

NINETEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
First Regular Session)



23 APR 17 P2:41

SENATE
S. No. 2071

RECEIVED BY: _____

Introduced by Senator Jinggoy Ejercito Estrada

AN ACT
MODERNIZING THE NATIONAL MEASUREMENT SYSTEM (NMS) OF THE
PHILIPPINES, APPROPRIATING FUNDS THEREFOR AND FOR OTHER
PURPOSES

EXPLANATORY NOTE

Republic Act No. 9236 otherwise known as "The National Metrology Act of 2003" was enacted "to facilitate the development of scientific and technical knowledge and progress in the national economy by encouraging the standardization and modernization of units and standards of measurements to adapt to the needs of the times, thereby complying with international standards and protecting the health, interest and safety of every consumer and his environment from the harmful effects of inaccurate or false measurements".

This law is the basis for the accurate enforcement of penalties or sanctions of other existing laws such as Republic Act No. 9165 or the "Comprehensive Dangerous Drugs Act of 2002", Republic Act No. 10916 or the "Road Speed Limiter Act of 2016", Republic Act No. 7394 or the "Consumer Act of the Philippines", and Republic Act No. 11706 or the law that establishes the Timbangan ng Bayan Centers.

Metrology is essential in every country because it enhances its measurement capabilities, thereby improving the international community's confidence in its

products and services while at the same time reducing technical challenges to trade exports.

However, twenty (20) years after the passage of R.A. No. 9236, the country is yet to reap its full benefits because of lapses in provisions and inadequacy in implementation. In terms of organizational structure, the law failed to expressly designate a National Metrology Institute (NMI). At present, this mandate was assumed by the National Metrology Laboratory (NML) of the Department of Science and Technology (DOST) – Industrial Technology and Development Institute (ITDI). Further, despite this assumption, the capacity and performance of NML are limited by the provisions of the existing law. As explained by the DOST, “NML performs these four functions: Calibration and Testing; Proficiency Testing; Consultancy; and Training. But it is not structurally designed, and it does not have the mandate and full capacity to carry out measurement functions necessary to respond to the needs of industry 4.0 – which are for more technologies and industries to utilize high-accuracy measurement data like sensor-based decisions and predictions, artificial intelligence, modeling of measuring instruments, and measurement-based research and development support for our STI community and compared to the foreign national metrology institutes.”¹

According to the DOST, the Philippine government does not provide sufficient support to its metrology system, as proven by limited budgetary support that is allocated to it. Compared to other Asian nations, the country has the least allocated annual budget for the NMI. The Philippines allocates less than US\$ 0.5 million for its NMI while Indonesia allocates US\$2.4 million, Vietnam allocates US\$ 3.8 million, Malaysia allocates US\$ 7.0 million and Thailand allocates US\$ 7.8 million. In terms of Calibration and Measurement Capabilities, the Philippines scored only 31, while Vietnam scored 36, Malaysia 119, Indonesia 140, Thailand 281, and Singapore 387.

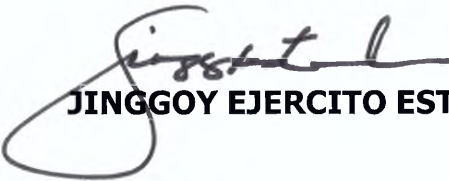
¹ www.dost.gov.ph - Gov't lost about 10B due to outdated metrology law

The National Metrology Institute, as assumed by NML is important because it is the authority that will maintain and develop national measurement standards for the country. "It provides measurement traceability to the international system of units (SI) for all measurements used in the country, as well as technical support to calibration laboratories, industries, and regulators; it also appoints competent laboratories as designated institutes for specific measurement fields of national interest not covered by the NML. NMI also represents the views and interests of its own country at international meetings, fora, and conventions. Also, it carries out, engages, and coordinates research in metrology for the benefit of local users."²

Further, DOST estimated approximately P10 billion losses in government revenue in 2022 because of poor market surveillance and enforcement of penalties to regulate measuring instruments. Another P240 million is lost due to inaccurate weighing instruments.

The "*Modernized National Measurement System Act*" seeks to ensure the integrity of measurements in the country and provide support for the harmonization of national requirements. To address the organizational structure concerns, it explicitly transforms the National Metrology Division of DOST-ITDI to the National Measurement Institute of the Philippines (NMIPhil) that will be an attached agency of DOST for policy, program coordination and administrative supervision. To address the current limitations in mandate and capacity, the bill proposes the modernization of physical resources and operational techniques.

In view of the foregoing, the immediate passage of this measure is highly recommended.


