インドネシア共和国法定計量制度振興開発計画事前調査報告書

インドネシア共和国
法定計量制度振興開発計画
事前調査報告書

1993年5月

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国際協力事業団

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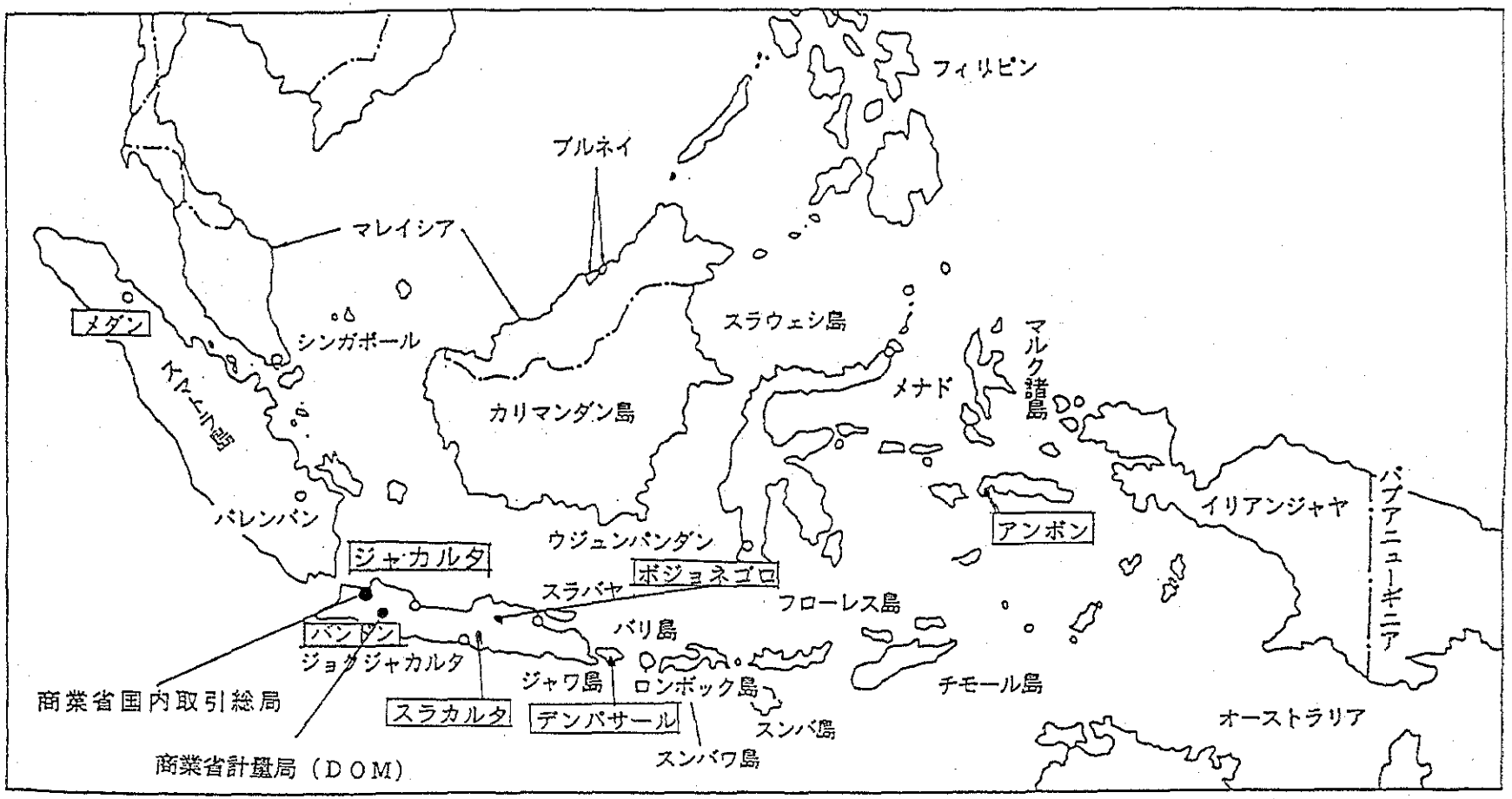

調査対象支所

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Ⅰ. 事前調査の概要

Ⅰ．事前調査の概要

1.　要請の背景・経緯

インドネシア共和国においては、商工業の急速な発展に伴いこれら発展を支える計量計測分野におけるサービスの拡充、特に下記分野の改善・強化が求められている。

①計量法に基づく検査制度の拡充・改善

②検査・研究員の能力向上

③計量研究所（中央及び地方支所）の設備・機能の強化

かかる状況の中ＪＩＣＡは上記項目からなる開発調査の非公式要請を受けて、92年８月にプロジェクト選定確認調査団（団長：武田鉱工業開発調査部次長）を派遣し先方関係機関と要請内容等について協議を行い「イ」国における計量制度・技術は、要員・検査機材・研究能力等で更に強化拡充を図る必要があり、本件に対する協力は「イ」国に対する技術協力としては有意義であると判断された。

その後「イ」国は本件に係る開発調査をわが国に対し正式に要請越し、93年１月に要請内容の確認、調査内容の協議等を目的とした予備調査団（団長：花井ＪＩＣＡ国際協力専門員）が派遣された。

2.　本計画の目的

「イ」国における計量制度・機能の現状を把握し、下記項目に重点を置いた計量制度振興のためのマスタープランを策定する。

(1)　計量法に基づく法定計量制度の拡充・改善

(2)　計量研究所（中央及び地方支所）の設備・機能・人材の強化

3.　事前調査の目的・内容

今次事前調査では、

(1)　SCOPE OF WORK 及び MINUTES OF MEETING の協議・署名

(2)　関連資料、情報の収集

を中心とした調査を実施した。

4. 団員構成

団　　長	花井　正明（はないまさあき）	ＪＩＣＡ国際協力専門員
計量行政	釜土　裕一（かまどゆういち）	通産省計量行政室課長補佐
調査企画	神取　真一（かんどりしんいち）	JICA鉱工業開発調査部工業開発調査課
計量技術	佐々木隆一（ささきりゅういち）	（財）機械電子検査検定協会　理事

5. 調査日程

３／１５（月）（移動）成田(11:00)　ジャカルタ(16:45)（ＧＡ８７３）

１６（火）ＪＩＣＡ事務所、日本大使館（表敬・打合せ）

BAPPENAS貿易産業局、商業省次官（表敬）

１７（水）商業省国内取引総局（表敬・Ｓ／Ｗ協議）

１８（木）商業省国内取引総局（Ｓ／Ｗ協議・署名）

１９（金）ＪＩＣＡ、日本大使館、BAPPENAS貿易産業局（報告）ｼﾞｬｶﾙﾀ(23:35)⇨

２０（土）　成田(8:30)　（ＧＡ８７２）

6. 主要訪問先・面会者

<BAPPENAS>

Moh. Anwar W.	Head	Bureau for Trade and Industry,

<Ministry of Trade>

Bakir Hasan	Secretary General	
Kumhal Djamil	Director General	Directorate General for Domestic Trade
G.M.Putera	Director	Directorate of Metrology
H.M.Hamim Ruba'i	Head	Subdirectorate of Metrological Facilities, Directorate of Metrology

＜在インドネシア日本国大使館＞

大村　哲臣　　二等書記官

＜ＪＩＣＡインドネシア事務所＞

熊谷　晃　　次長

斉藤　直樹　　次長

種田　昇　　所員

＜海外経済協力基金ジャカルタ駐在員事務所＞

藤本　耕士　　首席駐在員

辻　　一人　　次席駐在員

Ⅱ. 協議交渉内容と結果

Ⅱ. 協議交渉内容と結果

A. 今次事前調査団は、3月16日～18日にわたりジャカルタにて「イ」側関係機関との間でS／Wについて協議を行い、ほぼ原案通りにて双方合意に達したため、日本側花井正明調査団長と「イ」側 Kumhal Djamil商業省国内取引総局長との間でS／W及びM／Mの署名・交換を行った。

