

# An Introduction to the National Voluntary Laboratory Accreditation Program (NVLAP)

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# What is NVLAP?

- NVLAP is:
  - A system for accrediting laboratories found competent to perform specific tests or calibrations or types of tests or calibrations
- NVLAP is not:
  - A certifier of test data
  - A certifier of products
  - An operator of a certification program

# NVLAP by the Numbers

- Established in 1976
- Accreditation offered in 16 fields of testing; 8 fields of calibration, covering >90 parameters.
- Labs are located in North America and Asia Pacific
- Nearly 800 testing and calibration laboratories
  - Laboratory accreditation is renewed annually
  - On-site assessment is performed every other year

# NVLAP Facts

- NVLAP is a fee supported program
- Procedures set out in the U.S. Code of Federal Regulations (15 USC Part 285)
- Linked to NIST measurement research
- Based on ISO/IEC standards
  - ISO/IEC 17011
  - ISO/IEC 17025
- Available to any qualifying laboratory

# Pertinent Laboratory Accreditation Programs (LAPs)

- Calibration ~80 labs
- Electromagnetic Compatibility ~200 labs
- Cryptographic Module Testing ~ 12 labs
- Personal Identity Verification ~ 12 labs
- Environmental Testing as part of other programs

# NVLAP Support of Federal Agency Programs

- U.S. Department of Energy (DOE) and the Environmental Protection Agency's (EPA) Energy Star Program;
- DOE's Nuclear Weapons Program; the Nuclear Regulatory Commission (NRC) programs for commercial grade calibration services and testing of personnel dosimetry performance;
- National Information Assurance Partnership (NIAP), a partnership between NIST and the National Security Agency (NSA), for testing encryption/decryption products that ensure information security;

# NVLAP Support of Federal Agency Programs (cont.)

- Federal Communications Commission's (FCC) implementation of Part 15 requirements and its designation responsibilities in support of various Mutual Recognition Arrangements covering telecommunications and electromagnetic compatibility testing;
- Department of the Navy (DoN) for electromagnetic compatibility testing; and
- Department of Housing and Urban Development (HUD) for testing of wood based products and carpet and carpet cushions

# NVLAP Conducts Two Programs Mandated by Congress

- Asbestos Hazard Emergency Response Act (AHERA) for testing for asbestos in public schools; and the
- Help America Vote Act (HAVA) for the testing of voting machines



# What is Laboratory Accreditation?

- Independent, third party assessment of laboratory technical competence.
  - Assessment is based on a Standard
  - Assessment of specific scope of accreditation
  - Assessment by peer technical experts
  - Results in formal recognition by an authoritative body

# Developing a Laboratory Accreditation Program

- NVLAP receives request for new program
- NVLAP may conduct a public workshop
- NVLAP publishes the request for a new program in the Federal Register
- Expert advice sought at all phases of development and implementation

# Developing a LAP (cont.)

- Set criteria for, seek, and select peer technical expert assessors
- Train assessors to use ISO 17025 and NIST Handbook 150
- Set requirements for on-site team size and "skill set"
- Create NVLAP program-specific checklist(s)
- Create NIST Program Specific Handbook 150-XX for the new program giving detailed, specific technical requirements/guidelines\* for accreditation

# NVLAP Accreditation Process

- Application
  - Includes Stage 1 fees
  - Submission of Management System Documentation
- Document/Desk Review
  - Does it meet the requirements?
- On site Assessment
  - Verify implementation of the Management System
    - Observe Processes
    - Check records
    - Technical competence

# NVLAP Accreditation Process (cont.)

- Reporting out
  - Done at the close of the on site
  - No surprises
- Non-conformity resolution - 30 days
- Accreditation decision- not done in a vacuum
- Surveillance – We'll be back!

# Basis for Accreditation: What the Assessor Reviews

- Documented Management system
  - Policies (Management and Technical)
  - Quality Manual
  - Quality Procedures
  - Instructions (Test methods, calibration procedures)
  - Records (Equipment maintenance, personnel training, complaints, etc.)

# Basis for Accreditation: What the Assessor Reviews (cont.)

- Test methods/calibration procedures
- Environmental conditions
- Test and measurement equipment
- Trained personnel
- Uncertainty budgets
- Traceability
- Reports/Certificates
- Proficiency Test results
- International Laboratory Comparisons (ILCs) conducted with accredited labs in other countries

# Accreditation Decision

- Based on results obtained during each step of the process
  - Documentation review
  - On-site assessment
  - Proficiency testing
  - ILCs
- Reviewed by independent subject matter experts
- Granted by NVLAP Chief



# NIST Handbook 150

- NVLAP General Procedures and Requirements
  - General information
  - Accreditation process
  - Conditions and Criteria for Accreditation
    - Sections 4 & 5 contain the managerial technical requirements of ISO/IEC 17025:2005
- Referencing NVLAP Accreditation
- Cross Frontier Policy

# NIST Handbook 150-XX

- Calibration LAP
  - 8 Program Specific covering 8 Fields/93 parameters
  - Guidance\* Documents
- Testing LAPs
  - 19 Program Specific Handbooks
  - Requirements Documents

# International Recognition

- International Laboratory Accreditation Cooperation (ILAC)
  - Global Mutual Recognition Arrangement (MRA) among accreditation bodies
  - Based on evaluation of competence
  - 47 signatories from 38 economies
  
- Asia Pacific Laboratory Accreditation Cooperation (APLAC)
  - 27 signatories from 15 economies
  - Membership roughly parallel to APEC
  - Designated as Specialist Regional Body by APEC

# Thanks for your attention

- Additional information
  - <http://www.nist.gov/nvlap>
  - 301-975-4016
  - [nvlap@nist.gov](mailto:nvlap@nist.gov)
  - NIST Handbook 150
  - NVLAP newsletter
  - NVLAP brochure