

	PNAC POLICY ON ACCOMODATION AND ENVIRONMENT	G-02/12 Issue Date: 06/10/05 Rev No: 00
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PNAC Policy on Accommodation and environmental conditions

Accommodation and environmental condition requirements vary greatly depending on the nature of the samples to be examined or tested and the order of accuracy required of the examinations or tests. The laboratory and its personnel shall follow national and international safety requirements. Suitability of the accommodation and environmental conditions for a specific range of examinations and tests will be judged against how they affect :

- (a) the integrity of the samples tested or examined;
- (b) the performance of laboratory equipment;
- (c) the competent performance of laboratory staff;
- (d) compliance with the conditions set in test or examination methods;
- (e) safety of laboratory staff.

Consideration of environmental effects on samples to be examined includes precautions necessary to prevent contamination and degradation. The areas for the sample preparation, preconditioning, testing or examination and storage shall be of adequate size, free from dust and fumes and protected from other environmental factors such as excessive temperature, high humidity and direct sunlight, which may affect the integrity of the samples. If samples require refrigeration before and after examinations, refrigerators or freezers of adequate capacity shall be provided. Sufficient storage space shall be available to retain samples for the required periods in conditions designed to maintain their integrity.

Factors of the environment that may affect the performance of equipment include corrosion, temperature, humidity, vibration, electrical power stability, dust and electromagnetic influences. The location of all items of equipment likely to be affected by these factors shall be chosen to eliminate or minimise any adverse effects.

Accommodation and environmental conditions may also be judged on how it affects staff competence in performing specific tests. There shall be sufficient space available for staff to perform their duties comfortably, with adequate provision of lighting and with precautions taken to minimise noise.

Adequate space shall also be provided for laboratory clerical functions (recording, reporting and documentation activities) and for separate amenity facilities. All necessary services for gas, water, power (suitably stabilised if necessary), waste disposal and for extraction of fumes shall be available and be conveniently located. All safety precaution should be followed.

Some analytical methods also specify features of the environment in which sample preparation, and examination should take place. Where environmental features such as temperature and humidity ranges, airflow rates, illumination levels, etc., are specified, these conditions must be met in the relevant testing, examination and sample preparation sections of the laboratory. Monitoring equipment such as thermometers, hygrometers, psychrometers, thermo hygrographs and anemometers, shall be available and be operated over the relevant testing, examination and

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sample preparation period specified by the methods. The monitoring equipment itself may need to be calibrated in accordance with the equipment calibration schedules set by PNAC, either by National Physical & Standards Laboratory or any accredited lab with traceability of unbroken chain to national and international standards.

For laboratories undertaking microbiological tests, the laboratory layout should generally provide for sample receipt, washing-up and sterilisation, media preparation and general testing areas, and should be designed to minimise potential contamination of samples and to ensure protection of laboratory staff. Laboratories involved in handling pathogenic organisms need to take special environmental precautions.

When the examination involves radionuclides, considerations should be given for bench space, shield working space, storage, transportation, disposal and safety of staff performing the examination and others working around. Handling of these radioactive materials shall comply with the local regulations, and staff involved shall be adequately trained and their health situation be closely monitored and documented.