining very simply the CBTA
and
giving a method to create the training plan by:

- breaking down chronologically the different phases;
- explaining simply each new notion when introduced;
- giving some short examples;
- proposing a simple matrix consolidating all the notions as a tool to work with;
- showing an example from A to Z (definition of the function → assessment);
- proposing FAQs.

(with ICAO matrices proposed as attachments)

French Approach of CBT related to DG

Materials: guide

Bien que ces listes puissent être utilisées telles quelles, l'exploitant est encouragé à les adapter aux réalités de ses opérations sur le terrain.

Les fonctions, tâches et sous-tâches ayant été identifiées, il convient de définir des activités inhérentes. Cette étape est importante pour cerner l'étendue des connaissances, des compétences et de l'expérience requises de la personne effectuant la fonction.

6.3.3 Les activités

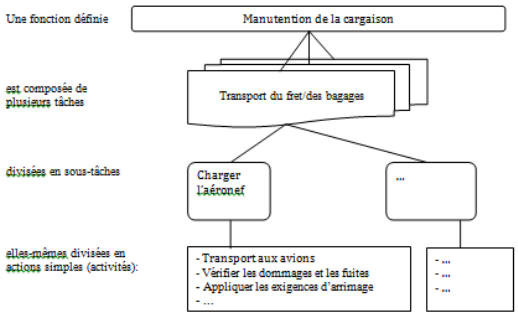
Voir annexe 2

Il s'agit des actions simples, observables, qui permettront de mener à bien la sous-tâche concernée.

Le fait de lister ces actions permettra également d'établir des critères d'évaluation.

Ex : « Vérifier les dommages et les fuites », « appliquer les exigences d'arrimage », …

6.3.4 Résumé



En s'appuyant sur le cadre défini par l'OACI (ainsi que les annexes proposées dans ce guide, s'il le désire), l'exploitant sélectionne ou définit les tâches associées à ses opérations ainsi que les actions que son personnel exécutera.

Les notions de tâches, sous-tâches et activités ont été créées car elles permettent de faciliter la définition, l'observation et l'évaluation des compétences requises pour un agent.

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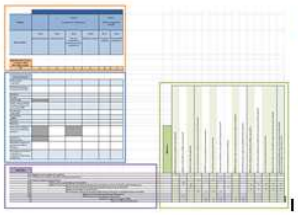
6.3.7 Matrices adaptées

A partir de cette matrice consolidée, il sera possible, pour chaque fonction identifiée, de générer des matrices adaptées.
(Voir « exemple de A à Z » en annexe 7)

Cette phase peut se décomposer en deux étapes :

1) Sélectionner les notions utiles et supprimer celles qui se révèlent inutiles (requis/non-requis). Cette démarche permettra de définir le profil type de chaque fonction.

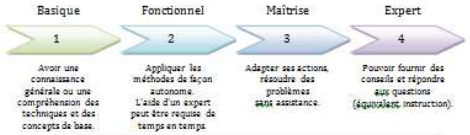


une fonction
des tâches/sous-tâches associées

des requis :

Savoir (connaissances)
Savoir faire (activités)
Savoir être (comportements)

2) Pour chaque compétence identifiée (connaissance, activité, comportement), définir un niveau de compétence attendu. Par exemple de 1 à 4 :



Cette notion de niveau de compétence n'a pas été introduite par l'OACI mais peut se révéler très utile, notamment pour l'évaluation des agents et du programme de formation lui-même

12

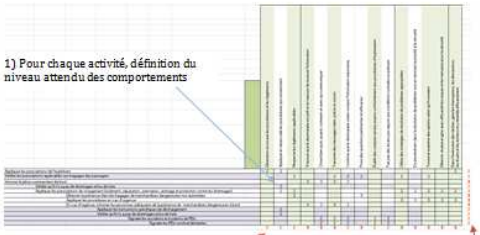
Connaissances :

1) Pour chaque sous-tâche, définition du niveau attendu des connaissances.

2) Pour chaque connaissance un niveau de compétence final dépendant du plus haut niveau attendu.

