

ISO 17020 ACCREDITATION OF CNETSTEN NDT LABORATORY Part 1

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Abstract

The accreditation of an inspection body as well as of NDT offices prove the technical and managerial qualifications to do this works in high level of quality and liability to satisfy partner's needs.

ISO 17020 standards deals with accreditation of an inspection office and define all specifications to be done in order to achieve this objective.

In NDT laboratory of CNESTEN, we have some inspection activities using many NDT techniques. We are working to establish a quality system according to ISO 17020 standards.

The assessment of the lab status allowed to undertake the following actions:

- Identification and definition of our activity processes ;
- Set up of diagnosis following the ISO 17020 standards to detect what we must prepare. The important conclusion show that we are in the middle of the way. In some parts we are in advance but in others we have to start from the beginning.
- Elaboration of an action plan before to apply for accreditation :
 - Elaboration of the Quality Manual;
 - Elaboration of procedures to comply with ISO 17020 requirements.

Keywords: accreditation, ISO 17020, inspection office

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1- Description of the project:

In order to face the evolution of the economic environment marked by a hardening of the market (requirements of the customers, globalization,...), CNESTEN fixed an objective to set up a quality management system in order to increase its competitiveness and to improve its market image. In this regard, CNESTEN proposed this subject, titled "ISO 1720 ACCREDITATION OF CNESTEN NDT LABORATORY". This accreditation will allow us a national and international credibility, a confidence of customers, results indisputable and satisfying the customers requirements.

In order to be able to achieve this goal and to prove that the quality assurance system is established in accordance to ISO 17020 standard, and as part of this standard a Quality documentation must be prepared to define quality policy and objectives and to describe principles, rules and the organization of the inspection body. Our methodology of work consists of performing a diagnosis of the existing; To describe processes of the inspection body organization, To establish a processes mapping of the; To present the list of the various documents and procedures required by the accreditation standards.

2-The accreditation in Morocco

The accreditation in Morocco corresponds to the recognition by the Ministry In charge of the Industry (MCI) of the aptitude of a laboratory to carry out given tests or of an organization of technical inspections to carry out specific technical inspections. This recognition results in the right of user of the logotype which attests that the laboratory satisfied the requirements of the Moroccan standard NM ISO 17025 equivalent to the international standard ISO/CEI 17025, or although the organization of technical inspections satisfied the requirements of reference frame Nm ISO 17020 equivalent to international standard ISO/CEI 17025.

Interested parties in the accreditation process in Morocco

- The Moroccan Industry Ministry is the accreditation body.
- The Accreditation Committee (CA) instituted by decree of the Industry Minister.
- Sectorial Accreditation Commissions.
- Section In charge of Accreditation (SCAC) constituted by executive persons from the Ministry which manage the requests for accreditation and ensure the follow-up of the accredited organizations;
- Quality auditors who are qualified in accordance with the requirements of NM 10011-1 standard for the evaluation of the quality systems of the organizations;

- Technical experts who have the technical skills to evaluate testing and calibration methods.

3- Presentation of ISO/CEI 17020 standard

The Quality system of the NDT inspection 'll be according to ISO 17020 standard. This standard is based on organizational and technical requirements as follows.

- Administrative requirements;
- Independence,
- impartiality and integrity;
- Confidentiality;
- Organization and management;
- Quality system;
- Personnel;
- Facilities and equipments;
- Methods and procedures of inspection;
- Handling inspection samples and objects;
- Records;
- Inspection reports and certificate reports;
- Subcontracting;
- Complaints and recourse;
- Co-operation.

4- Implementation of ISO 17020 accreditation at the NDT laboratory of the CNESTEN: Identification of processes.

This part relates to the setting up of various requirements of ISO 17020 standard, compared to what exists.

4-1 Identification of the processes:

Methodology followed to identify the processes is as follows:

- To define processes: it is necessary to analyze the succession of activities which proceed logically, of the identification of the requirements of the customer until to answer predefined requirements;
- To represent relationships between processes: the cartography of processes is a simple visual means which makes possible to view the whole of identified processes and their interactions.

The whole of identified processes are gathered within three typologies of the processes:

Management Processes	core business process	Process of support
<ul style="list-style-type: none"> - management process; - Planning process - Budget process; - Strategy process. 	Providing NDT services process	<ul style="list-style-type: none"> - purchase process - training process - Administrative process; - Commercial process - Maintenance process.

Table 1: Regrouping of the identified processes.

5- DIAGNOSIS AND PLAN WORKSHEET

Before to set up a quality system according to the standard NM ISO/CEI 17020, it is necessary to carry out a diagnosis of what exists. The diagnosis is considered as an initial audit. At this stage, the organization is compared to standard requirements. Results of diagnosis direct all the continuation of the project.

5-1 The diagnosis of existing /

Many discussions were held with all the personnel of the inspection body. A question nary was used to diagnostic our preparation for major ISO 17020 requirements. The result of this evaluation is shown in the following figure.