JINGGOY EJERCITO ESTRADA


² www.dost.gov.ph - Gov't lost about 10B due to outdated metrology law

NINETEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
First Regular Session)



23 APR 17 P2:41

SENATE
S. No. 2071

RECEIVED BY: 

Introduced by Senator Jinggoy Ejercito Estrada

AN ACT
MODERNIZING THE NATIONAL MEASUREMENT SYSTEM (NMS) OF THE PHILIPPINES, APPROPRIATING FUNDS THEREFOR AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

1 Section 1. *Short Title.* - This Act shall be known as the "*Modernized National*
2 *Measurement System Act*".

3 Sec. 2. *Declaration of Policy.* - It is hereby declared the policy of the State to
4 facilitate the development of scientific and technical knowledge and progress in the
5 national economy by providing a modernized National Measurement System (NMS)
6 that will ensure the integrity of measurements in the country, meet regional and
7 international requirements, and provide support for the competitiveness of Philippine
8 products and services. The State shall also support the undertaking of necessary
9 activities to promote metrology, to develop appropriate infrastructure, to support
10 research in metrology and to protect the health, safety and interest of every citizen
11 and his environment against possible abuse related to measurements.

12 The State shall support the harmonization of national requirements, including
13 technical regulations, document standards and conformity assessment procedures,
14 with international requirements as envisioned in the ASEAN Economic Community
15 (AEC), World Trade Organization (WTO) and other international agreements and

1 covenants resulting to free flow of goods and services, and a predictable trading
2 environment.

3 The State shall provide support to metrology research and development for the
4 purpose of continuously improving the national measurement standards and their
5 measurement uncertainties, developing novel measurement techniques and
6 technologies aiming at Philippine industry take-up to stimulate industrial innovation;
7 formulation of solutions for societal challenges focusing on contributions for energy
8 efficiency, food security, environment protection, and citizen's health, security and
9 economic well-being; and address locally the measurement needs of society and
10 industry.

11 Sec. 3. *Scope.* – This Act shall cover all agencies, institutions, entities involved
12 in metrological activities and processes, both private and public.

13 Sec. 4. *Objectives.* – In furtherance of the policies enunciated in this Act, the
14 following objectives shall be pursued:

- 15 a) Upgrade physical resources and operational techniques through acquisition
16 and development of state-of-the-art instruments, equipment, facilities and
17 systems to enhance current capabilities and ensure that measurements in
18 the country are reliable;
- 19 b) Strengthen and harmonize the country's measurement system in
20 accordance with international best practices to support confidence in
21 measurements for regulation, trade and manufacturing;
- 22 c) Implement legal metrological controls of measuring instruments in the
23 country in the interest of fair trade, health, safety, law enforcement, and
24 environmental protection;
- 25 d) Transform the existing National Metrology Division of the Industrial
26 Technology Development Institute to the National Measurement Institute
27 of the Philippines directly under the Department of Science and
28 Technology;
- 29 e) Designate the National Measurement Institute of the Philippines as the
30 country's national metrology institute;

- 1 f) Disseminate knowledge on state-of-the-art calibration techniques and
2 develop competencies on legal metrological controls through capacity
3 building programs; and
4 g) Foster a metrology culture that will instill a keen appreciation of the
5 metrology as a discipline through the integration of metrology courses in
6 the educational system.

7 *Sec. 5. Definition of Terms.* – For the purpose of harmonizing with international
8 best practices, the following terms are in reference to the International Vocabulary of
9 Metrology and International Vocabulary of Legal Metrology:

- 10 a) *Accreditation* – refers to the process in which an authoritative body formally
11 recognizes the competence, impartiality and capability of an organization
12 to carry out specific activities, such as certification, testing, calibration and
13 inspection.
14 b) *ASEAN Common Requirements for Prepackaged Products* – refers to a
15 regionally-agreed document specifying the labelling requirements and
16 allowed quantity deficiency in prepackaged products for ASEAN Member
17 States namely Brunei Darussalam, Cambodia, Indonesia, Lao PDR,
18 Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.
19 c) *Asia Pacific Legal Metrology Forum (APLMF)* – refers to a grouping of legal
20 metrology authorities from the Asia Pacific Economic Cooperation Member
21 economies and other economies in the Pacific Rim for the development of
22 legal metrology and promotion of free and open trade in the Asia Pacific
23 region through harmonization and removal of technical or administrative
24 barriers to trade in the field of legal metrology.
25 d) *Asia Pacific Metrology Program (APMP)* – refers to a grouping of national
26 metrology institutes from the Asia-Pacific region for the promotion and
27 support of a measurement infrastructure in the Asia Pacific region that
28 facilitates international trade, improves industrial efficiency and
29 competitiveness, ensures equity in the marketplace, and enhances the
30 quality of life and the environment through reliable measurements.
31 e) *Calibration* – refers to an operation that, under specified conditions, in a
32 first step, establishes a relation between the quantity values with

1 measurement uncertainties provided by measurement standards and
2 corresponding indications with associated measurement uncertainties and,
3 in a second step, uses this information to establish a relation for obtaining
4 a measurement result from an indication.