主な協議内容は下記の通り（☆はM／M記載事項）。

1. S／Wについて

☆(1) 他国の法定計量制度との比較調査

1）「イ」側より他国（日本、アセアン等）の法定計量制度との比較調査を本件調査に含めて欲しい旨要望があった。

2）調査団より法定計量の国際的トレンド及び他国における法定計量制度の現状の調査（紹介）は、必要に応じ行う旨回答した。

(2) 費用積算

1）「イ」側より研究所の拡充のための積算に建屋分も含めて欲しい旨要望があった。

2）調査団側より必要機材の積算及び建屋に必要な条件についての提言は行うが、建屋を含めた費用積算については開発調査の範囲外と考えられるため、本件調査に含めることはできない。しかし、「イ」側が建屋の費用を積算するにあたっては本格調査団としてもできるだけ協力する旨回答した。

☆(3) 調査期間（WORK SCHEDULE）

1）「イ」側より1994年度予算の準備及びレプリタVI中における本計画の実施のために、最終報告書（案）を来年2月末までに提出して欲しい旨要望があった。

2）調査団より最終報告書（案）を本年2月末までに提出することは困難であるため「イ」側要望を本年11月に提出される中間報告書にて考慮したい旨回答した。

(4) 「イ」側よりの要望による原案からの変更点

（調査内容変更を伴わないと調査団が判断）

1）字句挿入（下線部が挿入字句）

Ⅲ. SCOPE OF THE STUDY

1. To study background and relevant conditions concerning needs of legal metrology development

2-5 Metrological facilities, equipment and personnel

3-2 Upgrading of capabilities, activities and services of both

central and regional metrological laboratories

2）UNDERTAKINGS BY THE GOVERNMENT OF INDONESIA 中の変更

1-6

旧：To secure permission for entry into private properties or restricted areas for the conduct of the study

新：To secure permission for entry into all areas concerned for the implementation of the Study.

＊なお、本件については外務省開発協力課作成「開発調査SCOPE OF WORK 変更マニュアル」に基づき変更を行った。

☆2. カウンターパート研修

「イ」側より本件調査に係るカウンターパート研修員受け入れの要請があった。

☆3. 調査対象支所

	ジャワ島内	ジャワ島外
1）大規模	Jakarta/Bandung	Medan
2）中規模	Surakarta	Denpasar
3）小規模	Bojonegoro	Ambon

調査団より「イ」側に対し、上記支所調査への商業省計量局職員の同行を依頼し同意を得た。

☆4. テクニカルコミッティ

調査団より計量局内に本件調査団の受け皿としてテクニカルコミッティ（カウンターパートチーム）の設置を依頼し合意を得た。

☆5. 招聘状

調査団より8月来「イ」予定の本格調査団は一般旅券にて入国する旨説明し、同調査団の「イ」国入国ビザ取得のための招聘状発行を依頼し同意を得た。

B．今後の予定

コンサルタント選定を経て、本年7月より本格調査（国内作業及び現地調査：約1年間）を実施予定。

なお、現地調査は本年8月（約1か月）、12月（約3週間）及び1994年5月（約2週間：

最終報告書案説明）の計３回を実施予定。

C．その他

調査団は、開発調査スキームの説明、特に本件調査の実施が必ずしも引き続き日本からの援助と結びつくものではない旨再度説明を行ったが、「イ」側は開発調査終了後も日本からの援助（具体的には研究所設備・機能・人材の拡充改善のための無償資金協力及びプロジェクト方式技術協力が考えられる。）を期待していると思われる。

よって、本件本格調査の進捗と合わせ、調査終了後のフォローについても関係各機関との慎重な協議・調整が必要と思われる。

以　上

Ⅲ. SCOPE OF WORK 及び MINUTES OF MEETING

Ⅲ. S／W及びM／M

SCOPE OF WORK
FOR
THE STUDY
ON
THE DEVELOPMENT OF LEGAL METROLOGY SYSTEM
IN
THE REPUBLIC OF INDONESIA

AGREED UPON BETWEEN

MINISTRY OF TRADE
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Jakarta, March 18, 1993

MASAAKI HANAI
LEADER,
PREPARATORY STUDY TEAM,
JAPAN INTERNATIONAL
COOPERATION AGENCY,
JAPAN

KUMHAL DJAMIL
DIRECTOR GENERAL,
DIRECTORATE GENERAL FOR
DOMESTIC TRADE,
MINISTRY OF TRADE,
REPUBLIC OF INDONESIA

I. INTRODUCTION

In response to the request of the Government of the Republic of Indonesia (hereinafter referred to as "the"Government of Indonesia"), the Government of Japan decided to conduct the Study for Development of Legal Metrology System in the Republic of Indonesia(hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programmes of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Republic of Indonesia.

The present document sets forth the scope of work for the Study.

II. OBJECTIVE OF THE STUDY

The objective of the Study is to formulate a comprehensive master plan for the enhancement of legal metrology system in Indonesia.

III. SCOPE OF THE STUDY

In order to achieve the above objective, the Study shall be conducted in accordance with the following items :

1. To study background and relevant conditions concerning needs of legal metrology development

 1-1 Overall economic situation
 1-2 Present status of commerce and industry regarding to metrology
 1-3 Government policies, laws and regulations for commercial and industrial development
 1-4 Present status of national standards, legal metrology system and traceability system
 1-5 Present status of industrial metrology

2. To study present situation of legal metrology

 2-1 Government policies, laws and regulations

2-2 Enforcement and administration mechanism
2-3 Enforcement and administration organization and their functions (central and regional)
2-4 Contents of enforcement of legal metrology
2-5 Metrological facilities, equipment and personnel
2-6 Education and training for metrological engineers
2-7 Actual situation of legal metrology in the industrial and commercial transactions
2-8 Appropriateness of traceability system

3. To formulate a master plan for the development of legal metrology system from the viewpoint of the followings:

3-1 Enhancement of legal metrology system
a) Government laws and regulations
b) Enforcement and administration mechanism
c) Enforcement and administration organization and their functions (central and regional)
d) Contents of enforcement of legal metrology

3-2 Upgrading of capabilities, activities and services of both central and regional metrological laboratories

a) Organization and their functions
b) Operation and management
c) Education and training
d) Metrological facilities and equipment
e) Cost estimation

3-3 Implementation schedule

IV. WORK SCHEDULE

The Study will be carried out in accordance with the attached tentative work schedule.

V. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Indonesia in accordance with the attached

tentative work schedule.

Ten (10) copies of the Inception Report
Ten (10) copies of the Progress Report
Twenty (20) copies of the Interim Report
Thirty (30) copies of the Draft Final Report
Thirty (30) copies of the Final Report

VI. UNDERTAKINGS BY THE GOVERNMENT OF INDONESIA

1. To facilitate smooth conduct of the Study, the Government of Indonesia shall take the following necessary measures :

1-1 To secure safety of the Japanese Study Team (hereinafter referred to as "the Team").

1-2 To permit the members of the Team to enter, leave and sojourn in Indonesia for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees

1-3 To exempt the members of the Team from taxes, duties and other charges on equipment, machinery and other materials brought into, and out of, Indonesia for the conduct of the Study

1-4 To exempt the members of the Team from income tax and charges of any kind imposed on, or in connection with, any emoluments or allowances paid to them for their services for the implementation of the Study

1-5 To provide necessary facilities to the Team for remittance as well as utilization of the funds introduced into Indonesia from Japan for the implementation of the Study

1-6 To secure permission for entry into all areas concerned for the implementation of the Study.

1-7 To secure permission for the Team to take all data and documents including photographs and maps related to the Study out of Indonesia

1-8 To provide medical service as needed. (Its expenses can be charged to the members of the Team.)

2. The Government of Indonesia shall bear claims, if any arises against the member of the Team resulting from, occurring in the

course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the Team members.

