EDF
Direction Industrielle

Implementation of an action plan to fight against fraudulent and counterfeit items within EDF – Manufacturing phase

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CHANGER L'ÉNERGIE ENSEMBLE

CFSI context within EDF on manufacturing phase

Current status in EDF in 2018 :

•Few cases per year but with potential significant impacts (Safety, staff security, availability of NPPs, costs impacts, discredit on Nuclear and on surveillance made by the Operators) - high workload to justify the impacted components…

•Different kinds of C&F items : Renewal of welders qualifications ; Material certificates acc. NF EN 10204 Std (counterfeit ; modification of Lab report ; change of information within internal supplier documentation)…

•Different "organization" of the C&F : mainly by personal initiative isolated but favored by a lack of individual and collective safety culture on suppliers not belonging to Tier 1 (rank n, n >=3)

•Different means of discovering :

- By the surveillance of the Client/operator (inspector ..)..but generally can be late..
- By the surveillance of the main Contractor on its supply chain (trend : ↗)
- By the mean of preventive CFSI visit made by EDF/DI at some suppliers' workshops

→**Diversity of cases encountered** (leading to difficulties to fight against) ;

→**Generally disproportion between the act of fraud made and the associated technical stakes**

CFSI context within EDF on manufacturing phase

The current means of Fighting against C&F items within EDF :

- **In Call for tender phase :** on contract at stake, to assess Industrial Scheme (supply chain) of the Main Contractor – to orientate or impose the choice of some sub-contractors in case of risk

- **Inclusion of the Industrial Policy of EDF within the DI entity in charge of the Manufacturing surveillance** : to make closer the two entities & topics (eg : analysis of weakness signals in economical field, industrial watch..)

New

- **To raise awareness among Industry and ask them what action plan they implement themselves** :

New

  - ❑ Sending a formal mail to the most important Contractors (about 150 for EDF) signed by Head of Generation/ New Build Directions
  - ❑ Qualification of the Main Contractor by EDF includes already a survey on safety culture and Ethic Policy.

- **To include in procurement clauses more explicit & enhanced requirements for the Main Contractor :** obligation to survey its sub-contractor, to accept extended surveillance made by EDF/DI (more intrusive), to carry out risk analyses and surveillance plan and to send it to EDF, to send material sampling for independent test made by EDF …

- **To carry out different surveillance :**
  - ❑ **Unexpected inspections;** asking for the original material 3.1 certificate from the issuing entity..
  - ❑ **Contradictory surveillance** (NDT, chemical composition, comparative inter-lab on tensile test..) with own EDF resources or other external independent Lab

CFSI context within EDF on manufacturing phase

Current difficulties & proposal to move forward:

•No formal organization existing today to communicate between different Operators / Main contractors the cases encountered (especially when C&F is not proven – stay at SI stage) :

- C&F are offense punishable by the law : How to deal with "technically" the risk without involving contractual & legal consequences, not in the same time (to be dealt with but by other party and in a second time) ?
- each company name indicated with risk of CFSI could have significant consequences (risk of missing markets – economic viability – risk of company closure and staff dismissal..)
- Risk of Offense of defamation for the counterparts involved in the sharing of the information

… and in the same time to preserve the information sharing in order to prevent potential consequences on a Quality concern for an item of equipment to be used in a nuclear facility

Proposal on going : to use the recent creation of the GIFEN (Group of French Nuclear Industry Companies - mid 2018) in order to share CFSI topics (not yet implemented – terms and conditions not yet defined – on going)

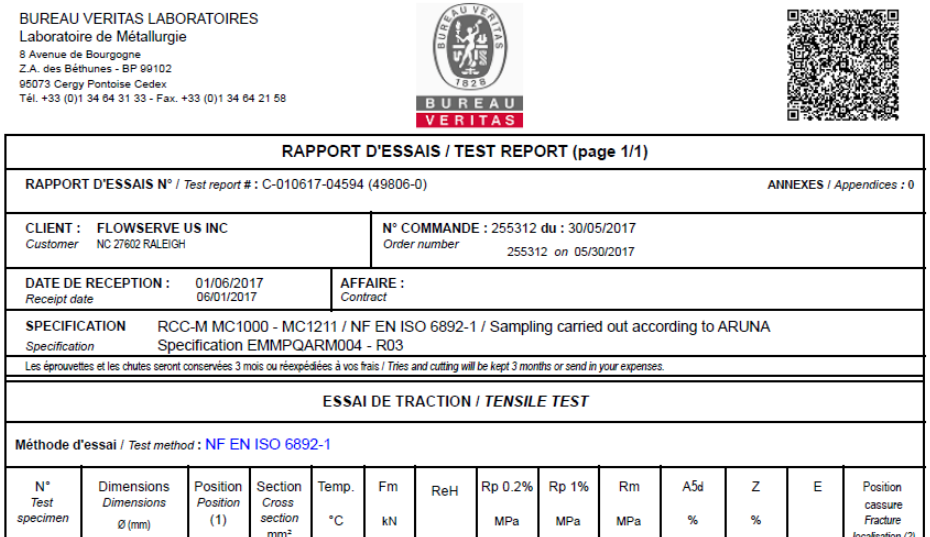
But what about beyond this Group ?

CFSI context within EDF on manufacturing phase

Current difficulties & proposal to move forward:

- **The surveillance is usually based on the observation of stamped reports -how to detect fake documents of « good quality » ?**
  - Difficulty in questioning the veracity of all documents : how to choose the ones on which we will ask for the originals from the issuing Body ?

Good practice to encourage for generalization : one Third Party entity in France has set-up a QR code on tensile test report, allowing inspector to check easily the compliance with the original on « Certificate & Report Authentification Service » of the TP



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RAPPORT D'ESSAIS / TEST REPORT (page 1/1)

RAPPORT D'ESSAIS N° / *Test report #* : C-010617-04594 (49806-0) — **ANNEXES** / *Appendices* : 0

CLIENT : FLOWSERVE US INC — *Customer* NC 27602 RALEIGH
N° COMMANDE : 255312 **du** : 30/05/2017 — *Order number* 255312 *on* 05/30/2017

DATE DE RECEPTION : 01/06/2017 — *Receipt date* 06/01/2017
AFFAIRE : — *Contract*

SPECIFICATION — *Specification* : RCC-M MC1000 - MC1211 / NF EN ISO 6892-1 / Sampling carried out according to ARUNA Specification EMMPQARM004 - R03

Les éprouvettes et les chutes seront conservées 3 mois ou réexpédiées à vos frais / Tries and cutting will be kept 3 months or send in your expenses.

ESSAI DE TRACTION / *TENSILE TEST*

Méthode d'essai / *Test method* : NF EN ISO 6892-1

N° *Test specimen*	Dimensions *Dimensions* Ø (mm)	Position *Position* (1)	Section *Cross section* mm²	Temp. °C	Fm kN	ReH	Rp 0.2% MPa	Rp 1% MPa	Rm MPa	A5d %	Z %	E	Position cassure *Fracture*