- 5 f) *Calibration laboratories* – refer to public or private entities that perform
6 tests and/or calibrations in a permanent, temporary, or remote location.
- 7 g) *Certification* – refers to a procedure where a third party provides written
8 attestation that a product, process or service meets specified requirements.
- 9 h) *Conformity assessment* – refers to a set of processes that shows a product,
10 service or system meets specified requirements. The main forms of
11 conformity assessment are testing, certification, and inspection.
- 12 i) *Designated Institutes* – refer to organizations or entities appointed by a
13 country's national metrology institute to hold specific measurement
14 standards or services that are not covered by the national metrology
15 institute.
- 16 j) *Inspection* – refers to the examination of a measuring instrument to
17 ascertain all or some of the following: verification mark and/or certificate is
18 valid, no sealing marks are damaged, after verification the instrument
19 suffered no obvious modification, its errors do not exceed the maximum
20 permissible in service errors. The inspection of a measuring instrument may
21 be done only after verification.
- 22 k) *International System of Units or Système International d'Unités (SI), in*
23 *French* – refers to a modern metric system establishing seven base units
24 for base quantities namely metre for length, kilogram for mass, second for
25 time, ampere for electric current, kelvin for thermodynamic temperature,
26 mole for amount of substance and candela for luminous intensity. The
27 derived units of the SI (e.g. metre per second, watt, newton, etc.) are then
28 formed as products of powers of the base units, according to the algebraic
29 relations that define the corresponding derived quantities in terms of the
30 base quantities.
- 31 l) *Legal metrological controls* – refer to a series of evaluations and periodic
32 checks performed on regulated measuring instruments throughout their

- 1 lifetime to monitor if they are still suitable for their intended use. For
2 prepackaged products, it refers to the checking of the quantities contained
3 in the package with reference to the quantity indicated in the label.
- 4 m) *Legal metrology* – refers to the practice and process of applying regulatory
5 structure and enforcement to measurements and measuring instruments to
6 ensure trade and legal decisions are fair, and that the health, safety and
7 interest of every citizen and his environment are protected against possible
8 abuse related to wrong measurements.
- 9 n) *Legal units of measurement* – refer to units of measurement required or
10 permitted by regulations.
- 11 o) *Measurement standard* – refers to a material measure, measuring
12 instrument, reference material or measuring system intended to define,
13 realize, conserve or reproduce a unit, or one or more values of a quantity
14 to serve as a reference.
- 15 p) *Measuring instrument* – refers to a device used for making measurements,
16 alone or in conjunction with one or more supplementary devices. This may
17 be an indicating measuring instrument or a material measure.
- 18 q) *Metre Convention* – refers to a diplomatic treaty which established a
19 permanent organizational structure for member governments to act in
20 common accord on all matters relating to metrology.
- 21 r) *Metrological traceability* – refers to the property of a measurement result
22 whereby the result can be related to a reference through a documented
23 unbroken chain of calibrations, each contributing to the measurement
24 uncertainty.
- 25 s) *Metrology* – refers to the science of measurement and its application. It
26 includes all theoretical and practical aspects of measurement.
- 27 t) *National accreditation body* – refers to a national organization which attests
28 to the competence and impartiality of conformity assessment bodies
29 (testing and calibration laboratories, certification and inspection bodies),
30 according to internationally accepted standards.
- 31 u) *National measurement standards* – refer to measurement standard
32 recognized by national authority to serve as the basis for assigning quantity