3) nous avons identifié les connaissances qu'il va falloir approfondir et celles qui ne nécessitent qu'une approche basique.

Activités et Comportements :



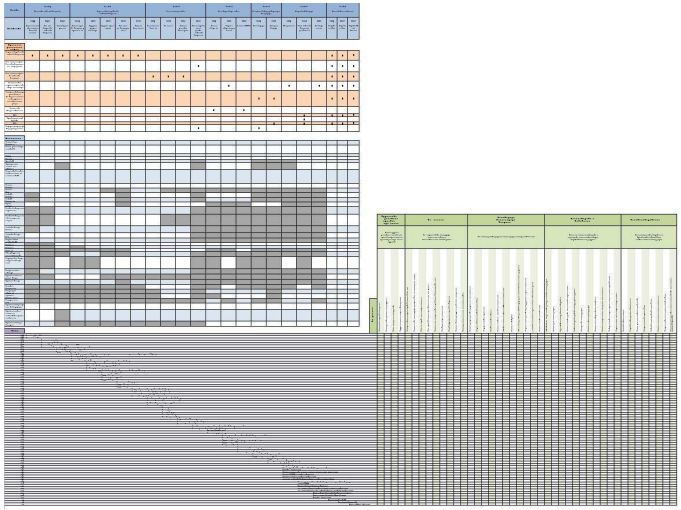
1) Pour chaque activité, définition du niveau attendu des comportements

2) Pour chaque comportement un niveau de compétence final dépendant du plus haut niveau attendu.

3) Pour chaque activité un niveau de compétence final dépendant du plus haut niveau attendu.

40

Materials: consolidated matrix



Purposes:

- consolidating all the notions;
- understanding at first sight how they all interact;
- illustrating the process of creation of a training plan;
- providing an useable tool for the implementation of a training plan.

French Approach of CBT related to DG

Materials: consolidated matrix

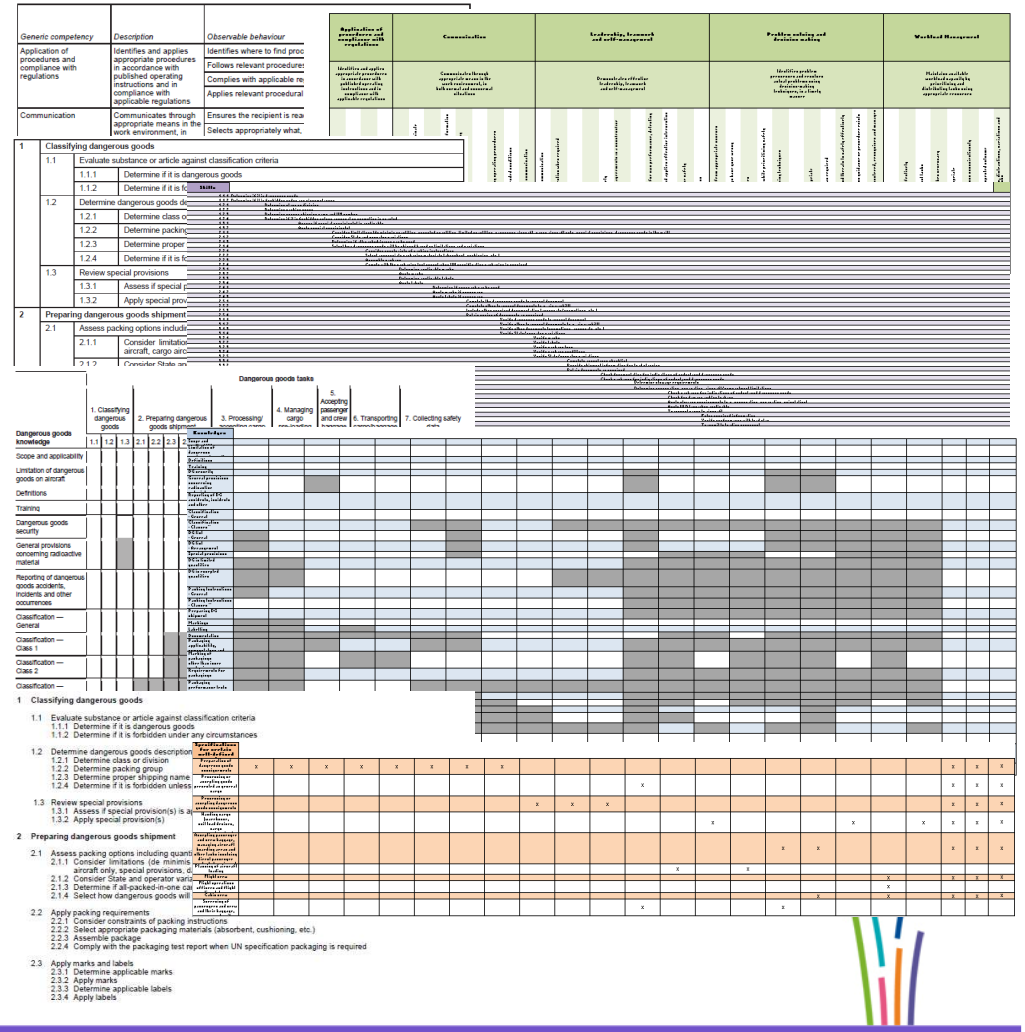
Consolidating all the notions:

Table 2-1 :
Generic competency framework

Table 3-1 :
Generic dangerous goods task list

Chapter 5 :
Task/Knowledge matrix tool

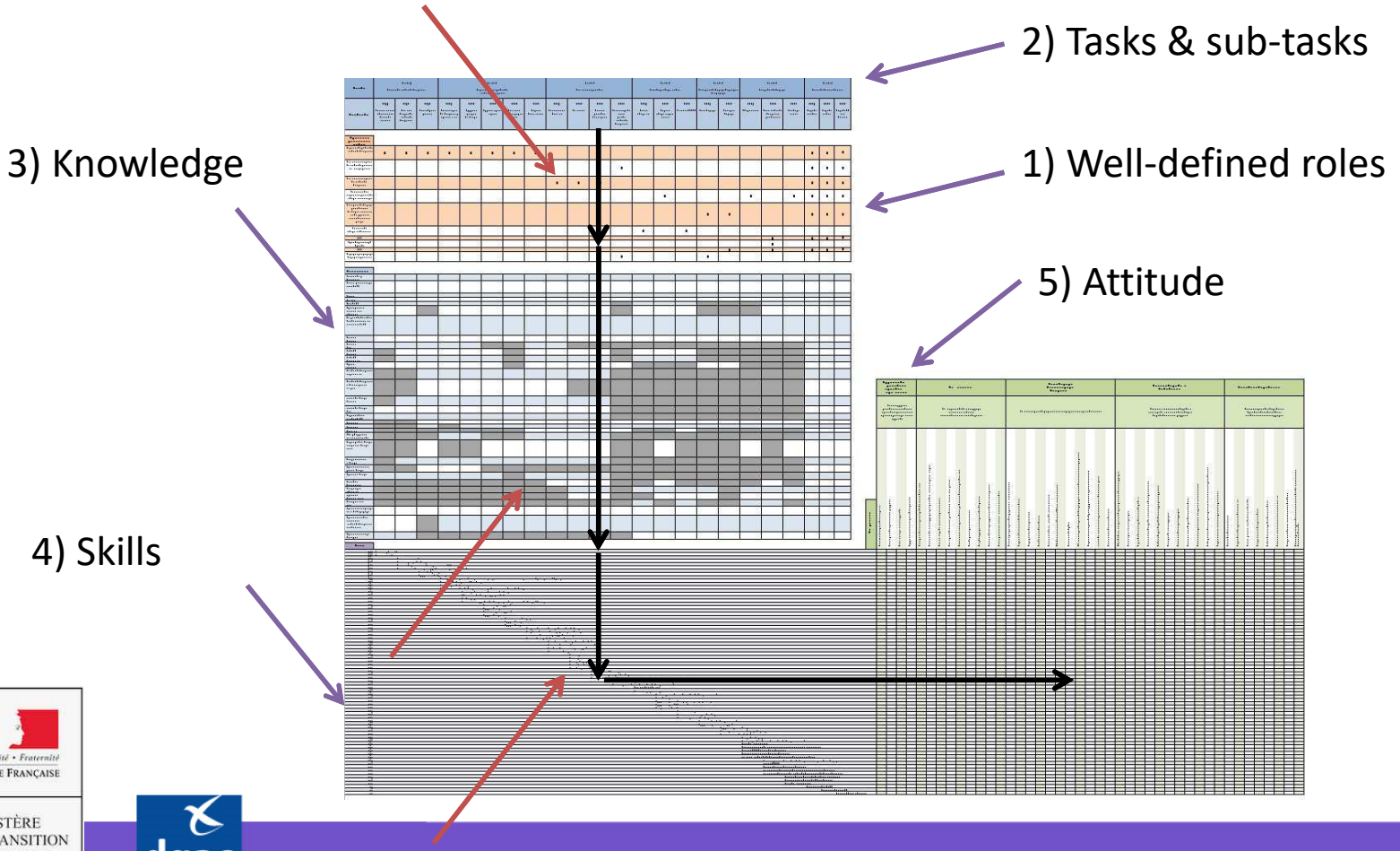
Draft 6 :
Adapted Task lists for certain well-defined roles