3. Ministry of Trade shall act as a counterpart agency to the Team and also as a coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. Ministry of Trade shall, at its own expense, provide the Team with the following in cooperation with other organizations concerned :

4-1 Available data and information related to the Study
4-2 Counterpart personnel
4-3 Suitable office space with necessary equipment in Jakarta and Bandung
4-4 Credentials or identification cards
4-5 Vehicles

VII. UNDERTAKINGS BY JICA

For the implementation of the Study, JICA shall take the following measures :

1. To dispatch, at its expense, a series of study teams to Indonesia
2. To pursue technology transfer to the Indonesian counterpart personnel in the course of the study

VIII. OTHERS

JICA and Ministry of Trade shall consult with each other in respect of any matter that arise from, or in connection with, the Study.

APPENDIX

TENTATIVE WORK SCHEDULE

YEAR	1993						1994						
PROJECT MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13
CALENDER MONTH	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
WORK IN INDONESIA													
WORK IN JAPAN													
REPORTS		△ IC/R	△ P/R1			△ IT/R	△ P/R2				△ DF/R		△ F/R

Abbreviations
IC/R: Inception Report
P/R : Progress Report
IT/R: Interim Report
DF/R: Draft Final Report
F/R : Final Report

MINUTES OF MEETING
ON
THE SCOPE OF WORK
FOR
THE STUDY
ON
THE DEVELOPMENT OF LEGAL METROLOGY SYSTEM
IN
THE REPUBLIC OF INDONESIA

The Preparatory Study Team organized by Japan International Cooperation Agency visited the Republic of Indonesia (hereinafter referred to as "Indonesia") from March 15, 1993 to March 19, 1993 for the purpose of discussing the Scope of Work regarding the Study on the Development of Legal Metrology System with the authorities concerned in Indonesia.

The team had a series of discussions with authorities concerned of the Government of Indonesia. As the results of the above, both sides have confirmed the followings :

1. On the Scope of Work

1) Regarding Item 2 of III. SCOPE OF THE STUDY,

Indonesian side requested that the comparative study with the legal metrology systems in other countries should be included in the Study.

Japanese side answered that the study on the international recommendation of legal metrology and present status of the legal metrology systems in some other countries, if necessary, can be included.

2) Regarding IV. WORK SCHEDULE,

Indonesian side requested that the work schedule should be shortened because they need the DF/R of the Study at the end of February 1994 for the preparation of the 1994 fiscal year budget and for the implementation of Replita VI.

Japanese side answered that as it is rather difficult for the study team to prepare the DF/R by the end of February 1994, the study team will take the above-mentioned request from Indonesian side into consideration in the IT/R which will be submitted in

November 1993.

2. Technical training

Inndonesian side requested that technical training (conterpart training) in Japan should be given to counterpart personnel of the Study.

3. Branch offices to be surveyed

The branch offices to be surveyed in the course of the Study are as follows:

1) large scale	Jakarta	Bandung	Medan
2) medium scale	Surakarta	Denpasar	
3) small scale	Bojonegoro	Ambon	

Japanese side requested that officials of Directorate of Metrology should accompany the study team during the survey to above-mentioned branch offices.

Indonesian side agreed to it.

4. Technical committee

Japanese side requested that the technical committee (counterpart team) should be established in Directorate of Metrology for the smooth and effective implementation of the Study.

Indonesian side agreed to it.

5. Invitation letter

Japanese side requested Ministry of Trade to issue invitation letters for the entry visa of the coming Japanese study team.

Indonesian side agreed to it.

Jakarta, March 18, 1993

MASAAKI HANAI
LEADER,
PREPARATORY STUDY TEAM,
JAPAN INTERNATIONAL COOPERATION AGENCY,
JAPAN

KUMHAL DJAMIL
DIRECTOR GENERAL,
DIRECTORATE GENERAL FOR DOMESTIC TRADE,
REPUBLIC OF INDONESIA

LIST OF ATTENDANCE

INDONESIAN SIDE

Moh. Anwar W.	Head	Bureau for Trade and Industry, BAPPENAS
Bakir Hasan	Secretary General	Ministry of Trade
Kumhal Djamil	Director General	Directorate General for Domestic Trade, Ministry of Trade
G.M.Putera	Director	Directorate of Metrology, Ministry of Trade
H.M.Hamim Ruba'i	Head	Subdirectorate of Metrological Facilities, Directorate of Metrology, Ministry of Trade

JAPANESE SIDE

Masaaki Hanai	Development Specialist	Japan International Cooperation Agency
Yuuichi Kamado	Deputy Director	Weights and Measures Office, Ministry of International Trade and Industry
Ryuichi Sasaki	Executive Manager	JMI Institute
Shinichi Kandori	Project Officer	Industrial Development Study Div. Japan International Cooperation Agency
Noboru Taneda	Assistant Resident Representative	Indonesia Office, Japan International Cooperation Agency

Ⅳ. 予 備 調 査 の 概 要

1. 予備調査の概要

1－1 要請の背景・経緯

インドネシア共和国においては、商工業の急速な発展に伴いこれら発展を支える計量計測分野におけるサービスの拡充、特に下記分野の改善・強化が求められている。

①計量法に基づく検査制度の拡充・改善

②検査・研究員の能力向上

③計量研究所（中央及び地方支所）の設備・機能の強化

かかる状況の中ＪＩＣＡは上記項目からなる開発調査の非公式要請を受けて、92年８月にプロジェクト選定確認調査団（団長：武田鉱工業開発調査部次長）を派遣し先方関係機関と要請内容等について協議を行った。

この結果、「イ」国における計量制度は国際単位系（ＳＩ）へ近づくために努力中でありわが国の計量研究所との国際交流も行っているが、要員、検査機材、研究能力等で更に強化拡充を図る必要があり、本件に対する協力は「イ」国に対する技術協力としては有意義であると判断された。

今次調査は、「イ」国からの正式要請を受けて要請内容の確認、調査の内容の協議等を目的とした予備調査を行った。

1－2 本計画の目的

「イ」国における計量制度・機能の現状を把握し、下記項目に重点を置いた計量制度振興のためのマスタープランを策定する。

(1) 計量法に基づく検査制度の拡充・改善

(2) 検査・研究員の能力向上

(3) 計量研究所（中央及び地方支所）の設備・機能の強化

1－3 予備調査の目的・内容

今次予備調査では、「イ」国の計量制度の現況を把握すると共に、ＪＩＣＡの開発調査スキームとして協力可能な範囲を確定するために、

(1) 要請の背景・内容の確認

(2) 本格調査内容の協議

(3) 関連資料、情報の収集

を中心とした調査を実施した。

1－4　団員構成

団長・総括	花井　正明 はない　まさあき	ＪＩＣＡ国際協力総合研修所 国際協力専門員
計量行政	鈴木　洋吉 すずき　ようきち	通商産業省機械情報産業局 総務課計量行政室
調査企画	神取　真一 かんどり　しんいち	ＪＩＣＡ鉱工業開発調査部 工業開発調査課
計量制度・技術	松野　勉 まつの　つとむ	（財）機械電子検査検定協会

1－5　調査日程

1／27（水）（移動）成田(11:00) ⇨ジャカルタ(16:45)（ＧＡ８７３）

28（木）ＪＩＣＡ事務所、日本大使館表敬、打合せ

BAPPENAS貿易産業局表敬、打合せ

29（金）計量・校正開発研究センター（ＫＩＭ－ＬＩＰＩ）視察

30（土）商業省国内取引総局表敬、打合せ

商業省計量局ジャカルタ支所視察

31（日）（移動）ジャカルタ⇨バンドン

2／　1（月）┐

　　2（火）┘ 商業省計量局（打合せ、中央研究所及びバンドン支所視察）

3（水）（移動）バンドン⇨ジャカルタ

ＪＩＣＡ事務所報告

4（木）商業省次官表敬、報告

日本大使館、BAPPENAS貿易産業局報告

ジャカルタ(19:00) ⇨（ＪＬ７２２）

5（金）成田(6:05)