- 1 values to other measurement standards for the kind of quantity concerned
2 in a state or economy.
- 3 v) *National Measurement System (NMS)* – refers to collective infrastructure of
4 national facilities, expertise, knowledge and research, and is also a legal
5 framework for reliable, consistent and internationally recognized
6 measurement. The infrastructure encompasses essential elements of both
7 the public and private sectors.
- 8 w) *National metrology institutes* – refer to bodies with the responsibility of
9 maintaining the national measurement standards and disseminating the SI
10 Units nationally (i.e. they provide metrological traceability).
- 11 x) *International Organization for Legal Metrology or Organisation*
12 *Internationale de Métrologie Légale (OIML), in French* – refers to an
13 intergovernmental organization comprising of one hundred twenty-four
14 (124) governments that establishes the coordination and harmonization at
15 the international level the administrative and technical regulations applied
16 to measurements and measuring instruments passed by different
17 governments.
- 18 y) *OIML Recommendations* – refer to model regulations that establish the
19 metrological characteristics required of certain measuring instruments and
20 which specify methods and equipment for checking their conformity. These
21 model regulations are concerned with the acceptable tolerances referred to
22 as maximum permissible errors, within which regulated measurements and
23 measuring instruments should operate despite variations in temperature
24 and humidity, power supply and electromagnetic interference.
- 25 z) *Prepackaged products* – refer to commodities that are enclosed in a
26 container or wrapped in any manner, and for which their quantities have
27 been determined and indicated on their labels prior to being offered for
28 sale. The quantity contained cannot be changed without the prepackaged
29 product being opened or doing a perceptible modification.
- 30 aa) *Proficiency testing* – refers to a comparison activity that determines the
31 continuous performance of individual laboratories for specific tests or
32 measurements for regular monitoring.

1 bb) *Regional Metrology Laboratory* – refers to a body under the DOST Regional
2 Offices tasked to provide calibration and measurement services to
3 stakeholders in the regions.

4 cc) *Working measurement standard* – refers to a measurement standard that
5 is used routinely to calibrate or verify measuring instruments or measuring
6 systems

7 Sec. 6. *National Measurement Institute of the Philippines.* – The National
8 Metrology Division (NMD), a division under Industrial Technology Development
9 Institute responsible for establishing and maintaining the national measurement
10 standards in physical quantities, is hereby transformed to the National Measurement
11 Institute of the Philippines (NMIPhil). Thereafter, all powers, functions, duties, records,
12 files, and assets including plantilla positions of the NMD shall be transferred to the
13 NMIPhil. There shall be no diminution of rank and salaries, allowances and benefits of
14 transferred employees. New employees of NMIPhil shall be entitled to the same
15 allowances and benefits as those of the transferred employees.

16 The NMIPhil shall be designated as the country’s national metrology institute.
17 It shall be an attached agency of the Department of Science and Technology (DOST)
18 for policy, program coordination and administrative supervision.

19 The NMIPhil shall be headed by an Executive Director. The Executive Director
20 shall be appointed by the President upon recommendation by the Secretary of the
21 DOST and shall receive the benefits, privileges and emoluments equivalent to the rank
22 of Undersecretary.

23 As the chief executive officer of the NMIPhil, the Executive Director shall
24 exercise general supervision and control to its technical and administrative personnel
25 and shall be assisted by three (3) Deputy Directors for Scientific and Industrial
26 Metrology, Legal Metrology and Quality Management System, Finance and
27 Administration, to be appointed by the President.

28 The NMIPhil, in coordination with the Department of Budget and Management
29 and the Civil Service Commission, shall determine the appropriate administrative and
30 technical support complement necessary for the effective and efficient operations of
31 the Institute, which includes but not limited to the following Divisions:

32 a) Mass and Related Quantities Division;

- 1 b) Metrology-In-Chemistry and Biometrology Division;
- 2 c) Photometry and Radiometry Division;
- 3 d) Thermometry and Hygrometry Division;
- 4 e) Length and Dimensional Metrology Division;
- 5 f) Electricity and Magnetism Division;
- 6 g) Time and Frequency Division;
- 7 h) Metrological Controls and Registration Division;
- 8 i) National Regulators and Laboratories Liaison Division;
- 9 j) Policy and Legislation Division;
- 10 k) National Metrology Training and Proficiency Testing Division;
- 11 l) Finance and Administrative Division;
- 12 m) Planning, Information Technology, and Quality Management Division; and
- 13 n) Public Information and External Affairs Division.

14 *Sec. 7. Modernization of Physical Resources and Operational Techniques.* – This
15 shall entail the acquisition and/or upgrade of state-of-the-art instruments, equipment,
16 facilities and systems, with emphasis on improving the national measurement
17 standards and their measurement uncertainties, developing novel measurement
18 techniques and technologies aiming at Philippine industry take-up to stimulate
19 industrial innovation; coming-up with solutions for societal challenges focusing on
20 contributions for energy efficiency, food security, environment protection, and citizen’s
21 health, security and economic well-being; and address locally the measurement needs
22 of society and industry. It also includes the creation of a Human Resource
23 Development Program that will ensure that the country’s measurement system is in
24 accordance with international best practices to support confidence in measurements
25 for regulation, trade and manufacturing.