French Approach of CBT related to DG

Materials: consolidated matrix

Understanding at first sight how all the notions interact:

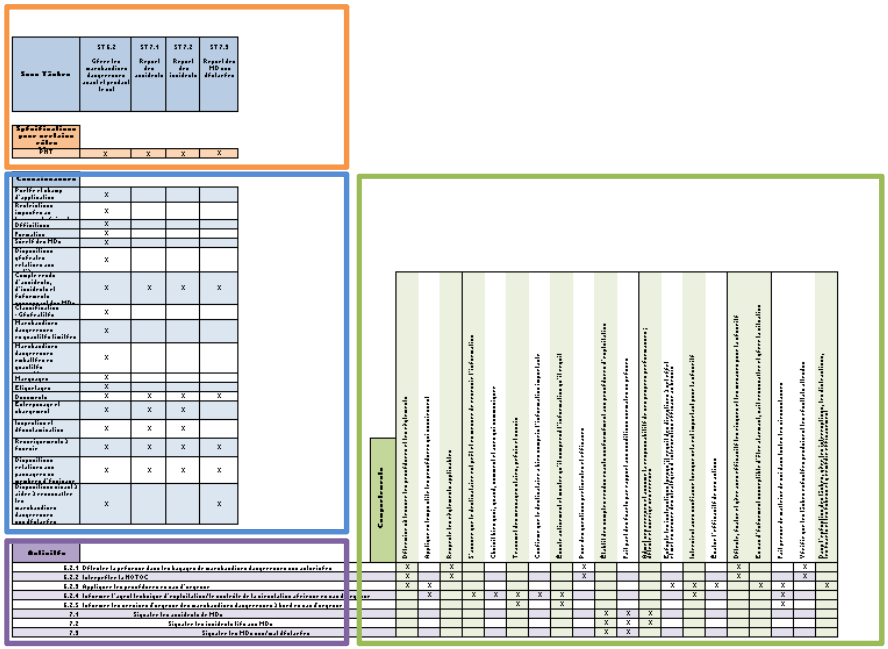


Materials: consolidated matrix

How to use it ?

Removing what is useless rather than adding what is useful.

→ One summary sheet adapted to each function:



1 function and linked sub-tasks

Training / assessment:

Know

Know how to do

Know how to be

ATTITUDES

Materials: consolidated matrix

Summarizing in one document
all the needed competencies.

Knowledge
+
Adapted Competency Framework
=
Thorough definition of the function

Boolean approach (required/not required)

In accordance with 1.5.3…
we can now put in place a scoring system for each piece of knowledge and skill.

