

	Environmental Lead Proficiency Analytical Testing (ELPAT) Program Scheme Plan
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1 PURPOSE, SCOPE AND OBJECTIVE

This quality system document outlines the Environmental Lead Proficiency Analytical Testing (ELPAT) Program scheme and how this scheme satisfies the relevant requirements of ISO/IEC 17043.

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2 REVISION HISTORY

<u>Date</u>	<u>Rev.</u>	<u>Modification(s)</u>
07/23/2012	R0	Original Issue
9/27/2012	R1	5.2q (Requirements from clause 4.4.1.3 of ISO/IEC 17043) - Revised 2nd sentence; 9.1 and 3.2 Updated document name to 'ARMATURE Data Processing Procedure'; 9.1 – revised 4th bullet to “the standard deviation of the reference group results” instead of “the standard deviation of the assigned value; 3.1 revised document title to “AIHA PAT Programs Participation Policies”
10/16/2013	R2	5.2q updated to reflect the uncertainty formula in actual use by PAT Programs; 5.2p updated to include outlier test; 9.1 updated to include new definition of Reference Group and criteria and procedure for identification of outliers.

3 RELATED DOCUMENTATION

- 3.1. AIHA PAT Programs Participation Policies
- 3.2. ARMATURE Data Processing Procedure
- 3.3. Purchasing Services and Supplies
- 3.4. Review of Request Tenders and Contracts
- 3.5. ISO/IEC 17043:2010 Conformity assessment — General requirements for proficiency testing

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4 DEFINITIONS

The following definitions from ISO/IEC 17043:2010 apply:

4.1 assigned value

value attributed to a particular property of a proficiency test item

AIHA PAT Programs NOTE: The IHPAT Program scheme uses the adjusted mean of reference participant results as the assigned value

4.2 coordinator

one or more individuals with responsibility for organizing and managing all of the activities involved in the operation of a proficiency testing scheme

4.3 customer

organization or individual for which a proficiency testing scheme is provided through a contractual arrangement

4.4 interlaboratory comparison

organization, performance and evaluation of measurements or tests on the same or similar items by two or more laboratories in accordance with predetermined conditions

4.5 outlier

observation in a set of data that appears to be inconsistent with the remainder of that set

NOTE An outlier can originate from a different population or be the result of an incorrect recording or other gross error.

4.6 participant

laboratory, organization or individual that receives proficiency test items and submits results for review by the proficiency testing provider

NOTE In some cases, the participant can be an inspection body.

4.7 proficiency testing

evaluation of participant performance against pre-established criteria by means of interlaboratory comparisons

NOTE 1 For the purposes of this International Standard, the term “proficiency testing” is taken in its widest sense and includes, but is not limited to:

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- a) quantitative scheme — where the objective is to quantify one or more measurands of the proficiency test item;
- b) qualitative scheme — where the objective is to identify or describe one or more characteristics of the proficiency test item;
- c) sequential scheme — where one or more proficiency test items are distributed sequentially for testing or measurement and returned to the proficiency testing provider at intervals;
- d) simultaneous scheme — where proficiency test items are distributed for concurrent testing or measurement within a defined time period;
- e) single occasion exercise — where proficiency test items are provided on a single occasion;
- f) continuous scheme — where proficiency test items are provided at regular intervals;
- g) sampling — where samples are taken for subsequent analysis; and
- h) data transformation and interpretation — where sets of data or other information are furnished and the information is processed to provide an interpretation (or other outcome).

4.8 proficiency test item

sample, product, artifact, reference material, piece of equipment, measurement standard, data set or other information used for proficiency testing

4.9 proficiency testing provider

organization which takes responsibility for all tasks in the development and operation of a proficiency testing scheme

4.10 proficiency testing round

single complete sequence of distribution of proficiency test items, and the evaluation and reporting of results to the participants

4.11 proficiency testing scheme

proficiency testing designed and operated in one or more rounds for a specified area of testing, measurement, calibration or inspection

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NOTE A proficiency testing scheme might cover a particular type of test, calibration, inspection or a number of tests, calibrations or inspections on proficiency test items.

4.12 robust statistical method

statistical method insensitive to small departures from underlying assumptions surrounding an underlying probabilistic model

4.13 standard deviation for proficiency assessment

measure of dispersion used in the evaluation of results of proficiency testing, based on the available information

NOTE 1 The standard deviation applies only to ratio and differential scale results.

NOTE 2 Not all proficiency testing schemes evaluate proficiency based on the dispersion of results.

