INTER-LABORATORY PROFICIENCY TESTING OF NDT LABS ACCORDING TO ISO 17043 AS A TOOL FOR CONTINUOUS IMPROVEMENT PRINCIPLE ACCORDING TO ISO 9001

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Number of organizations claim they provide high quality NDT services for their customers.

The role of the Proficiency Testing is to verify this claim to be relevant.
PROFICIENCY TESTING PROCESS

- All participants get the same sample
- All participants get the same instruction to follow
- Testing performed in participant’s facility on his equipment and with his staff
- All participants are evaluated by the same person

Sample is provided to the next participant

The scheme is announced → Sample is sent
Apply for participation → Get sample
Test acc. to instruction → Write Test Report
Sample is checked → All reports are collected
Send back everything → Participants are evaluated
The scheme is closed

Proficiency Testing Provider’s (PTP) activities
Participants’ activities
BASIC PRINCIPLE

Keypoints

- Certificate for benchmark quality achievement
- Performance evaluation of a laboratory
- Comparison between participating laboratories
- Information about ongoing competence
- Anonymous and impartial

<table>
<thead>
<tr>
<th>Description of the activities</th>
<th>Max. number of points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Application of the NDT method / satisfying the entry</td>
<td>20</td>
</tr>
<tr>
<td>o Use / selection of the NDT technique</td>
<td>10</td>
</tr>
<tr>
<td>o Determination of operation conditions</td>
<td>8</td>
</tr>
<tr>
<td>o Post test procedures (cleaning the part)</td>
<td>2</td>
</tr>
<tr>
<td>2. Functional checks (gauges, sprays, lamp, UV meter...)</td>
<td>5</td>
</tr>
<tr>
<td>3. Detection of indications</td>
<td>30</td>
</tr>
<tr>
<td>o Relevant indications</td>
<td>15</td>
</tr>
<tr>
<td>o Non-relevant and not-registered indications</td>
<td>5</td>
</tr>
<tr>
<td>o Position characterization</td>
<td>10</td>
</tr>
<tr>
<td>4. Indication evaluation</td>
<td>30</td>
</tr>
<tr>
<td>o Criteria application</td>
<td>5</td>
</tr>
<tr>
<td>o Indication classification</td>
<td>5</td>
</tr>
<tr>
<td>o Evaluation of the acceptable indication as unacceptable</td>
<td>15</td>
</tr>
<tr>
<td>o Evaluation of the unacceptable indication as acceptable</td>
<td>5</td>
</tr>
<tr>
<td>5. Report</td>
<td>10</td>
</tr>
<tr>
<td>o Explicitness</td>
<td>7</td>
</tr>
<tr>
<td>o Marking all the unacceptable indications</td>
<td>3</td>
</tr>
<tr>
<td>6. Compliance with the given term</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
</tr>
</tbody>
</table>
WHY THE COMPANY NEEDS IT?

Internal reasons
- Company needs to understand the special process
- Company needs to get self-reflection of its activities
- Company wants to have a strong and independent monitoring tool of its internal special process competence

External reasons
- Company wants to have a strong argument of its competence at hand
- Company is required to participate by accreditation body due to implemented process acc. to ISO 17025

Business needs
- Company needs to evaluate its potential or current suppliers of special process
THE PROCESS APPROACH

Principle of ISO 9001

- Basically everything except most elemental activities is a process or can be looked upon as being a process

Definition of a process acc. to ISO 9000

- A process is a set of interrelated or interacting activities that transforms inputs into outputs

It means that to execute the process correctly, it must be initiated by at least one starting activity (input), be followed correctly (thus it means in correct interrelation and order) all the way through, and finalized in a given time, cost and quality
Proficiency testing is verifying whether the NDT process is done

- In full extent
- In correct order and manner
- In adequate time and quality

The proficiency testing is helping the organization to understand the NDT process completely by comparison with a template process approach
PDCA AND CONTINUOUS IMPROVEMENT

Continuous improvement

Consolidation through standardization

Quality

Time

ACT

PLAN

CHECK

DO

Standard
OUTCOMES OF CONTINUOUS IMPROVEMENT

Feedback
- The core principle of CIP is the self-reflection of processes
- Where do I stand compared to the others and the template approach

Efficiency
- The purpose of CIP is the identification, reduction, and elimination of suboptimal processes
- Localization of suboptimal processes are input to change internally or using a consulting organization externally

Evolution
- The emphasis of CIP is on incremental, continual steps rather than giant leaps
- Nothing can be solved during one session, choose a priority and go step-by-step by repeating the participation
IMPLEMENTATION OF CIP BY PROFICIENCY TESTING

The implementation process

- Participate in the first scheme
- Adjust the whole NDT process according to the observation
- Set the new NDT process as new standard
- Define a frequency of repetition and model of participating in Proficiency Testing schemes
- Regularly participate in the schemes
- Execute effective corrective actions
- Never stop

It is necessary to follow the scheme repeatedly, learn from the experience and use the knowledge to improve by evolution
PARTICIPATION IN ATG SCHEMES

- ATG organize Proficiency Testing schemes for 5 years
- In total there was 155 participations in ATG schemes
- In 2017 ATG opened up with new structure to allow broader participation

![Graph showing participation trends]

www.atg.cz
CONTACT INFORMATION

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