1－6　主要面談者

Anwar Wardhani	Director	Bureau of Trade and Industry, BAPPENAS
Herudi	Deputy Chairman	LIPI
千葉　貢	ＪＩＣＡ専門家	-ditto-
Bambang H.H.	Director	KIM-LIPI

Bakir Hasan	Secretary General	Ministry of Trade (MT)
Kmhal Jamil	Director General	Directorate General for Demestic Trade, MT
G.M.Putera	Director	Directorate of Metrology(DOM), MT
Hamim Ruba'i	Head	Sub Directorate of Metrological Facilities, DOM, MT
Edi Basuki	Head	Administrative Division, DOM, MT
I Gde Mangku	Head	Sub Direcrtorate of Length and Volume, DOM, MT
Hadi Purnomo	Head	Sub Directorate of Supervision and Information, DOM, MT
Smardi	Head	Section of Water and other drinking Water Meters , DOM, MT
Hery Hardjoko	Head	Section of Force and Pressure, DOM, MT
Maryono	Head	Education and Training of Metrology Division, DOM, MT
Darwani	Director	Jakarta Branch Office, DOM, MT

大村　哲臣	二等書記官	在インドネシア日本国大使館
高橋　昭	所長	ＪＩＣＡインドネシア事務所
種田　昇	所員	同上

2. 協議交渉内容と結果

今次予備調査では、予め送付した質問票に基づき「イ」国における計量制度の現状を把握すると共に、要請の背景・内容の確認及び本格調査内容の協議を行い、ＪＩＣＡの開発調査スキームで協力可能な範囲の確定を行った。

2－1　調査内容について

(1) 調査のアウトプット

対処方針（１月20日各省会議）に基づき調査のアウトプットとして当方が想定している法定計量制度振興計画（①既存制度の改善・拡充、②検査・研究員の育成、③中央研究所・地方支所の拡充・強化）を説明したところ、案件名の変更（旧：Feasibility Study for Development of Metrology Laboratory ⇨新：Study for Development of Legal Metrology System）を含め合意を得ることができた。

「イ」側としても計量制度の改善・人材育成の重要性を認識しており、単なる計量研究所の設備・機能拡充計画調査の要望は表明されなかった。

(2) 無償資金協力・プロジェクト方式技術協力との関係

当方より本件調査の実施が必ずしも無償資金協力・プロジェクト方式技術協力に結びつくものではない旨再度説明を行い、先方の理解を得た。

(3) 本格調査の内容

ＪＩＣＡ開発調査の内容・実施手順及び現段階にて当方が想定している法定計量制度振興計画の概要（大枠の調査項目を含む）の説明を行い、合意を得ることができた。

また、当方より本件が開発調査案件として採り上げられる場合、商業省計量局の各支所から大・中・小規模の支所を各２所づつ選択し、調査対象支所としたい旨説明し、合意を得た。さらに、「イ」側に対し当該支所の候補を上げて欲しい旨依頼したところ下記の通り回答があった。なお、本件候補支所については、事前調査時に再度先方と協議の上決定するものとする。

	ジャワ島内	ジャワ島外
大規模	Jakarta or Bandung (West)	Medan (Sumatra)
中規模	Surakarta or Cirebon (Central) (West)	Denpasar or Ujung Pandang (Bali) (Sulawesi)
小規模	Bonjonegolo or Tasikmalaya (East) (West)	Ambon or Parangkarta (Maluku) (Central Kalimantan)

2－2　今後の予定

今次調査結果をふまえ、S／Wの署名を目的とした事前調査団の派遣を予定。

3．インドネシア共和国の計量行政

3－1　計量関係政策体系

インドネシアにおける計量計測に関する方向を決定する機関は、1984年に大統領令に基づいて設立された国家標準化協議会（Dewen Standarisasi National:ＤＳＮ）である。このＤＳＮの主たる目的は、国家の標準化活動に関連する組織間の運営と標準化に関する政策について大統領に助言と提案をすることである。ＤＳＮの運営にあたり、研究技術国務大臣が議長を務め、インドネシア科学技術院（ＬＩＰＩ）が事務局を務めている。

計量計測に関する政策は、ＤＳＮに設けられた計量委員会（Committee on Metrology）により策定され、次の３つの活動に分けられている。

(1)　法定計量（Legal Metrology）

法定計量は、一般商取引に用いられる計量の適正さを保つこと等を目的として、法律に基づいて施行実施されるものである。

インドネシアでは、1981年に改正された計量法（Law of the Republic of Indonesia, №2, 1981, Legal Metrology）にその法的根拠を置いている。

施行機関は、商業省（Ministry of Trade）の計量局（Directorate of Metrology:ＤＯＭ）とその傘下の全国47ヵ所にある地方支所である。

(2)　技術計量（Technical Metrology）

技術計量は、効果的な品質管理の実施や正確な試験・検査の実施のため、工場や試験研究機関が保有する測定器や試験機に対して校正を行うこと及びこれに関する標準の研究開発を行うものであって、一般的には科学計量（Scientific Metrology）とか工業計量（Industrial Metrology）とも言われている。

インドネシアでは、上記計量委員会が認定した20の校正機関によって形成される全国校正ネットワーク（National Calibration Network）が校正の実務を行っている。その中心となっているのは、インドネシア科学技術院の研究所の一つである計量校正開発研究センター（ＫＩＭ）である。このNational Calibration Networkに参加している主な校正機関は、次のとおりである。

BBPILM／MIDC

DOM

National Atomic Energy Agency (BATAN)

Electrical Research Centre (PPMK／LMK－PLN)

Directorate of Telecommunication (PERUMTEL)

PT PINDAD

PT Boma Bisma Indra

ITB

PUSLITBANG KIM－LIPI

B4T

PT PAL INDONESIA

IPTN

UPT LUK－BPPT

PPMB

PT Mektan Babakan Tujuh (MBT)

PT Radio Frequency Communication (RFC)

(3) 原子力放射線計量 (Nuclear Radiation Metrology)

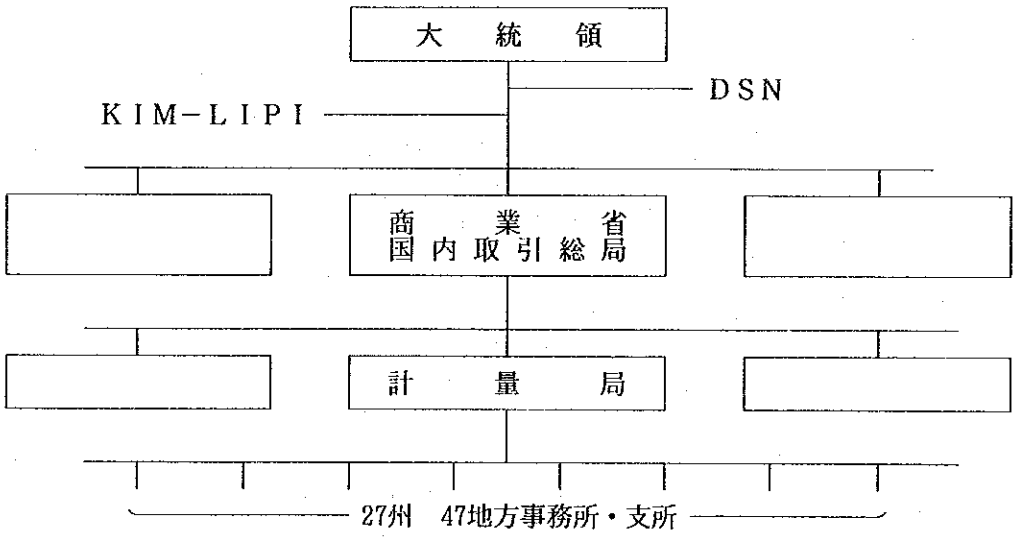
原子力放射線計量は、原子力や放射線に関する測定器の校正とその標準の研究開発を行うもので、概念的には上記(2)の技術計量と同様のものであるが、インドネシアでは国立原子力庁（ＢＡＴＡＮ）が中心となって活動しており、所管が異なることから区別している。