26 *Sec. 8. Functions, Duties, and Responsibilities of the National Measurement*
27 *Institute of the Philippines.* – The NMIPhil shall have the following functions:

- 28 a) maintain and continuously update the national measurement standards in
29 all relevant fields for the Philippines; as such the NMIPhil shall guarantee
30 that all metrological laboratories, infrastructure, equipment, instruments,
31 artifacts, reference standards and other similar articles are in good

- 1 condition, internationally compliant, reliant and other qualities that may be
2 required in the future;
- 3 b) provide metrological traceability to the realization of the International
4 System of Units (SI) for measurements done in the country;
- 5 c) facilitate international harmonization and comparability of measurements
6 including participation in related international metrological activities, e.g.
7 proficiency testing, peer review, research and development;
- 8 d) carry out the type evaluation/approval activities of measuring instruments,
9 or provide support to bodies designated for this function;
- 10 e) appoint competent laboratories as "Designated Institutes" for specific
11 measurement fields of national interest not covered by the national
12 metrology institute e.g. ionizing radiation and time of the day among
13 others;
- 14 f) offer the necessary advice and technical support to the government,
15 industry, commerce and the public in measurement related issues;
- 16 g) engage and/or coordinate research and development work in metrology;
- 17 h) strengthen the collaboration with calibration laboratories in the areas of
18 capacity building and harmonization of measurement procedures;
- 19 i) disseminate knowledge and competencies in metrology through education
20 and capacity building programs to relevant regulatory bodies and other
21 entities responsible for the implementation of this Act;
- 22 j) coordinate with other local institutes/bodies having metrological
23 responsibilities;
- 24 k) represent the Philippines' interest in international and regional metrology
25 organizations, consultative committee meetings and working groups;
- 26 l) strengthen and develop a human resource development program. Hence,
27 there shall be a continuing human resource development program;
28 Provided, that capacity building activities needed to upgrade capacities of
29 technical personnel to a travel bond or its equivalent return of service as
30 determined by existing laws. Otherwise, the NMIPhil may invite foreign
31 experts to conduct trainings, render technical services such as repair,
32 calibration and the like, which shall be charged to its funds; and,

1 m) provide support to Quality Infrastructure-related institutes, especially
2 standardization and accreditation in aspects related to metrology.

3 *Sec. 9. National Measurement Standards.* – The NMIPhil shall periodically
4 undertake metrological activities, calibration, re-calibration and other related activities
5 to effectively undertake its functions, duties and responsibilities, and comply with
6 international standards.

7 Any equipment, instrument, artifact, and/or other National Measurement
8 Standards used by NMIPhil that shall be subject to such activities, including proficiency
9 testing, comparison measurements, preventive maintenance and repair, requiring
10 foreign technical services; such processes shall be exempt from any taxes, dues, and
11 other impositions by the Bureau of Customs, Bureau of Internal Revenue or by the
12 Secretary of Finance. The implementing mechanism shall be included in the
13 Implementing Rules and Regulations of this Act.

14 *Sec. 10. Linkages and Affiliations.* – The NMIPhil shall lead the country towards
15 becoming globally competitive through the following memberships:

- 16 a) Signatory to the Metre Convention;
- 17 b) Signatory of the International Organization for Legal Metrology (OIML)
18 Convention;
- 19 c) Full Member of the Asia Pacific Metrology Programme (APMP); and
- 20 d) Full Member of the Asia Pacific Legal Metrology Forum (APLMF).

21 The NMIPhil shall continue to collaborate with other international, regional
22 metrology organizations, and establish local and international linkages and/or
23 affiliations, associations other than those mentioned, that will greatly contribute to the
24 country's national measurement system.

25 *Sec. 11. National Metrology Board.* – The National Metrology Board (NMB),
26 hereinafter referred to as the Board, shall be chaired by the Secretary of the DOST. It
27 shall be composed of the Secretaries of the following agencies or their duly authorized
28 representative preferably with the rank of Undersecretary, as ex officio members:

- 29 a) Department of Environment and Natural Resources (DENR);
- 30 b) Department of Health (DOH);
- 31 c) Department of Trade and Industry (DTI);
- 32 d) Department of Energy (DOE);