Materials: consolidated matrix

In addition to consolidating and defining the necessary requirements for a function the summary matrix, now identifies the competencies that require:

Basic knowledge

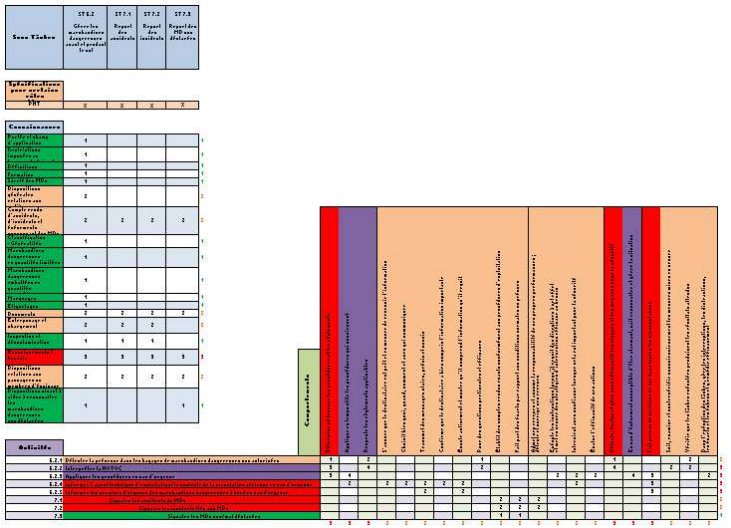
General knowledge or understanding of basic techniques.

Functional level

Ability to apply the methods independently.
Expert help may be required from time to time.

Proven mastery

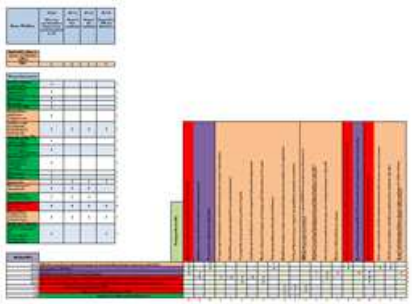
Ability to adapt actions, to solve problems without assistance.



Expertise level

Ability to provide advice and answer questions (supervision / instruction).

Materials: consolidated matrix



Advantages of a scoring system (levels of proficiency):

For the function:

identifying the minimum requirements for each competency
highlighting the most important ones (to particularly focus on during the training)

For the employee:

showing a detailed analysis of his/her real competencies (focus on the individual)
following his/her improvement → possibilities of evolution

For the training plan:

knowing on which points of the training program to focus
assessing the system and targeting the points to be improved
via the individual repetitive evaluations and their analysis

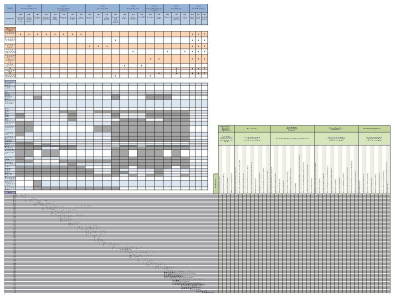
French Approach of CBT related to DG

Materials: evolutions to come

V1 of the guide validated.
The finalizing of edition is in progress.
(probable implementation of the English version).

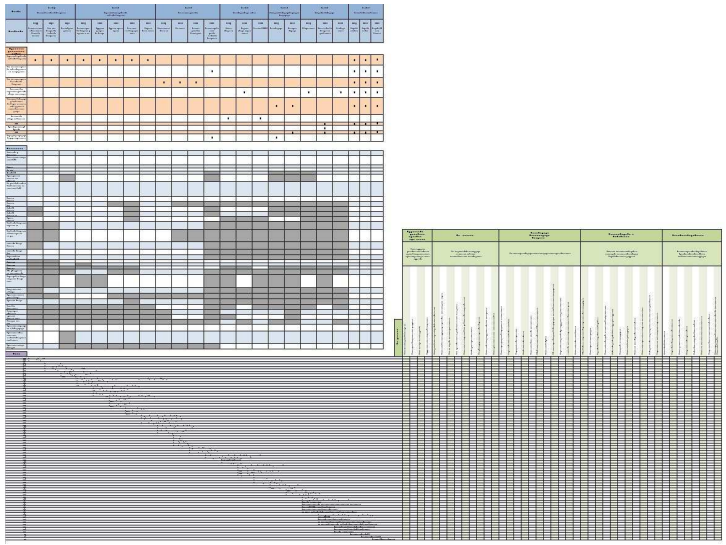
Soon available to operators
for a test/commentaries phase.
(A presentation meeting will be planned)