以上のようにインドネシアにおいては他の国と同様に、法律に基づいて実施される法定計量と、技術的な観点から主として産業界からの依頼に基づいて行われる技術計量（原子力放射線計量も含む）とに明確に区別され実施されている。

3－2 法定計量行政の組織

法定計量行政組織の体系は、次の図に示すとおりであり、商業省国内取引総局 (Directorate General for Domestic Trade)、計量総局並びに商業省の州事務所及び地方支所（27州、47計量事務所・支所）で運営管理している。

図3－1 インドネシアの法定計量行政組織体系



3－3　計量法

インドネシアの計量法は、かつてCalibration Orderとして1949年に制定され、計量の基本としていたが、経済の発展と技術の進歩に合わなくなってしまったことと、国際単位であるＳＩ単位系に整合させるために、上記したように1981年に現行の計量法に改正された。

この計量法の概略はつぎのとおりである。

第１章：定義（法や規則で使用される用語の意味を規定している）

　第１条：定義

第２章：単位（７つの基本単位とその誘導単位、補助単位を規定している）

　第２条：ＳＩ単位の採用

　第３条：基本単位

　第４条：単位記号

　第５条：巾乗と記号

　第６条：摂氏温度

　第７条：誘導単位、補助単位

第３章：単位の標準（国家標準と標準器の管理について規定している）

　第８条：国家標準

　第９条：国家標準の管理

　第10条：国家標準の誘導単位

　第11条：国家標準の管理機関

第４章：計量器（検定の対象となる計量器とその方法について規定している）

　第12条：計量器の検定、再検定

　第13条：計量器の検査、検定

　第14条：条件を満たさないものの廃棄

　第15条：検定等の必要

　第16条：検定費用

　第17条：製造業、修理業の認可

　第18条：輸入業の認可

第５章：検定マーク（検定マークについて規定している）

　第19条：検定マークの種類

　第20条：表示義務

　第21条：印紙税の免除

第６章：包装商品（包装商品の規制について規定している）

　第22条：名称、内容量等の表示

　第23条：製造者等の表示

第24条：詳細規定

第７章：違反条項（使用方法の制限、不合格計量器や改造計量器等の取扱いについて規定している）

第25条：表示の無い計量器の保有等の禁止

第26条：表示の無い計量器の販売の禁止

第27条：追加計量器の設置の禁止

第28条：適正以外の使用禁止

第29条：認められた記号以外の使用禁止

第30条：正確な計量以外の禁止

第31条：表示された量以下の製造禁止

第８章：罰則（罰則について規定している）

第32条：罰金

第33条：違反

第34条：違反の対象

第35条：没収

第９章：監督（行政機関の権限について規定している）

第36条：調査権

第10章：暫定規定（以前に定められたものに対する暫定条件を規定している）

第37条：以前に認められたもの

第38条：以前に定められた規制

第11章：付則

第39条：以前の法の廃止

第40条：実施日

３－４　検　　定

法定計量における検定の目的は、計量法及び関連規則に基づいて、特定の計量器に対してその構造や器差の検査を行い、合格したもののみ市場においての使用を認めるものであり、その検定の結果は検定マークによって個々の計量器に表示されることとなる。

インドネシアの計量法及びその関連規則において、直尺、巻尺等、はかり、分銅、温度計、体温計、タクシーメーター、ガスメーター、水道メーター、ガソリンメーター、タンクローリー等のタンク、圧力計、流量計、密度計、電気メーター（電力量計）等の計量器が検定の対象として規制されている。

3－5　計量局

計量局はバンドン市に所在し、職員数は技術系職員約150名を含み約300名である。92／93年度における予算は878,423,000Rp（約6,000万円）となっている。

計量局の主な役割は次のとおりである。

(1) 計量法の施行とそれに係る地方事務所・支所の統括

(2) 質量の国家標準（キログラム原器）の維持管理

(3) 地方事務所・支所の保有する基準器の定期的な校正の実施

(4) 地方事務所・支所の職員を対象とした、検定を実施する職員研修と一定の資格付与のための研修の実施

(5) 圧力、質量、長さ、温度、体積等の各量における測定器等の校正の実施

計量局は、全地方事務所・支所の代表を集めて年１回定期的に会合を持ち、法施行実施上の問題点の解決、技術的問題の解決、将来に向けての方針や計画の策定等を行っている。

3－6　地方事務所・支所

計量局の47の地方事務所・支所は法定計量の実務を行っており、特に上記した計量器に対する検定、再検定等を実施している。

これら47の地方事務所・支所の全職員数は１,413人、全予算は92／93年度において4,907,435,000Rp（約３億3,000万円）である。

これら地方事務所・支所における検定等の業務量は多く、1991年の実績では、全国で6,669,269件を処理している。

この検定等に供される計量器は実際に商店等で使用されているものであるので、商業活動に影響を与えないように、検定等の実務は申請から検定マークを付するまで数時間程度で処理しているとのことであった。

今回、ジャカルタ市とバンドン市の地方支所を訪問したが、それぞれ検定に使用する基準器を多数保有していた。ただし、ジャカルタ市の支所での調査において、支所の予算は約80,000,000Rp（約500万円）で、そのうち機器の管理費としては約3,000,000Rp（約20万円）とのことであり、機器や基準器の維持管理には十分でないとのことであった。

検定等の手数料は、規則に基づき手数料表によって定められており、例えば、25ℓ以上の容器の初回検定料は500Rp（約30円）であり、非常に安価である。この手数料表は現在改訂準備中である。なお、この手数料収入は国庫に収められるが、各地方事務所・支所においては、手数料収入の20％を地方事務所・支所の収入として、機器購入や維持管理等の目的に使用することができるようになっている。

4．インドネシアの計量技術

4－1　計量標準

法定計量においても、技術計量においても、技術的な意味において計量の基礎となるのは計量標準である。

インドネシアにおける計量標準の維持管理体系のうち、国家標準の維持管理は量ごとに次のように各機関が担当している。

計量局：質量（mass）

ＫＩＭ：長さ（length）、光度（light intensity）、電流（electrical current）、温度（temperature）等

PUSTLITBANG TEL（通信研究開発センター）：周波数（frequency）

4－2　ＤＳＮ計量委員会

ＤＳＮの計量委員会は、National Calibration Networkに参加しようとする校正機関の認定やその認定校正機関が保有する標準器の持ち回りチェック等を行っている。校正機関はＩＳＯガイド25に基づいて評価が行われ、一定の技術的、組織的要件を満たしている機関のみを認定している。

4－3　ＫＩＭ－ＬＩＰＩ

ＫＩＭはＬＩＰＩに付属する研究所の一つで、1967年にバンドンに設立され、1983年に現在のセルポンに新研究所が建設されて移転した。ＫＩＭの主な活動は、計量標準の維持管理、校正サービスの実施及び計測に関する研究開発である。また、工場等における技術者を対象とした研修コースも定期的に開催している。

ＫＩＭはＡＰＭＰ（アジア太平洋計量計画）にインドネシアを代表して参加している。

ＫＩＭの活動のうち、計量校正サービスに係わる校正・計量システム研究開発部には、力及び質量（force and mass）、電気（electrical）、温度（temperature）、音響（accostic）、測光（optical）及び寸法（dimension）の６つの研究室があり、91／92年の実績で合計2,423件の校正を実施している。この実績は前年度が1,508件であったのに比べ、非常に大きな比率で増加していることを示している。

4－4　法定計量に係る計量標準

法定計量に係る計量標準は、計量局が中心となって維持管理を行っている。質量を例に記述すれば、各地方事務所・支所においては、Ｅ２級の分銅を標準器とし、Ｆ２級の作業標準

