1 INTRODUCTION

1.1 This document has been produced by the Pakistan National Accreditation Council (PNAC) in conjunction with the PNAC Sectoral Committee for Inspection Bodies. It provides guidance to those requirements in ISO/IEC 17020 and Agreement between PNAC & IBs (F-01/13) that need interpretation when applied by Inspection Bodies carrying out in-service inspection of Local Exhaust Ventilating (LEV) Plant. It does not cover all of the requirements of ISO/IEC 17020-General criteria for the operation of various types of bodies performing inspection and Agreement between PNAC & IBs (F-01/13). Inspection Bodies are reminded of the need to comply with all of the requirements in these documents. Appeals concerning interpretation will be considered in accordance with the PNAC Appeals Procedure. Other PNAC documents may be referred to where relevant.

1.2 The field of inspection covered by this document is local exhaust ventilating plant; the type of inspection is initial appraisal and thorough examination and testing.

1.3 The selection of an inspection body accredited against the requirements of ISO/IEC 17020 and this document is intended to assist owners / operators of LEV plant.

1.4 For the purposes of this document the term Inspection Body shall be taken to mean an accredited Inspection Body.

2. SCOPE - INSPECTION SERVICES (ISO/IEC 17020, CLAUSE 3.3)

2.1 This document covers the in-service inspection of Local Exhaust Ventilating Plant.

2.2 The electrical inspection of devices, e.g. motors, control devices, etc, is excluded except insofar as their performance affects the correct functioning of the LEV plant.

2.3 The sampling of air exhausted from the LEV plant is not covered by this document where that air is intentionally returned to the workplace and thereby might give rise to contamination.

Note: The possibility of unintentional contamination and the possible need for sampling thereof would be a matter for additional investigation outside the scope of this document. However, inspection reports should indicate where such investigations are considered necessary.

2.4 When an Inspection Body accredited under this document provides inspection, the service may include the following:

- Initial appraisal of installed LEV plant to ascertain whether it meets the requirements of recognized national or international standards, Codes of Practice and other similar documents.
- In-service inspection (thorough examination and testing) of LEV plant to determine whether it continues to meet the operating parameters that were originally specified and provides the required control of hazardous substances.
- Reporting to the owner / operator of the LEV Plant actual or potential defects which are or may become a cause of danger to persons and to specify any action necessary

to maintain the LEV plant in operational condition.

3. INDEPENDENCE, IMPARTIALITY AND INTEGRITY (ISO/IEC 17020, CLAUSE 4)

3.1 Inspection Bodies operating as Type A, B or C bodies as defined in ISO/IEC 17020 may be accredited for the inspection of LEV plant provided that they meet the requirements of ISO/IEC 17020 and other referenced documents.

3.2 The organizational structure of Type B and Type C Inspection Bodies shall be such that the Inspection Body's management shall not report directly to the operational management responsible for the day to day operation or maintenance of the LEV plant to be inspected.

4 ORGANISATION AND MANAGEMENT - SUPERVISION (ISO/IEC 17020, CLAUSE 6.4)

4.1 For the inspection of LEV plant the requirements for supervision shown in 6.3 of this document shall be met.

5 INTERNAL AUDIT (ISO/IEC 17020, CLAUSE 7.7 AND 7.8)

5.1 The internal audit programme shall include provision to include the on-site witnessing of inspections. Sections 6.4d and 6.4e of IAF/ILAC-A4: 2004 refer.

6 PERSONNEL (ISO/IEC 17020, CLAUSE 8)

6.1 Inspection staff shall only undertake work according to their competence, experience, training and with appropriate supervision as detailed in 6.3. In addition to meeting the minimum requirements of 6.2 the inspection body shall employ or have defined access to personnel who are trained and experienced in relevant specialist areas such as the sampling and examination of exhaust air in the working environment.

6.2 Qualification categories

Category 1.
Graduate Engineer holding membership of Pakistan Engineering Council (PEC) with at least 4 years experience in a relevant engineering discipline of which at least two years shall have been spent working within an engineering discipline associated with Inspection of Local Exhaust Ventilating (LEV) Plant.

Category 2.
Bachelor of technology from respective Board of Technical Education with at least 5 years experience in a relevant engineering discipline of which at least two years shall have been spent working within an engineering discipline associated with Inspection of Local Exhaust Ventilating (LEV) Plant.

Category 3.
Person having three years diploma of Associate Engineers as defined by PEC with at least 6 years of experience in a relevant engineering discipline of which at least three years shall have been spent working in an engineering discipline associated with Inspection of Local Exhaust Ventilating (LEV) Plant.