4.14 subcontractor

organization or individual engaged by the proficiency testing provider to perform activities specified in this International Standard and that affect the quality of a proficiency testing scheme

NOTE The term “subcontractor” includes what many proficiency testing providers call collaborators.

4.15 metrological traceability

property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty

NOTE 1 For this definition, a “reference” can be a definition of a measurement unit through its practical realization, or a measurement procedure including the measurement unit for a non-ordinal quantity, or a measurement standard.

NOTE 2 Metrological traceability requires an established calibration hierarchy.

NOTE 3 Specification of the reference must include the time at which this reference was used in establishing the calibration hierarchy, along with any other relevant metrological information about the reference, such as when the first calibration in the calibration hierarchy was performed.

NOTE 4 For measurements with more than one input quantity in the measurement model, each of the input quantity values should itself be metrologically traceable and the

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calibration hierarchy involved may form a branched structure or a network. The effort involved in establishing metrological traceability for each input quantity value should be commensurate with its relative contribution to the measurement result.

NOTE 5 Metrological traceability of a measurement result does not ensure that the measurement uncertainty is adequate for a given purpose or that there is an absence of mistakes.

NOTE 6 A comparison between two measurement standards may be viewed as a calibration if the comparison is used to check and, if necessary, correct the quantity value and measurement uncertainty attributed to one of the measurement standards.

NOTE 7 The ILAC⁽¹⁾ considers the elements for confirming metrological traceability to be an unbroken metrological traceability chain to an international measurement standard or a national measurement standard, a documented measurement uncertainty, a documented measurement procedure, accredited technical competence, metrological traceability to the SI, and calibration intervals (see ILAC P-10:2002).

1) International Laboratory Accreditation Cooperation.

NOTE 8 The abbreviated term “traceability” is sometimes used to mean “metrological traceability” as well as other concepts, such as “sample traceability” or “document traceability” or “instrument traceability” or “material traceability”, where the history (“trace”) of an item is meant. Therefore, the full term of “metrological traceability” is preferred if there is any risk of confusion.
[ISO/IEC Guide 99:2007, definition 2.41]

4.16 measurement uncertainty

uncertainty of measurement
uncertainty

non-negative parameter characterizing the dispersion of the quantity values being attributed to a measurand, based on the information used

NOTE 1 Measurement uncertainty includes components arising from systematic effects, such as components associated with corrections and the assigned quantity values of measurement standards, as well as the definitional uncertainty. Sometimes estimated systematic effects are not corrected for but, instead, associated measurement uncertainty components are incorporated.

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NOTE 2 The parameter may be, for example, a standard deviation called standard measurement uncertainty (or a specified multiple of it), or the half-width of an interval, having a stated coverage probability.

NOTE 3 Measurement uncertainty comprises, in general, many components. Some of these may be evaluated by Type A evaluation of measurement uncertainty from the statistical distribution of the quantity values from series of measurements and can be characterized by standard deviations. The other components, which may be evaluated by Type B evaluation of measurement uncertainty, can also be characterized by standard deviations, evaluated from probability density functions based on experience or other information.

NOTE 4 In general, for a given set of information, it is understood that the measurement uncertainty is associated with a stated quantity value attributed to the measurand. A modification of this value results in a modification of the associated uncertainty.

5 ENVIRONMENTAL LEAD PROFICIENCY ANALYTICAL TESTING PT SCHEME

5.1 Objectives of the PT Scheme

The objective of this PT scheme is to allow participants to demonstrate their ability to correctly analyze representative environmental lead matrices. The ELPAT Program is designed to complement, not replace, a participating laboratory's internal quality control (QC) program.

5.2 PT Plan

The following table provides the general scheme information that is followed for the ELPAT Program and references the relevant requirements of ISO/IEC 17043:

Requirement from clause 4.4.1.3 of ISO/IEC 17043	AIHA ELPAT Program's fulfillment of requirement
a) Provider	AIHA Proficiency Analytical Testing Programs. 3141 Fairview Park Drive, Suite 777., Falls Church, VA 22042. Email: info.PATLLC@aiha.org Phone: (703) 846 0757.
b) Coordinator	The Manager, AIHA PAT Programs, functions as the coordinator of the ELPAT Program. The Director, AIHA PAT Programs, is responsible for the planning and design of the Environmental Lead