- 1 e) Union of Local Authorities of the Philippines (ULAP);
- 2 f) National Measurement Institute of the Philippines (NMIPhil);
- 3 g) One (1) representative each from the:
 - 4 i. manufacturing industry sector;
 - 5 ii. local manufacturer of measuring instruments; and
 - 6 iii. private calibration laboratories / professional metrology association of
 - 7 national membership;

8 Each member of the Board shall serve with a term of (3) years to be appointed
9 by the Secretary of the DOST.

10 The Board may call upon the heads of the following departments/agencies and
11 private institutions such as, but not limited to:

- 12 a) Department of Agriculture (DA);
- 13 b) Department of Justice (DOJ);
- 14 c) Department of the Interior and Local Government (DILG);
- 15 d) Department of National Defense (DND);
- 16 e) Department of Information and Communications Technology (DICT);
- 17 f) Department of Public Works and Highways (DPWH);
- 18 g) Department of Transportation (DOTr);
- 19 h) Local Government Units (LGUs);
- 20 i) Bureau of Customs (BOC);
- 21 j) Energy Regulatory Commission (ERC);
- 22 k) Food and Drug Administration (FDA);
- 23 l) Manila International Airport Authority (MIAA);
- 24 m) Manila Electric Company (MERALCO);
- 25 n) Manila Water Company, Inc.;
- 26 o) Maynilad Water Services, Inc.;
- 27 p) Metropolitan Manila Development Agency (MMDA);
- 28 q) Metropolitan Waterworks and Sewerage System (MWSS);
- 29 r) National Food Authority (NFA);
- 30 s) National Meat Inspection Service (NMIS);
- 31 t) National Telecommunications Commission (NTC);
- 32 u) Oil Industry Management Bureau (OIMB);

1 v) Philippine Drug Enforcement Agency (PDEA);

2 w) Sugar Regulatory Authority (SRA);

3 as the Board deems necessary for the effective implementation of this Act.

4 The Board shall convene at least twice a year. Special meetings may be
5 convened upon the request of the Chair or majority of the Board members. Each
6 member of the Board shall be entitled to incentives and allowances for his/her
7 attendance to regular and special meetings based on prevailing DOST guidelines.

8 The NMIPhil is hereby mandated to serve as the Board's Secretariat.

9 *Sec. 12. Functions, Duties, and Responsibilities of the National Metrology*
10 *Board.* – The Board shall be responsible for legal metrological controls in the country
11 through the coordination with other executive branches of government, and ensuring
12 uniformity of procedures in the same prescribed manner and their implementation.

13 In the exercise of its functions, duties and responsibilities, the Board shall have
14 the power to delegate authority to public and private entities to ensure that
15 measurements and measuring instruments used in trade, health, safety, law
16 enforcement and environmental protection are subjected to legal metrological controls
17 and are complying with the relevant regulations.

18 The Board shall likewise perform such other functions to progressively
19 implement this Act.

20 *Sec. 13. National Measurement System.* – The National Measurement System
21 (NMS) shall provide and maintain the necessary infrastructure to support confidence
22 in measurements used for regulation, trade, and manufacturing in the country. The
23 NMS shall cover the:

24 a) legal units of measurement;

25 b) national measurement standards;

26 c) hierarchy of measurement standards and metrological traceability;

27 d) national legal metrology regulations for measurements and measuring
28 instruments;

29 e) legal metrological controls;

30 f) certification system; and

31 g) accreditation system.

1 Sec. 14. *Registration of Regulated Measuring Instruments.* – The State shall
2 require the registration of all measuring instruments used in trade, health, safety, law
3 enforcement and environment protection with the relevant National Regulators and
4 Local Government Units.

5 Those measuring instruments used as working measurement standards by the
6 National Regulators, Local Government Units, and Board-authorized entities in the
7 implementation of legal metrological controls, shall be registered with the Board,
8 through the NMB Secretariat.

9 Sec. 15. *Legal Units of Measurement.* – The International System of Units (SI)
10 and combinations of those units shall be the legal units of measurement mandated to
11 be used in the Philippines including the following:

- 12 a) non-SI units accepted for use with the SI (e.g. minute, hour, and day for
13 time, hectare for area, tonne for mass, bar for pressure, angstrom for
14 length, nautical mile for distance, decibel for sound level); and
15 b) non-SI units allowed by international agreement (e.g feet for altitude
16 navigation and mmHg for blood pressure).

17 Sec. 16. *Hierarchy of Measurement Standards.* – The NMIPhil and its
18 Designated Institutes shall maintain the national measurement standards for the legal
19 units having the highest accuracy for the country, and provide calibrations at
20 appropriate levels of accuracy for the calibration laboratories, National Regulators and
21 Board-authorized public or private entities to disseminate the SI units. The national
22 measurement standards shall in all cases be those assumed to be the most accurate
23 measurement standards of the country.

