Kuwait 4th Flow Measurement Technology Conference

3-5 December 2019
Hilton Kuwait Resort
OFFICIAL SPONSOR
MOHAMMAD AL KHATRASH

PROFICIENCY TEST PROGRAM
EOM&M:

1- Quality (Loss Control)
2- Quantity (Export Laboratory)

<table>
<thead>
<tr>
<th></th>
<th>API</th>
<th>Salt</th>
<th>BS&amp;W</th>
<th>Sulfur s</th>
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<tbody>
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<td>KEC</td>
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<td>KSLC</td>
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<td>0.7</td>
<td>0.025</td>
<td>0.31</td>
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• KPC Agreement
• Laboratory results must meet the following:
  1- preform all procedures and process in the best possible way
  2- Timely
  3- Accurate
  4- Reliable
Quality Control

• Quality Control: Statistical used to monitor and evaluate the process that produces the results.

• QC results are used to validate whether the instrument is operating within the predefined specifications and make sure results are reliable.

• ISO 17025
Definitions

Proficiency testing – evaluation of participant performance against pre-established criteria by means of inter-laboratory comparisons

Participant – laboratory, organization or individual that receives proficiency test items and submits results for review by the PT provider
Proficiency testing provider – organization which takes responsibility for all tasks in the development and operation of a proficiency testing scheme:

- Regulatory body
- 3rd party
What kind of materials are distributed

- The materials distributed are as close as possible to the material being regularly analyzed, so that the results of the scheme represent the capability of the laboratories working under routine conditions.
How scoring is performed:

- Mean
- Standard deviation
- Z scores

\[ z = \frac{x - \mu}{\sigma} \]

\( X \) = lab result
\( \mu \) = mean
\( \sigma \) = standard deviation
<table>
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Z-Score Evaluation

- Z-Scores categorized as follows:

- $-3 \leq z \leq 3$: Fail
- $-2 < z < 2$: Investigate
- $2 \leq |z| < 3$: Pass
<table>
<thead>
<tr>
<th>Fail</th>
<th>Investigate</th>
<th>Pass</th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>97</td>
<td>%</td>
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Benefit of Proficiency Tests:

• Technical Training
• Accreditation body
• Improve laboratory quality
Conclusion:
PT provides laboratories with the opportunity to compare their data with other labs which reduces errors.
THANK YOU