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Requirement from clause 4.4.1.3 of ISO/IEC 17043	AIHA ELPAT Program's fulfillment of requirement
	Proficiency Analytical Testing (ELPAT) Program scheme, with input from the Manager, AIHA PAT Programs and AIHA PAT Programs Board. The list of PAT Program Board members is available on the AIHA PAT Programs Website at www.aihapat.org .
c) Subcontracted Activities	The ELPAT Program subcontracts the generation, characterization, packaging and shipping of paint chips, dust wipes and soil proficiency testing samples to the participants to RTI International located at 3040 Cornwallis Road, Research Triangle Park, NC 27709-2194. The ELPAT Program subcontracts the generation, characterization, packaging and shipping of lead-in-air proficiency testing samples to SRI International located at 333 Ravenswood Court, Menlo Park, CA. ELPAT Program data storage is subcontracted to ARMATURE located at 45240 Business Court, Suite 400, Dulles, VA 20166.
d) Criteria for Participation	The ELPAT program is open to all interested participants. Participants that would like to participate in the program must submit the appropriate fees and complete an enrollment form which is available on the PAT Programs Website (http://www.aihapat.org/ProficiencyTestingPrograms/elpat/Pages/default.aspx). NOTE: There is no additional charge for the lead-in-air PT samples for those participants concurrently enrolled in IHPAT (Metals).
e) Participants	The ELPAT Program has approximately two hundred (200) total participants from private and government laboratories, education institutions, and other interested parties seeking to demonstrate their proficiency and/or make use of third-party quality control provided by the proficiency testing scheme. The typical participation levels range between 150 and 200 participants per matrix.
f) Measurands and g) Concentration ranges	<p>The ELPAT program samples include lead in paint, soil, dust wipe, and air matrices. Lead-in-air samples are the same as the metals samples in the Industrial Hygiene Proficiency Analytical Testing (IHPAT) program.</p> <p>Dust wipe samples are prepared using field-collected dust samples. Dust wipe sample sets include four samples at differing concentrations and a blank. The current wipe used for the dust wipe samples is manufactured by Aramsco Lead Wipe and is available</p>



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Requirement from clause 4.4.1.3 of ISO/IEC 17043	AIHA ELPAT Program's fulfillment of requirement
	<p>from Lynx Products, Thorofare, NJ, (800) 767-6933. (Use of the LeadWipe™ or any other brand of dust wipe in the AIHA ELPAT program does not constitute endorsement or recommendation for use by AIHA nor does it mean or imply that LeadWipe™ or any other brands are the only brands of dust wipes that can be used for collection of lead dust.) The concentration of lead in the settled dust is generally between 20 µg/wipe – 40,000 µg/wipe.</p> <p>Soil samples are representative of environmental contamination resulting from lead-based paint, the industrial use or disposal of lead-based compounds, or airborne lead emissions. Soil sample sets include four samples at differing concentrations. The concentration of lead in the bulk soil matrix is generally between 20 mg/kg to 20,000 mg /kg.</p> <p>Paint chip samples are obtained from lead-based paints from lead sources representative of the compounds and interferences encountered in field samples. Paint chip sample sets include four samples at differing concentrations. The paint matrix contains lead-based paint at concentrations from 0.01% to 30% lead by weight.</p> <p>Lead-in-Air samples are the same metals samples analyzed in the Industrial Hygiene Proficiency Analytical Testing (IHPAT) Program. Although there are two other metals on the filters, only lead is to be reported for the ELPAT Lead-in-Air Program. Lead-in-Air sample sets include four samples on 0.8 µm 37mm MCE (mixed cellulose ester) filters at differing concentrations and a blank filter. The lead-in air concentration range is 0.015 mg/m³ to 0.500 mg/m³.</p>
<p>h) Potential major sources of errors</p>	<p>Potential major sources of error include: sample preparation; sample homogeneity; sample stability; sample handling and shipping; differences between methods used by participants; and interlaboratory variation.</p>