V1 of the matrix validated
(the English version already exists)



BUT…

Materials: evolutions to come



This Excel matrix was primarily developed to illustrate the CBTA.

Excel table of 128 lines by 69 columns

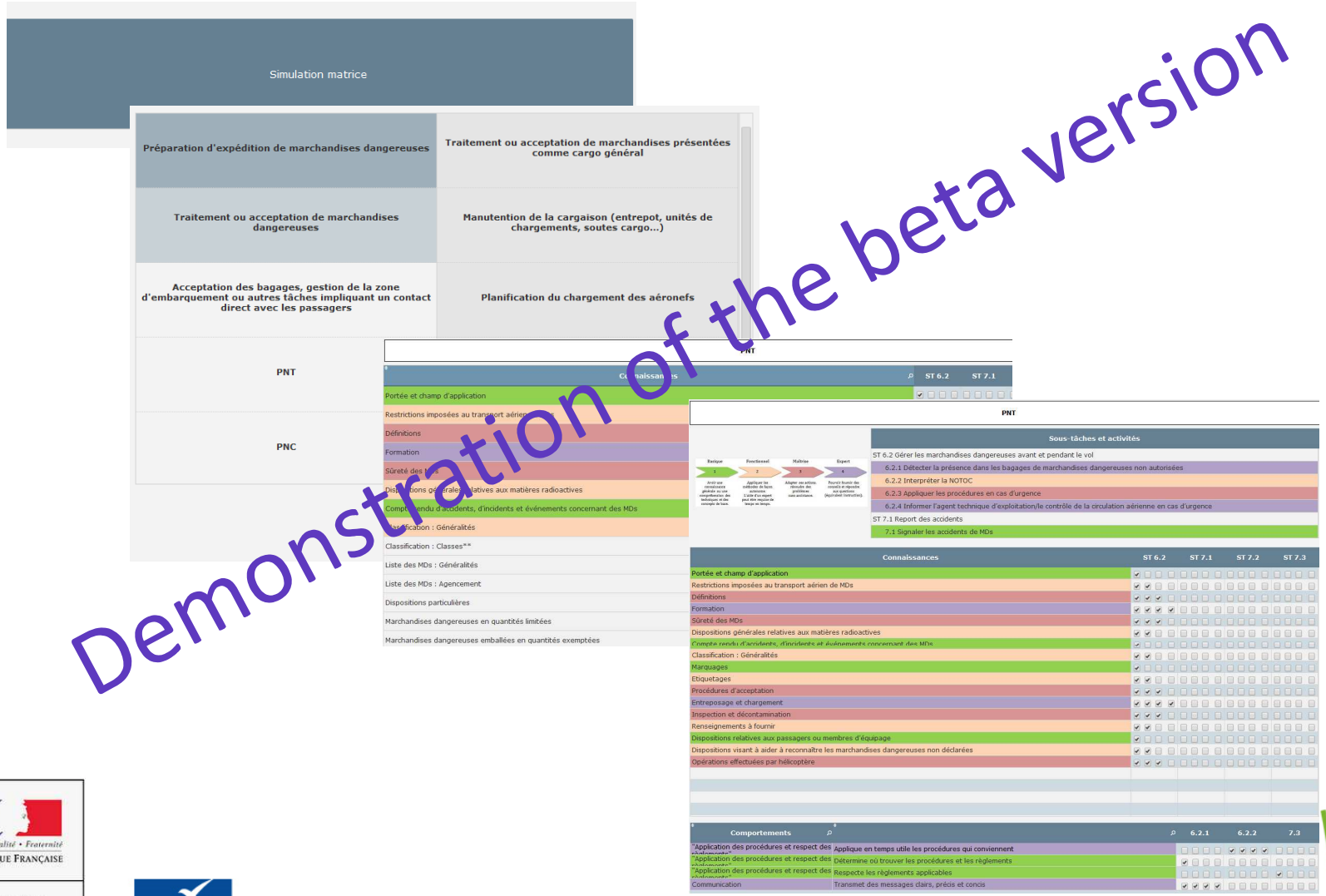
→ not easily useable by the operators.