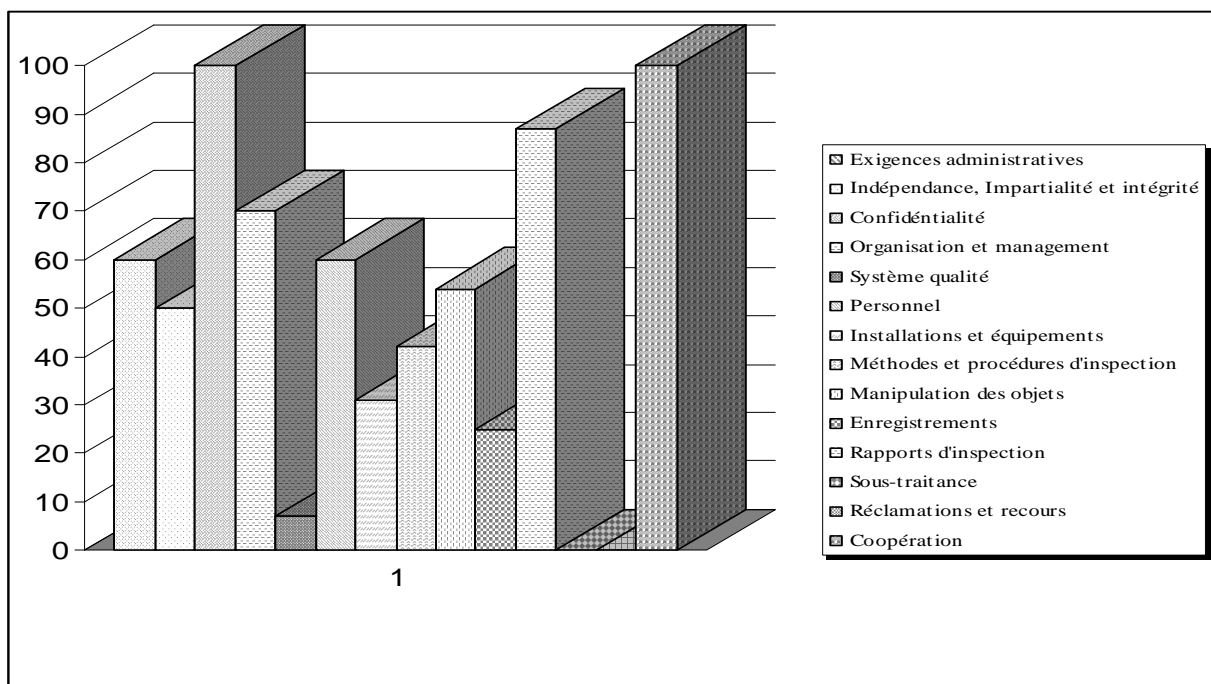


Figure 1 : Conformity rates of CNESTEN NDT laboratory with ISO 17020 standard.

5-2 Diagnosis analysis

After the diagnosis we can see that requirements related to the organisation and quality system are not filled.

Strong points are:

- Use of standardized testing methods;
- Qualified persons in various methods of NDT.
- Facilities and equipments checked and supervised.

Weak points:

- The absence of a formalized engagement in connection with the quality policy;
- Responsibilities and tasks of each person are not formalized;

- The unit does not have a quality manual;
- Technical instructions are not formalized;
- The equipment maintenance plan doesn't exist;
- Quality management procedures don't exist.

5-3 Action plan

The main work to start is to set up the quality management actions. Which can be carried out like any quality project.

After the realization of the diagnosis, we worked to finish the following actions according to this schedule:

ACTIONS AND TASKS	
Quality System	Quality manual
	job profile description
	Non conformity procedures
	Corrective and preventive actions procedures
	Internal audit procedures
	Management review procedures
	Diagnosis audit
Technical Instruction	Technical instructions
	Equipment verification
	technical Equipment sheet
	Equipment Follow up sheet
Management process	core business procedure
	Purchasing procedure
	Administrative procedure
	Sub contracting procedure
	complaint treatment procedure

5-4 Documents

- **Quality Manual**

In the same time to prepare procedures, we prepared quality manual in conformity with ISO 17020 and ISO 9001 standards, This document synthesizes in 17 chapters provisions taken to guarantee the conformity of inspection activities.

For each chapter, we must show:

- The spot;
- Definition of responsibilities i.e. “who does what? ”;
- References of annexed procedures.

- Procedures

Procedures present the 2nd level of the quality pyramid; they are specific manners to achieve an activity. They specify their spot and limits: what must be done, which must do it, when or and how that must be done, which materials and documents must be used and how that must be control and recorded.

At this level we prepared following procedures:

- NDT inspection activities;
- Purchasing;
- Administration
- Subcontracting;
- Customer complaint
- Internal audit;
- documentation Checking;
- Records checking;
- Manager review;
- Corrective and preventive actions;
- None conformity checking.

- Technical instructions for applied NDT methods.

- Records relating to inspection reports and equipment checking...

6- CONCLUSION

The main objective of this part of work is to put a framework and conditions to set up accreditation according ISO 17020.

Te first state of this work (diagnosis) enabled us to know our level of preparation and to establish a plan to answer all standard requirements.

At this level of the project, we finished documentary part relating to the Manual, procedures, instructions and records which constitute a great step before to apply for an official accreditation.