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Requirement from clause 4.4.1.3 of ISO/IEC 17043	AIHA ELPAT Program's fulfillment of requirement
i) Sample production, characterization and distribution	All ELPAT Program samples are produced, characterized, stored and distributed under contract to the AIHA PAT Programs. Requirements are detailed in the ELPAT Program Request for Proposals, and the ELPAT Program Contract. Requirements for the lead-in-air samples are detailed in the IHPAT Program Request for Proposals, and the IHPAT Program Contract. These requirements are addressed in subcontractors' sample production, characterization, storage and shipping procedures.
j) Procedures for preventing collusion and falsification of results	All participants must agree to Terms and Conditions before submitting results on the AIHA PAT Data Portal. Participants indicate that "By submitting these PAT data we verify that the analysis of the AIHA Proficiency Analytical Testing Programs' samples for this round were conducted solely by our laboratory and we are reporting only our results from that analysis." Participants confirm that their PAT samples were not sent to another laboratory for analysis or result verification, nor did they knowingly accept any samples for analysis that they believed to be PAT samples, as this would violate the AIHA PAT Programs Participation Policies. New participants sign a participation agreement, with terms and conditions that require participants to comply with PAT Programs Participation Policies, upon enrolling in the program before they can receive samples.
k) Information provided to participants	Upon enrollment, participants receive a welcome letter that provides a unique identification number and their password. Included in the letter is a description of the sample package and the contents that will be provided to the participant. Participants are also given instructions on how to submit results and general program information. Instructions included with each set of proficiency testing samples are provided by the subcontractor. The PAT Programs Schedule which includes the various stages of the proficiency testing scheme, the frequency and dates upon which proficiency test items are to be distributed to participants, and the deadlines for the return of results by participants is available for participants on the AIHA PAT website (http://www.aihapat.org/documents-policies-fees/Documents/AAT_PT_Schedule.pdf). Participants shall be notified of changes to the large-scale operations and/or design of this scheme within twenty (20) business days.

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Requirement from clause 4.4.1.3 of ISO/IEC 17043	AIHA ELPAT Program's fulfillment of requirement
l) Dates for shipments and reporting deadlines	All samples are shipped quarterly. Dates for sample shipment, deadlines for changes to ELPAT Program participation, and deadlines for result reporting are posted on the AIHA PAT Programs website (http://www.aihapat.org/documents-policies-fees/Documents/AAT_PT_Schedule.pdf).
m) Methods	The AIHA PAT Programs does not specify the use of any particular analytical method when analyzing ELPAT samples. Participants are required to treat proficiency test items in the same manner as the majority of routinely tested samples.
n) Homogeneity and stability	<p>Homogeneity is achieved by careful blending, grinding, sieving, and mixing of the proficiency testing material stock. The ELPAT paint, soil, and dust materials are processed to achieve particle sizes < 150 µm., as determined by passage through standard sieves. The subcontractor characterizes the test samples by analyzing 10 randomly selected samples from each matrix to meet AIHA ELPAT Programs homogeneity requirements (10% CV for any individual matrix and concentration level).</p> <p>Stability testing is conducted by plotting the concentration of retained ELPAT samples that have been stored over many years to determine at what point samples have become unreliable by falling out of the acceptable quantification limits. Samples must be stable for the current testing round and any future retest rounds. All samples must exhibit stability for a minimum period of three (3) years. In addition, visual inspection of all wipe samples intended for shipment to requesting participants is conducted prior to actual shipment. The vials are examined for any sign of mold or visual discoloration. Any vials having these attributes are promptly discarded and replacements provided. SRI International's studies have shown that metals on filters are stable for 8 years.</p>
o) Participant reporting	The participant submits data using the PAT Data Portal on the AIHA PAT Programs website at www.aihapat.org . Refer to Section 8 of this scheme for more details.



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Requirement from clause 4.4.1.3 of ISO/IEC 17043	AIHA ELPAT Program's fulfillment of requirement
p) Statistical analysis	The ELPAT Program is a consensus-based PT program. The assigned value is the arithmetic mean of reference group results after blunders such as wrong units have been accounted for by Winsorizing data and outliers have been accounted for by an outlier test. Participant performance is determined by use of performance limits. Refer to Section 9 of this scheme for more detail
q) Metrological traceability and uncertainty of the assigned value	The ELPAT PT scheme is an evaluation of participant performance as it compares to the reference group. As such, the assigned values are considered traceable to a reference group. The uncertainty of the assigned value is determined as the uncertainty of the mean reference group value and is calculated as the standard deviation of the reference group data divided by the square root of the number of participants in the reference group.
r) Evaluation of participant performance	Participant performance is determined by use of performance limits based upon the reference group's results. See Section 9 for details of the approach. Contact the program coordinator for additional information, as needed.
s) Reporting	ELPAT Program does not make available interim reports. Final program reports are made available to participants on the AIHA PAT Programs website following the PAT Program Schedule (http://www.aihapat.org/documents-policies-fees/Documents/AAT_PT_Schedule.pdf) and are available for participants to review and download after signing into the secure PAT Data Portal with their login and password. Refer to Section 10 of this scheme for more detailed information.
t) Public availability of proficiency testing information	AIHA PAT Programs makes every effort to ensure that participants' results and proficiency status are not made public. If an interested party requires the proficiency testing results to be directly provided by the proficiency testing provider for accreditation and contract purposes, the participants are made aware of the arrangement in advance of participation and consent is sought prior to the release of records for current participants.