Development of a micro-software which:

- will be downloadable from the DGAC website;
- will allow the operators to generate and manage:
  - databases of customized competencies;
  - customized Adapted Competency Frameworks for each function.

French Approach of CBT related to DG

Materials: evolutions to come



Demonstration of the beta version

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Refresh trainings

We stick with a bi-yearly refreshment notion.
What is important is the date at which the training and assessment are completed.

The operators could rely on their SMS or an equivalent:
- too light or non-existing : complete training;
- efficient SMS: no need for thorough refreshments, just a few notions (e.g.: updates).

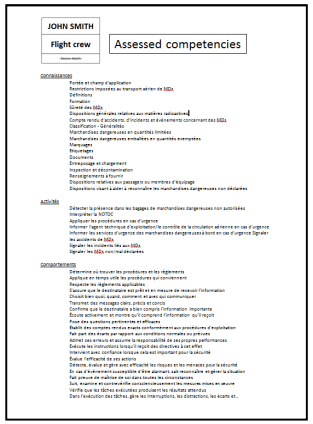
Disappearing of current categories

What about the possibility for an employee already trained to move from one organization to another (recognition of prior learnings) ?

Certificates

As all the competencies (knowledge, skills and attitude) defined by the ICAO would be recognized worldwide:
current type of certificate could still be used
linked to a summary of the individually assessed competencies.

+



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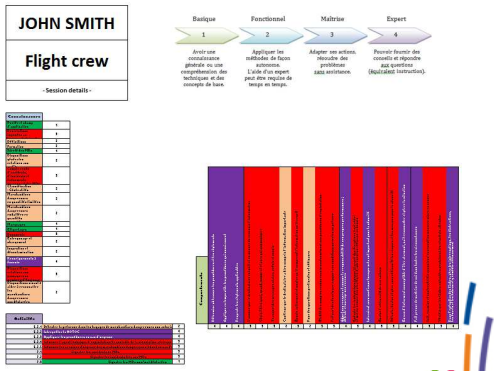

Instructors

The old schema with one almighty instructor able to provide any kind of DG training will certainly have to be reviewed.

Considering all the useable means for trainings
(e.g.: classroom lessons, virtual classroom, e-learning, discussion in groups,…)
and especially the practical ones
(e.g.: On-Job-Training, supervision, audits, feedback…)

operators will have the possibility to rely on their own SMS and employees complementary to the « official » instructors.

Assesments

See next chapter

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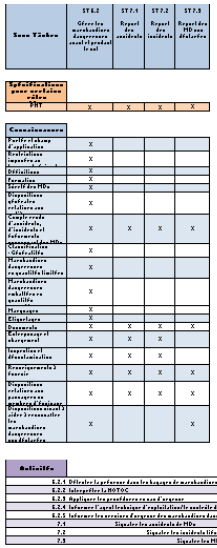
During the benchmarking of our procedures
we have met operators and worked on particular cases,

Flight crew

Definition of the function → Adapted Competency Model → Content of the training

Case study

Adapted Competency Framework



Needs analysis

Adapted Competency Model

Compétence adaptée		Critères de performance		
		Comportement Observable	Evaluation de la compétence	
Application des procédures et respect des règlements		Détermine où trouver les procédures et les règlements Respecte les règlements applicables	Sous-partie « règlements/procédures » Note ≥ 80%	Questions dans test théoriques
Communication		Pose d… efficac…		
Résolution des problèmes et prise de décisions		Détect… les risq… sécurit…		
Gestion de la charge de travail		Vérifie… produi…		