（分銅）で検定実務を行っているが、このＦ２級作業標準は少なくとも２年に１回の頻度でＥ２級標準分銅によって校正されており、さらにＥ２級標準分銅は少なくとも５年に１回の頻度で計量総局において、その保有するＥ１級の標準分銅によって校正されている。この質量の国家標準であるキログラム原器については、フランスにおいて定期的に校正されている。なお、その他の量については、計量局が保有する標準は他の国家標準維持管理機関において定期的に校正されている。

このように検定実施に使用される計量標準については、定期的に校正されており、その校正記録も適切に管理されている。

5．研　　修

計量に関する研修は、以下に記すように今回調査した範囲においては、計量局とＫＩＭがそれぞれ別の目的で実施している。

5－1　計量局における研修

計量局においては検定を実施する職員を対象として、コントローラー・コース、検定補助員コース、検定員コース等のコースを設けて定期的に実施し、毎年多くの職員が受講している。1989年までの実績で、延べ1,577名の職員に研修を実施している。また、計量器の使用者を対象としたコースも設けており、1989年までの実績で、延べ1,196名が受講している。

しかしながら、計量局はさらに多くの職員に対する効果的な研修が必要であるとの認識から、総合的な研修の拡充計画を有しており、今回の調査において調査団に説明がなされた。その内容は職員を対象としたコースと計量器の使用者向けのコースを開催する宿泊施設を含む研修センターの設立を行うものである。詳細は別添の資料を参考にされたい。

5－2　ＫＩＭにおける研修

ＫＩＭにおいては工場等の技術者を対象とした、計量に関する技術研修を実施している。この研修は対象とする量、技術内容に応じてさまざまなコースが設定されており、技術中心の研修のため１コースに参加する人数は最大でも15人程度に押さえて、研修の効果が上がるように配慮されている。

6．本格調査実施における留意事項

本予備調査の結果から、本格調査については以下の点につき留意すべきであると思われる。

(1) 法定計量における短期的及び中長期的な検定業務量の予測を行い、その業務量を処理するための人員計画、設備計画及び財務計画を策定すること。

(2) 検定業務量の予測にあたっては、つぎの点を考慮すること。

① インドネシアの産業育成及び発展を分野ごとに把握し、計量行政の拡充強化すべき分野を明確にすること。

② インドネシアにおける法定計量の目的別（工業育成、商業振興、取引適正化、消費者保護等）の方向性を明確にすること。

③ インドネシア側の法定計量拡充計画がもしあれば、その計画の妥当性も含め検討すること。

④ 地方事務所・支所を可能な限り多く訪問し、それぞれの地方の特色を勘案すること。訪問にあたっては、問題点の認識及び把握を共通化するために計量総局の職員の同行が望ましい。

(3) 人員計画の策定にあたっては、予測検定業務量からできるかぎり数量化し、併せてその職員に対する研修の実施計画（コースの設定、カリキュラム案の策定等）も策定すること。この際、計量総局が計画している研修センター構想も検討すること。

(4) 設備計画の策定にあたっては、予測検定業務量を処理するための計量設備計画とその予算計画を策定すること。特に設備の維持管理については、徴収した手数料を収入として維持管理費として使用できるシステムをも検討すべきである。

また、計量標準の開発研究及び維持については、ＫＩＭとの協力関係を考慮しつつ、法定計量に必要な計量標準の維持供給を計量局が中心となって実施できる体制についても検討する必要がある。

(5) 財務計画の策定にあたっては、法定計量は国家の制度であり一定程度の国家援助は考慮しなければならないものと思われるが、可能な限りの採算性は検討する必要がある。

7．収集資料

(1) 計量総局

- Questionnaire回答
- 計量総局パンフレット（*）
- 検定成績書（*）
- 計量総局研修センター計画
- 検定マーク（*）
- 技術基準数種（*）
- ライセンス数
- 検定等実績（*）
- 検定等手数料表（*）
- 検定等手数料改訂案（*）
- 各種Regulation（*）
- 計量法法規集（*）
- 計量に関する小パンフレット各種（*）

(2) ＫＩＭ

- ＤＳＮパンフレット
- ＫＩＭパンフレット２種類（*）
- ＫＩＭパンフレット
- 校正サービス実績

(3) ＬＩＰＩ

- ＬＩＰＩパンフレット
- ＬＩＰＩ組織図

注：（*）はインドネシア語の印刷物

V. 資　　料

1. Terms of Reference

TERMS OF REFERENCE

RTA-219 FEASIBILITY STUDY FOR DEVELOPMENT OF METROLOGY LABORATORY

SPONSORED BY:

MINISTRY OF TRADE

DIRECTORATE GENERAL FOR DOMESTIC TRADE

S:/wso/rta-219

Code Number: RTA - 219

1. Project Title : FEASIBILITY STUDY FOR DEVELOPMENT OF METROLOGY LABORATORY

2. Location : Bandung, West Java

3. Executing Agency : Directorate General for Domestic Trade, Ministry of Trade

4. Objectives : To develop and strengthen the institutional capability of metrology laboratories and services in testing and calibration activities in line with the Legal Metrology Act.

5. Project Description : To conduct a feasibility study for establishment of a long term metrology development planning. Scope of the project activities are mainly as follows:

- Modernization of testing equipment both of Central and Regional Laboratories.
- Human resources development to develop and upgrade professional capability of officials;
- Strengthening and development of the existing institutional facilities and programmes.

Advisory services, provision of necessary equipment and training are the main componenets of the project proposal.

6. Scope of Assistance Requested

a. expert services	:	60 m.m.	= US $	600,000
b. fellowships	:	24 m.m.	= US $	120,000
c. equipment	:		= US $	80,000
		Total Cost	= US $	800,000

7. Related to Project Aid :

RTA/11

I. BACKGROUND AND SUPPORTING INFORMATION

1. Background.

1.1. The trade and industry sectors in Indonesia have been developing very rapidly. To support this development the capacity and efficiency of metrology services need to be improved and strengthened, especially in the areas of:

(a) Testing and calibration system, including modern equipments of Metrology Laboratories;
(b) Capabilities of officials, inspectors, and technicians together with Metrology Training facilities;
(c) Metrological institutions, and management.

1.2 As a result, the duties and activities of the Directorate of Metrology are steadily increasing and becoming more and more complex. According to law No 2 of 1981 on Legal Metrology the Directorate of Metrology has the duty to develop a calibration system for all Legal Metrology instruments. The system is directly related to the consumers protection. It covers the development in calibration of electricity meters, water meters, taxi meters, mass and weights, measuring tanks of gas and oil and the like, both for domestic need and export purposes.

The existing facilities, personnels and the institutional set up for metrological services are not fully functional as needed. Modernization and expansion are highly needed. This will include, among others, increase in the number of laboratories and equipments to replace the old, and upgrading of staff personnels to operate the calibration and recalibration services.

Due to the increasing demand for the calibration of various measuring instruments to be used for the export of oil and gas and other commodities, the Directorate of Metrology and its regional offices need more appropriate equipments, office spaces, laboratories, and skilled personnels to support the metrological services.

2. Justification and Benefit.

One of the key factor to the development of the trade sector under the guidance and management of the Ministry of Trade is to develop the system of testing and calibration. The Government has continously improved its effort to develop and expand the system of calibration, including provision of numerous measuring devices through the Directorate of Metrology, Bandung and its regional offices throughout Indonesia. This is done in order to render better quality services in calibration and re-calibration which would be beneficial to the society at large and all parties concerned with the use of

the services of the measuring instruments of the Legal Metrology.