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Requirement from clause 4.4.1.3 of ISO/IEC 17043	AIHA ELPAT Program's fulfillment of requirement
u) Lost or damaged samples	Instructions are provided to participants along with the ELPAT sample kits, on the AIHA PAT Programs website (http://www.aihapat.org/ProficiencyTestingPrograms/ihpat/Pages/default.aspx), and in the AIHA PAT Programs Participation Policies. Replacement samples will be provided as per section 2.1.3 of AIHA PAT Programs Participation Policies when notified by participants of lost or damaged samples.

6 STUDY FREQUENCY AND COMPOSITION

There are four ELPAT rounds in one calendar year. Once enrolled in the program, a participant will receive ELPAT samples in February, May, August and November. Lead-in-Air (IHPAT metals) rounds are held in January, April, July and October. Important dates for each study (i.e., shipping date, reporting deadline and deadline for changes to PT enrollment) are posted on the AIHA PAT Programs website at: http://www.aihapat.org/documents-policies-fees/Documents/AAT_PT_Schedule.pdf

7 SAMPLE CHARACTERISTICS

- 7.1 PT samples used in the ELPAT program are prepared using real world sample matrices typical of samples analyzed by participant laboratories. The concentration ranges for each matrix are established based on analytical capabilities, typical sample concentrations and regulatory limits (where available).
- 7.2 Each production lot of samples is characterized for homogeneity and stability per AIHA PAT Programs specifications and approved Subcontractor procedures.

8 PARTICIPANT REPORTING

- 8.1 On the Round start date the Data Management System is set to open by unlocking the library of data collection forms to allow PAT participants to begin entering their results. The data must be entered into the system by the specified deadline as indicated in the PAT Program Schedule on

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www.aihapat.org. The participant is responsible for the timely and proper submission of all ELPAT sample results to the AIHA PAT Programs. If the participant is also enrolled in the IHPAT program for metals, then the metals on filters results must be reported for both programs.

- 8.2** The participant submits data using the PAT Data Portal on the AIHA PAT Programs website at www.aihapat.org. An ELPAT Program Data Reporting Form is provided to the participant with the ELPAT samples as part of the sample shipment to provide guidance as participants record sample data. ELPAT Program participants may submit their data as many times as they wish; however the system will only retain the last data entry (determined by matrix/sample number) as valid. Unless otherwise specified, the ELPAT program uses four decimal places when accepting and reporting analytical data for lead-in-air and paint chips, however, soil and dust wipe results are reported to the nearest whole number.

9 SCORING SYSTEM

- 9.1** The ELPAT scoring system is an interlaboratory comparison against peers. The ELPAT program data are analyzed using the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Statistical Protocol, Esche, et al., 1994. This approach has generally been used since the Industrial Hygiene Proficiency Analytical Testing Program was started (1972) and has been demonstrated to work effectively. Specific procedures are detailed in ARMATURE Data Processing Procedure. ELPAT data analysis is performed according to the steps summarized below:
- Both the assigned values and acceptance limits are based on consensus of the reference group. The reference group is comprised of participants that are ISO/IEC 17025:2005 accredited by an ILAC MRA Signatory for these particular measurements. Participants are included as part of the reference group for an ELPAT matrix, (e.g., paint, soil, dust) if their accreditation is tied to their participation in that particular ELPAT matrix and they have no unacceptable results for that matrix in the previous two ELPAT proficiency testing rounds.
 - Reference laboratories are determined for each proficiency testing round data set. The ELPAT data of the reference laboratories are Winsorized to account for blunders, such as typos, wrong units, etc., by replacing them with the next highest or next smallest value as appropriate, thus treating

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extreme observations in the results set. Winsorization involves the ranking of reference group data for each ELPAT matrix. Those results in the top 5% are replaced by the next highest result remaining in the set and those results in the bottom 5% are replaced by the next lowest result remaining in the set. Unlike other approaches, the extreme values are not eliminated, but are adjusted. Additionally, an outlier test is used to identify those reference group values that are beyond the reasonable upper boundary and the reasonable lower boundary during PAT round data analysis. Outliers are identified by evaluating the reference group dataset for each of the four samples of each matrix to determine the Maximum, 75th Percentile(Q3), Median(Q2), 25th Percentile(Q1) and Minimum. The reasonable lower boundary(RLB) = $Q1 - 1.5(Q3 - Q1)$; reasonable upper boundary (RUB) = $Q3 + 1.5(Q3 - Q1)$ are calculated for each dataset. The RLB and RUB replace the minimum and maximum values for each dataset respectively. Any values below the RLB or above the RUB are identified as potential outliers. The values beyond the RLB and RUB are not eliminated, but are instead replaced with the RLB and RUB for purposes of calculating the robust mean and Standard Deviation (Note: Even though the values beyond the RLB and RUB are replaced the actual result that was submitted would be evaluated for the round).