Interpréter la NOTOC

Compétence adaptée		Critè…
		Comp…
Application des procédures et respect des règlements		Détem… et les …
		Respe…
Communication		Pose d… efficac…
Gestion de la charge de travail		Détect… les risq… sécurit…
		Vérifie… produi…

Training content and criteria

Cours en salle ----------

Prévoir discussion sur méthodes et objectifs
du remplissage des rapports incidents/accidents/MD non déclarées

Test connaissances ----------

Sous-partie « règlements/procédures »
Prévoir questions sur :
- MD non déclarées dans les bagages
- NOTOC
- Procédures d'urgences
(dont communication avec l'agent technique d'exploitation au sol)
- Rapports incidents/accidents/MD non déclarées

Critère : note sous-partie ≥ 80%

Sous-partie « NOTOC »
Prévoir exercice modification/correction NOTOC erronée

Critère : note sous-partie ≥ 80%

Atelier pratique ----------

Prévoir partie procédure tag vert

Critère :
S'assure que les questionnements MDI ont bien été effectués

Simulateur ----------

Prévoir Scénario feu soute avec MD à bord

Critères :

Analyse NOTOC + Utilisation consignes d'urgence manex A09
Applique les consignes d'urgence manex A09
Transmet ATC :
- présence MD
- désignation officielle
- classe/div.
- si Cl.1 grp compatibilité
- risques subsidiaires
- emplacement
Fait preuve de calme, d'organisation et sait rester maître de la situation
Communication calme, claire et concise
Ecoute attentive
Exécute les consignes

Conclusion

The operators' feedback is promising.

Some of them are volunteers to help us in a global brainstorming.

Some questions remain (as, for example, issues with multiple bases with a lot of subcontractors) but ideas start to emerge.

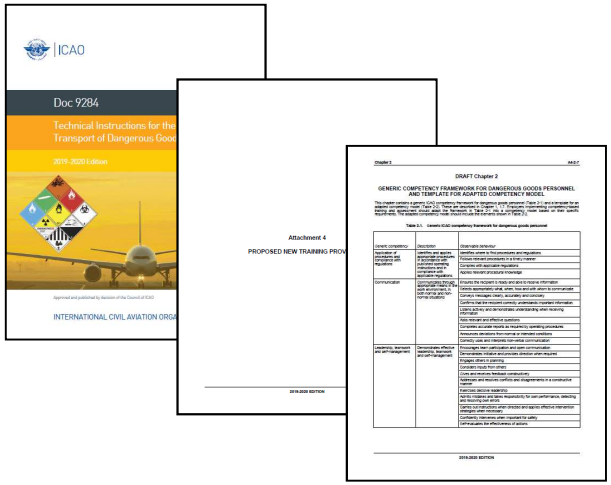
The 2nd phase of our approach (provision of the guide, of the matrix-software and organization of meetings) will probably allow us to solve most of the remaining points.

Objective: finalizing everything before October 2019.

It goes without saying that if other organizations want to participate in these proceedings, they are very welcome.

French Approach of CBT related to DG

Conclusion



Existing materials are already a very good basis

Potential improvements:

- Chronological approach
- Developping the notion of level of proficiency
- Thorough guidelines regarding assessment
- Solutions for certificates' content

Conclusion

IF

a b c d e f g h I j k l m n o p q r s t u v w x y z

EQUALS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

THEN

KNOWLEDGE = 11+14+15+23+12+5+4+7+5 = 96 %

HARD WORK = 8+1+18+4+23+15+18+11 = 98 %

Both are important but fall just short of 100%

Coincidence ?

ATTITUDE = 1+20+20+9+20+21+4+5 = 100%

Thank you very much for your attention

If some of you is interested in more details
we are at your disposal during all this week

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