The Government is well aware that the Directorate of Metrology and all its apparatus in the provinces and sub-provinces need to increase their capacity and performance through improvement of:

a Metrology training facilities and its own laboratory for training of personnels.

b The buildings and laboratory equipments already owned at present, which need to be renovated/constructed, such as:

b.1. The laboratory of Metrology in Bandung that has a permanent laboratory, but the extention for mass and electricity laboratory is still needed.

b.2. Branch-offices in the provinces and sub-provinces such as : Jakarta, Surabaya, Magelang, Dili, Singkawang and Langsa have a new building, but those offices still need new equipments, especially for Jakarta and Surabaya, for the calibration of Mobile Measuring Tank (Tangki Ukur Mobil/Mobil Tangki) and the calibration of taxi meters and water meters.

b.3. Branch-offices that need to be renovated/extended, like: Banda Aceh, Pekanbaru, Bengkulu, Jambi, Lampung, Serang, Bogor, Tasikmalaya, Cirebon, Semarang, Tegal, Purwokerto, Pati, Yogyakarta, Pontianak, Madiun, Bojonegoro, Malang, Jember, Denpasar, Palangkaraya, Banjarmasin, Samarinda, Manado, Palu, Kendari, Ujungpandang, Ambon, Irian Jaya, Mataram, Medan, Kupang, Pematang Siantar, and Ternate.

b.4. Branch-offices that need a new building, like: Padang, Surakarta, Bandung, Purwakarta, Kediri and Sorong.

c For the operation of modern equipments, more skilled and more able personnels are important.

d For administrative functions, the following will be needed:

d.1. improvement of the existing institutional and management system.

d.2. computer-network for communications and transfer of information between Directorate of Metrology Bandung (as the center of metrology) and all its Regional Offices;

d.3. transport facilities.

3. Location

The location of the project is in Bandung, West Java.

II. OBJECTIVES OF THE PROJECT

1. Immediate objectives:

To develop an appropraite strategy and detail operational plan in order to improve the capability and capacity of metrology services in line with the Legal Metrology Act of 1981.

2. Long range objectives

Protection of consumers, producers and traders as well as assuring their confidence associated with the use of measuring devices through the establishment of a strong and reliable metrology services.

III. SCOPE OF THE PROJECT

1. Review of data and information concerning the socio-economic development of the country and the required metrology services thereof.

2. Review of the existing metrology capability, including both facilities, human resources and institutional set up of metrology services at the Centre and Regional offices.

3. Study for formulation of training strategy and operational programmes to the develop human resources capability of metrology staffs.

4. Study for development of metrology facilities, including buildings, laboratory equipments and other supporting system.

5. Study for strengthening and development of the institutions, particularly the rules and regulations, procedures and metrology services management.

IV. CONTRIBUTION TO THE PROJECT

1. External Contribution

Provision of expert services with qualifications of university degrees and having extensive experience in their own subject.

- Provision of necessary supplies and facilities to support of the project implementation.
- Provision of special training for technical personnals of metrology at home and abroad.
- Provision of teaching materials for the metrology training.

Scope of Assistance Requested

a. expert services	: 60 mm	= US$	600,000
b. fellowship	: 24 mm	= US$	120,000
c. equipment	:	= US$	80,000
		US$	800,000

2. Internal Contribution

- Provision of office space and secretariate facilities.
- Provision of counterpart personnels and adequate budget for project activities such as administrative support and local transportation.

2. Questionnaire

CONTACT MISSION ON THE STUDY FOR DEVELOPMENT OF METROLOGY LABORATORY

QUESTIONNAIRE

Prease provide information on each of the following items concerning legal metrology. It would be appeciated if you attach informative documents to your kind reply.

1. Legal Metrology

(1) Weights and measures law

Please provide a copy of "Government Regulation(s)" which are in connection with legal metrology being conducted in Indonesia and are indicated in the articles of the "Law of the Republic of Indonesia No.2, 1981" (hereinafter called as "the law").
(Ex. Articles 7, 8, 9, 10, 11, 12, 13, 14, 16, 19, 24)

(2) Managing organization on legal metrology

Please explain a managing organization on legal metrology (Directorate of Metrology, Ministry of Trade) on the following items;

a) Activities and responsibility
b) Organization chart
c) Number of employee and metrological engineers
d) Annual budget in the past 3 years
e) Relation with other organization relating to legal metrology

(3) Organization for actual work on legal metrology :

Please explain organizations for actual work on legal metrology (Municipal office of the Ministry of Trade, District office of the Ministry of Trade) on the following items;

a) Location of each local office for verification work
b) Organization and number of staff
c) Activities and responsibility
d) Annual budget in the past 3 years

(4) Kinds of measuring equipment to be regulated under legal metrology

Please check applicable measuring equipment which is regulated under legal metrology.

☐ Graduated scale, tape measure, ruler
☐ Weighing device(ballance, weight)
☐ Thermometer, clinical thermometer
☐ Taxi meter
☐ Volume measures, gas meter, water meter, gasoline meter
☐ Tank
☐ Speedometer
☐ Pressure gauge, sphygmomanimeter
☐ Calorimeter
☐ Flow meter
☐ Hydrometer for density
☐ Watt-hour meter
☐ Integrated demand meter
☐ Noise level meter
☐ Hydrometer for specific gravity
☐ Vibration level meter
☐ Others (Please state other subjected equipment here.)

(

(5) Business to be subjected under law

According to the law, some category of business are necessary to obtain license for the purpose of the law.

Please explain the procedure to obtain license and how they are regulated, and if any qualification is necessary please explain details.

a) Manufacturer
b) Repairing enterprise
c) Sales enterprise
d) Importer

(6) Number of licensee

Please show the statistics of the licensee by category which is classified in above (5).

(7) Number of manufacturers of the measuring equipment

Please show the statistics of manufacturers of the measuring equipment by kind of the equipment which is regulated under the law (please refer to above item (4)).

(8) Control procedure on legal metrology

Please explain the procedure for the following items;

a) Obtaining pettern approval
b) Spot check on manufacturing factory etc.
c) Monitering in the market

(9) Marking

According to the law, Article 19, there are 5 kinds of verification marks. Please show each of the marks and explain the procedures to obtain them.

(10) Fees

According to the law, Article 16, the "Government Regulation" stipulats the calibration expenses. Please provide the schedule of fees for not only calibration expenses, also expenses for verification, registration, etc.

(11) Technical requirement

Please provide the technical requirement for the measuring equipment whichare regulated under the law.

(12) Actual number of calibration(verification) works

Please show the statistics of calibration(verification) works by kind of the measuring equipment and by the verification office in past 3 years.

(13) Calibration(verification) report

Please show a copy of Calibration(verification) report.

(14) DSN

Please explain DSN (organization and its activity) concering to legal metrology.

(15) National policy on legal metrology

Please describe any problems or difficulties which may be faced at present from the following aspects, and policies or plans to be countermeasures to them.

a) Management of legal metrology system
b) Promotion of industry
c) Improvement of living of the national people and the social economic in Indonesia

2. Traceability system

(1) Traceability

Please show the chart of the traceability system in the Republic of Indonesia by metrological quantity.

(2) National Metrology Laboratory

Please provide the information about the metrology laboratory which is responsible for establishment and maintenance of the national metrological standards.

a) Name of the metrological laboratory
b) Location
c) Number of the employee and metrological engineers
d) Budget in the past 3 years
e) Name and specification of the standards posessed
Name, model name, manufacturer, date of purchase or manufacturing, frecency of calibration including international comparison and name of laboratory where conducted such calibration
f) The detail of the upgrading plan for the metrological equipment, if any.
g) Actual number of the calibration service in the past 3 years by metrological quantity
h) Please inform any problem or difficulties in establishment, maintenance and supply of the natioanal standards, and describe your counterplan against each problem.

(3) Secondary level calibration laboratory

Please provide the information about the metrology laboratories which are responsible for establishment, maintenance and supply of the secondary metrological standards.

a) Number of the secondary level metrology laboratories
b) Name of the secondary level calibration laboratory (please answer the followings about each of them)
c) Location
d) Number of the employee and metrological engineers
e) Budget in the past 3 years
f) Name and specification of the standards posessed
Name, model name, manufacturer, date of purchase or manufacturing, frecency of calibration and name of calibration laboratory
g) The detail of the upgrading plan for the metrological equipment, if any.

h) Actual number of the calibration service in the past 3 years by metrological quantity

i) Please inform any problem or difficulties in establishment, maintenance and supply of the secondary standards, and describe your counterplan against each problem.