24 Private and public calibration laboratories including the Regional Metrology
25 Laboratories under the DOST Regional Offices shall, in turn use working measurement
26 standards that have been calibrated by the NMIPhil to provide lower-accuracy
27 calibrations and measurements to industry and the community. Similarly, National
28 Regulators, Local Government Units and entities authorized by the Board shall use
29 working measurement standards calibrated by the NMIPhil and Regional Metrology
30 Laboratories to provide legal metrological controls of measuring instruments and
31 measurements, on the premise that their working measurement standards are of the
32 same accuracy level as those of the calibration laboratories.

1 *Sec. 17. Metrological Traceability.* – Measurements in both the regulated and
2 non-regulated areas shall be traceable to the realization of the SI through the national
3 measurement standards maintained by the NMIPhil and its Designated Institutes to
4 ensure international compatibility and acceptance of measurement results.

5 For traceability not provided through the NMIPhil and its Designated Institutes,
6 the State shall recognize measurement standards of other national metrology
7 institutes provided they are internationally accepted by the global metrology
8 community.

9 *Sec. 18. Legal Metrological Controls.* – Measuring instruments used in trade,
10 health, safety, law enforcement and environment protection shall be evaluated by the
11 National Regulators, Local Government Units and other Board-authorized public and
12 private entities based on the relevant OIML Recommendations, ASEAN Guidelines
13 and/or Board-authorized document standards.

14 Compliance with quantity and labelling requirements of prepackaged products
15 shall be checked by the National Regulators, Board-authorized public and private
16 entities in accordance with the ASEAN Common Requirements of Prepackaged
17 Products, relevant OIML Recommendations, ASEAN Guidelines and/or Board-
18 authorized document standards.

19 *Sec. 19. Right of Access.* – The National Regulators, Local Government Units
20 and Board-authorized public or private entities, upon presentation of their credentials
21 and to perform their duties shall have the right of access to every establishment or
22 commercial premise, where regulated measuring instruments are, or may be installed,
23 kept or used.

24 In the same manner, they shall also have the right of access to every premise
25 or facility where prepackaged products are manufactured, or may be filled, packed,
26 labeled, kept or offered for sale.

27 Any officer or agent of the establishments, commercial premises or other
28 facilities who shall refuse the inspection shall be liable to the penalties imposed under
29 Section 26 of this Act.

30 *Sec. 20. Certification System.* – The DTI shall establish a certification system to
31 ensure that legal metrological controls are carried-out only by competent personnel.

1 Sec. 21. *Accreditation System.* – The DTI shall maintain an accreditation system
2 to ensure the technical competence of calibration and testing laboratories in the
3 performance of their services under the terms of ISO/IEC 17025 “General
4 Requirements for the Competence of Testing and Calibration Laboratories.”

5 The Philippine Accreditation Bureau (PAB), as the national accreditation body
6 of the Philippines under the DTI shall be responsible to accredit inspection, testing
7 and certifying bodies, and other bodies offering conformity assessment services.

8 Sec. 22. *Prohibited Acts.* – The following shall constitute prohibited acts of any
9 person or juridical person and are hereby declared unlawful:

- 10 a) to sell, offer, or expose for sale goods or products with a quantity less than
11 the quantity represented;
- 12 b) to represent the quantity in any manner or intending to mislead or in any
13 way deceive another person;
- 14 c) failure to register regulated measuring instruments;
- 15 d) use of unregistered regulated measuring instruments;
- 16 e) hinder or obstruct any National Regulators, Local Government Units and
17 Board-authorized entities in the performance of their duties;
- 18 f) impersonate a National Regulator, Local Government Units and Board-
19 authorized public and private entity;
- 20 g) affix fake or undue conformity marking or verification marks;
- 21 h) use of units other than the legal units of measurement in trade, commercial
22 transactions, documentation and advertisements for products and services,
23 publications, or training;
- 24 i) use of regulated measuring instruments which have not been submitted to
25 legal metrological control;
- 26 j) use of regulated measuring instruments which have failed the legal
27 metrological control and are giving false/wrong measurements;
- 28 k) affix false conformity markings or affix conformity markings illegally on
29 measuring instruments;
- 30 l) falsification of documents relative to legal metrological control;

1 m) remove or tamper any tag, seal, or mark from any weight or measure or
2 measuring instrument without being duly authorized by the proper
3 authority; and

4 n) manipulate software and/or hardware of measuring instruments to give
5 false measurements.