- Assigned value (reference group mean), standard deviation, and relative standard deviation are calculated from the set of reference group data. Upper and lower performance limits are calculated from reference group data to determine participant proficiency per round. The upper performance limit is calculated as the assigned value (reference group mean) plus three times the reference group standard deviation. The lower performance limit is calculated as the assigned value (reference group mean) minus three times the reference group standard deviation.
- z-Scores are determined and are provided to participants for reporting purposes only. The z-Score is calculated as the participant sample result minus the assigned value divided by the standard deviation of the reference group results. The z-Scores help participants assess their performance in relation to other participants and are standardized performance scores that can be used to track performance across proficiency testing rounds.
- Proficiency testing round performance is determined after performance limits have been successfully calculated. ELPAT participant results are rated acceptable or unacceptable for each unique matrix sample number. Each unacceptable result is assigned to the matrix (e.g. paint chips, soil,

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dust wipes and air) to which the sample belongs. An unreported result is classified as unacceptable unless the AIHA PAT Programs has pre-approved nonparticipation.

- Performance limits are the sole consideration in determining round proficiency. Although z-Scores are reported to participants for reference, the performance limits are the only mechanism used to rate participant data.

9.2 A participant is rated proficient for the applicable ELPAT matrix if the participant's performance meets any of the following: (1) In the last two rounds, all samples are analyzed and the results are 100% acceptable; or (2) Three fourths (75%) or more of the accumulated results over four rounds are acceptable. A participant is rated non-proficient for the applicable matrix if the participant's performance does not meet either of the proficiency categories mentioned above.

9.3 This scheme was developed and continues to be modified, as required through the input of participants, accreditation bodies, and regulators and through incorporation of relevant international standards and recommended practices. The scoring system is based on the following assumptions:

a) The distribution of reported data approximates a normal distribution with no significant and recurring skewing or bi-modality.

b) For any matrix, average results are similar, regardless of method used. When this is observed not to be the case, biased methods are excluded from participation;

c) PT round data are reviewed and evaluated prior to reporting to participants for unusual distribution of results or unusual standard deviations of assigned values.

10 PROFICIENCY TESTING REPORTS

10.1 Final proficiency testing reports containing the confidential results of the individual participant as well as general overall summary results for the participant group are provided to participants within two weeks of the deadline for submission of results. Preliminary reports are not provided to participants.

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10.2 Proficiency reports are provided via the secure PAT Data Portal and participants access their reports using their login information. Each participant receives an e-mail notification once the results are available on the PAT Data Portal.

10.3 The AIHA PAT Programs sends ELPAT results, on a quarterly basis, to the AIHA Laboratory Accreditation Programs, LLC (AIHA-LAP, LLC), the American Association for Laboratory Accreditation (A2LA), the Environmental Protection Agency (EPA) and to the Connecticut Department of Health for those participants in this approval program.

11 RETEST ROUNDS

Participants have the option to attempt to improve their most current ELPAT results prior to the next round of testing. Unacceptable performance may be improved by correctly analyzing a set of retest samples. The *Retest Order Form* is available online at www.aihapat.org. Results from the retest round replace the results for the corresponding failed round. The *Retest Order Form* must be submitted by the specified deadline as indicated in the *PAT Program Schedule* located at www.aihapat.org.

12 ADDITION OF NEW MATRICES TO THE ELPAT PROGRAM SCHEME

Recommendations for new matrices are received from the AIHA PAT Programs Board or as a result of a survey of ELPAT Programs participants. Approval of new matrices is the responsibility of the Director, AIHA Proficiency Analytical Testing Programs. The Director is also responsible for advising the selected subcontractor in writing of the requirements and ensuring that a documented discussion on capability, resources and the decisions takes place. Unless otherwise specified, a new matrix under the ELPAT program follows the same scheme design as used for existing matrices. Refer to Review of Requests, Tenders and Contracts for more detail.