Category 4.

Person having two years vocational technical training as defined by PEC with at least 7 years of experience in a relevant engineering discipline of which at least three years shall have been spent working in an engineering discipline associated with Inspection of Local Exhaust Ventilating (LEV) Plant.

Category 5.

Person having three years apprenticeship training as defined by PEC with at least 9 years of experience in a relevant engineering discipline of which at least 5 years shall have been spent working in an engineering discipline associated with Inspection of Local Exhaust Ventilating (LEV) Plant.

Category 6.

Person employed prior to the date of application for accreditation in the inspection of pressure systems with less than tradesman's apprenticeship but having minimum Matriculation qualification with a minimum of 10 years spent working with an industry associated with relevant field of inspection and has general knowledge of relevant field of inspection and its operating environment.

Note 1: *All qualifications shall be from Higher Education Commission (HEC), Inter Board Committee Chairman (IBCC) & Board of Technical Education approved Universities, Colleges & Institutes.*

Note 2: *The persons from category 1-6 shall have training on relevant standard including the ISO/IEC 17020.*

6.3 Levels of Supervision

In the Levels described below, 'Supervisor' means a technical superior, however named. Direct Contact means on the job contact at the site of operation.

Level A: Occasional

Formal, direct contact to review work with Supervisor at least annually. More frequent direct contact with Supervisor may be necessary. Authoritative technical support from personnel qualified to Category 1 or 2 (not applicable for design verification) to be readily available.

Level B: In-frequent

Direct contact with Supervisor at least every 3 months. Access to supervision and technically authoritative support to be available as needed.

Level C: Frequent

Direct contact with Supervisor at least weekly. Authoritative technical support from personnel qualified to Category 1, 2 or 3.

Level D: Constant

Direct daily contact with Supervisor at site of operation. Authoritative technical support from personnel qualified to Category 1, 2, 3 or 4 to be readily available.

6.4 Constraints on Inspection Activities

Constraint I All areas within their field of competence

Constraint II Specific areas of work as defined according to expertise and training.

Constraint III Specific inspection tasks as defined according to competence and experience acquired.

7.0 TRAINING (ISO/IEC 17020, CLAUSE 8.2)

7.1 The training provided by the Inspection Body shall provide a working knowledge of LEV

plant including design, construction, operation, maintenance, significance of defects, typical problem areas and associated methods of rectification and the requirements of the relevant statutory provisions.

7.2 The training shall include the safe conduct of the inspection body staff in relation to safe working practices identified as a result of a risk assessment.

8.0 INSPECTION METHODS AND PROCEDURES (ISO/IEC 17020, CLAUSE 10.1 AND 10.2)

8.1 Where risk assessment techniques are used to recommend a frequency of inspections, the Inspection Body shall document the techniques used in procedures including a demonstrable justification for the techniques employed.

8.2 Reporting requirements, including statutory requirements for reporting, shall be detailed in procedures.

8.3 Codes, Standards and other technical literature applicable to the design, construction, operation, inspection and repair of LEV plant and their components within the accredited scope shall be maintained up to date and be readily available to the staff.

8.4 If the Inspection Body uses information supplied by any other party as part of in-service inspection of LEV plant it shall be able to demonstrate the measures taken to verify the integrity of such information.

9 REPORTING (ISO/IEC 17020, CLAUSE 13)

9.1 Where maintenance work is undertaken concurrently with inspection work, in particular with Type C inspection bodies, the associated reports shall clearly define the work associated with each activity in a manner of sufficient accuracy for meaningful audit trails.

9.2 The report of examination shall include a statement of the effectiveness of control of the substance(s) being controlled by the LEV plant (IAF/ILAC-A4: 2004 Appendix 3, item 15).

10 SUB-CONTRACTING (ISO/IEC 17020, CLAUSE 14.4 AND IAF/ILAC-A4:2004, CLAUSE 14)

10.1 Where the Inspection Body sub contracts certain specialized activities there must be identifiable member(s) of the management personnel sufficiently knowledgeable in those technical activities being subcontracted, to be able to:

- define the problem adequately to enable the sub contractor to offer appropriate services, personnel and equipment;
- choose an appropriate sub contractor and to assess its technical competence (eg, methods, personnel and facilities);
- interpret the results supplied by the sub contractor and relate those results properly to the service originally requested or problem originally defined.

REFERENCES

ISO/IEC 17020, General Criteria for the Operation of Various Types of Bodies Performing Inspection.

IAF/ILAC-A4: 2004, Guidance on the Application of ISO/IEC 17020.