6 *Sec. 23. National Metrology Training Center.* – There shall be established a
7 National Metrology Training Center under the supervision of the NMIPhil to undertake
8 training on metrology for building the competence and capabilities of metrology-
9 related entities and implementing legal metrological controls in the country.

10 *Sec. 24. Public Information/Advocacy.* – The NMIPhil in collaboration with other
11 concerned government agencies and stakeholders, shall engage in information
12 campaigns and advocacy programs to increase the public’s awareness on metrology
13 and instill greater appreciation of metrology by the public.

14 *Sec. 25. Education.* – The NMIPhil, Department of Education, Commission on
15 Higher Education, and other concerned government agencies shall formulate the
16 design and details of a curriculum on metrology and its inclusion in all levels of the
17 Philippines’ education system.

18 *Sec. 26. Penalties.* – Any person who violates any provision of this Act shall be
19 penalized by imprisonment of not less than six (6) months but not more than five (5)
20 years or fine of not less than Fifty thousand pesos (Php 50,000.00) but not more than
21 Five hundred thousand pesos (Php 500,000.00) or both upon the discretion of the
22 court: Provided, however, that if the violator is a corporation, firm, partnership or
23 association, the penalty shall be imposed upon the president or the manager or any
24 officer thereof who knows or ought to have known the commission of the offense.
25 Provided, finally, That in case the offender is an alien engaged in business in the
26 country, his license shall be revoked and shall be *ipso facto* deported after service of
27 sentence without need of further proceedings.

28 *Sec. 27. Transitory Provisions.* - The transfer of functions, assets, funds,
29 equipment, properties, transactions, and personnel of the affected agency, and the
30 formulation of the internal organic structure, staffing pattern, operating system, and
31 revised budget of NMIPhil, shall be completed within six (6) months from the effectivity
32 of this Act, during which time, the existing personnel shall continue to assume their

1 posts in holdover capacities until new appointments are issued: Provided, further, that
2 there shall be no diminution of rank and salaries, allowances and benefits of
3 transferred employees. New employees of NMI shall be entitled to the same
4 allowances and benefits as those of the transferred employees.

5 Provided, finally, that after the transformation of the National Metrology
6 Division as specified in Section 6 of this Act, the DOST, in coordination with the DBM,
7 shall determine and create new positions.

8 *Sec. 28. Appropriations.* – The amount necessary to carry out the provisions of
9 this Act shall be initially charged against the current fiscal year appropriations of the
10 DOST-Industrial Technology Development Institute (ITDI). Thereafter, the amount
11 needed for the continued implementation of this Act shall be included in the General
12 Appropriations Act.

13 In addition to the GAA, eighty percent (80%) of the fees and charges collected
14 by the NMIPhil and the DOST Regional Offices from metrology-related works including,
15 but not limited to, calibration and measurement services, technical trainings, and
16 proficiency testing services shall be retained and correspondingly used by the NMIPhil
17 and DOST Regional Offices in the upkeep and modernization of measurement
18 standards and facilities, purchase of measurement standards and equipment,
19 promotion of metrology culture, awareness raising programs and advocacy
20 campaigns, among others. The remaining amount shall be remitted to the National
21 Treasury.

22 *Sec. 29. Implementing Rules and Regulations.* – The DOST in coordination with
23 other concerned government departments, agencies and representatives mentioned
24 in Section 11 hereof shall within one hundred eighty (180) days from the effectivity of
25 this Act issue the necessary implementing rules and regulations of this Act.

26 *Sec. 30. Progress Report.* – The Executive Director of the NMIPhil shall prepare
27 an annual report on the status of the implementation of the Modernization Program
28 of the NMIPhil which shall be submitted, through the Secretary of the DOST, to the
29 President and to the Chairpersons of the Committees on Science and Technology of
30 the Senate and the House of Representatives not later than June 30 of the succeeding
31 year.

1 Sec. 31. *Separability Clause.* – If any provision or part hereof is held invalid or
2 unconstitutional, the remainder of the law or the provision or part not otherwise
3 affected shall remain valid and subsisting.

4 Sec. 32. *Repealing Clause.* – Any law, presidential decree or issuance, executive
5 order, letter of instruction, administrative order, rule, or regulation contrary to or
6 inconsistent with the provisions of this Act are hereby repealed, modified, or amended
7 accordingly.

8 Sec. 33. *Effectivity.* – This Act shall take effect fifteen (15) days after its
9 publication in the *Official Gazette* or in a newspaper of general circulation.

Approved,