(4) Tertiary level calibration laboratory

Please provide the information about the metrology laboratories which are responsible for establishment, maintenance and supply of the tertiary metrological standards.

a) Number of the tertiary level metrology laboratories

b) Name of the tertiary level calibration laboratory (please answer the followings about each of them)

c) Location

d) Number of the employee and metrological engineers

e) Budget in the past 3 years

f) Name and specification of the standards posessed

Name, model name, manufacturer, date of purchase or manufacturing, frecency of calibration and name of calibration laboratory

g) The detail of the upgrading plan for the metrological equipment, if any.

h) Actual number of the calibration service in the past 3 years by metrological quantity

i) Please inform any problem or difficulties in establishment, maintenance and supply of the tertiary standards, and describe your counterplan against each problem.

(5) National calibration network

Please explain the National Calibration Network.

インドネシア　計量予備調査　Questionnaire

1. 法定計量

(1) 計量法の入手

計量法は入手済なので、その関連規制類を入手する

Law of the Republic of Indonesia No.2, 1981

計量法の施行規則等々（第7、8、9、10、11、12、13、14、16、19、24 条）

(2) 法定計量の主務組織 (Directorate of Metrology, Ministry of Trade)

① 役割、責任、権限
② 組織図
③ 職員数
④ 予算
⑤ 組織間の関連

(3) 検定所（計量事務所）—Municipal office of the Ministry of Trade,
District office of the Ministry of Trade

① 地方の検定所の所在地
② 組織、職員
③ 役割、責任、権限
④ 予算

(4) 法定計量の対象となる計量器の種類

直尺，巻尺等
質量計（はかり、分銅）
温度計、体温計
タクシーメーター
体積計、ガスメーター、水道メーター、ガソリンメーター
タンク
速さ計
圧力計、血圧計
熱量計
流量計
密度計
電力量計
照度計
騒音計
比重計
振動計
その他（具体的に記載してもらう）

(5) 規制の対象事業

法にはライセンスが必要と記載されている。その詳細は

製造事業
修理事業
販売事業
輸入事業
その他の事業（具体的に

(6) ライセンス保有者の数

(5)の分類でのライセンス保有者の数

(7) 計量器の製造事業者数
計量器の種類ごとの製造事業者の数

(8) 規制方法
規制の具体的内容を聞く
① 型式承認
② 工場等の立ち入り検査
③ 市場調査

(9) 表示
表示の内容、表示方法

(10) 検定等手数料
手数料表を入手

(11) 技術基準
種類ごとの技術基準（要求される機器公差等）を入手

(12) 検定の実績
計量器の種類ごと、検定所ごとの検定の実績（過去3年間）

(13) 検定成績書
成績書のサンプルを入手

(14) ＤＳＮ
法定計量に関して、ＤＳＮの組織、活動等を聞く

(15) 政策・方針
法定計量に関し、現段階における問題点、課題及び将来の展望、計画
① 現行の法制度の運用について
② 産業育成の観点から
③ 国民生活の向上、社会経済に与える影響

2. トレーサビリティ体系

(1) トレーサビリティ体系図

分野ごと

(2) 計量研究所

国家標準の確立、維持を行う計量研究所

① 名称
② 所在地
③ 職員数
④ 予算
⑤ 量ごとの保有する標準器の種類と仕様
機器名称、モデル名、製造者、仕様、購入（製造）年月、国際比較等の精度確認の方法と頻度
⑥ 計量標準整備計画の有無
⑦ 校正サービスの実施実績（量ごと）
⑧ 国家標準の確立、維持、供給に関する問題点とその対策

(3) 2次標準維持機関

① 2次標準維持機関の数
② 名称
③ 所在地
④ 職員数
⑤ 予算
⑥ 量ごとの保有する標準器の種類と仕様
機器名称、モデル名、製造者、仕様、購入（製造）年月、国際比較等の精度確認の方法と頻度
⑦ 計量標準整備計画の有無
⑧ 校正サービスの実施実績（量ごと）
⑨ 2次標準の確立、維持、供給に関する問題点とその対策

(4) 3次標準維持機関

① 3次標準維持機関の数
② 名称
③ 所在地
④ 職員数
⑤ 予算
⑥ 量ごとの保有する標準器の種類と仕様
機器名称、モデル名、製造者、仕様、購入（製造）年月、国際比較等の精度確認の方法と頻度
⑦ 計量標準整備計画の有無
⑧ 校正サービスの実施実績（量ごと）
⑨ 3次標準の確立、維持、供給に関する問題点とその対策

(5) National Calibration Network

National Calibration Networkについて詳細を聞く

REPUBLIK INDONESIA
DEPARTEMEN PERDAGANGAN
DIREKTORAT JENDERAL PERDAGANGAN DALAM
DIREKTORAT METROLOGI
JALAN PASTEUR NO. 27 BANDUNG KODE POS 40171 TELP. BD 430609 TEI
(Telp.443597 Langsung Dirmetro)

ANSWER OF THE QUESTIONAIRE

1. Legal Metrology.

(1) Weights and measures law.

Copies of "Governments Regulation(s)" which are in connection with legal Metrologybeing conducted in Indonesia and are indicated in articles of the "Law of Republic of Indonesia No.2, 1981" are attached.

(2) Managing organization on legal metrology.

a) Activities and responsibility.

1) Activities :

Based on the Minister of Trade Decisions No.808/KP/VI/84, No.225/KP/IX/87 and No.226/KP/IX/87, the activities of Directorate of Metrology among other things :

- to carry out the arranging of plan and program of metrological-facilities which cover software, hardware and metrology relation.
- to give technical guidance on carrying out of metrological facilities program.
- to carry out the arranging of plan and program of management and establishment of mass standard, weights/balances, force and presure measuring instruments.
- to carry out calibration of masses, weights/balances, force and pressure measuring instruments.
- to give technical guidance on carrying out of the program and calibration mention ed above.
- to carry out the arranging of plan and program of management and establishment of electricity and time standard, oil meter, gas and liquid gas meter, water and drinking liquid metet.
- to carry out calibration of measuring instrument of time, electricity meter, oil meter, gas and liquid gas meter, water and drink-liquid meter.
- to give technical guidance on carrying out of the program and calibration mentioned above.
- to carry out the arranging of plan and program of management and establishment of length and volume standard, taximeter, density-meter and viscometer.
- to carry out calibration of measuring instrument of length and volume, taximeter, density meter and viscometer.
- to give technical guidance on carrying out of the program and calibration mentioned above.

- to carry out the arranging of plan and program of supervision and information in the field of metrology.
- to give technical guidance on carrying out of the program mentioned above.

2) Responsibility.

Generally, Directorate of Metrology responsible on the establishment of "Measuring Order" in Indonesia.

b) Organization chart.

The Organization chart of Directorate of Metrology is attached.

c). Number of employee and metrological engineers.

Number of employee : 147 personnels, consist of :

Inspector : 31 personnels (2 of them are metrological engineer).

Adjunct Inspector : 1 personnel.

Metrological Policemen : 8 personnels.
Technical Assistants, administration and others , 147 personnels.

d) Annual budget.

- 1990/1991 : Rp. 612.812.000,-
- 1991/1992 : Rp. 758.898.000,-
- 1992/1993 : Rp. 878.423.000,-

e) Relation with other organization relating to legal metrology :

- National Research Laboratory of Metrology (NRLM)- Japan.
- CERLAB-France.
- PTB-Germany.
- Ijk Wezen-Netherlands.
- NSC-Australia.
- ITEC-India.
- Members of OIML, other than mentioned above.

(3) Organization for actual work on legal metrology.

a) Location and number of staff.

No.	Location	Province	Insp.	Adj. Insp.	Metr. Pol.	Techn. Assist	Admin. and others	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Banda Aceh	DI Aceh	7	4	2	2	7	22
2	Langsa	DI Aceh	1	2	4	1	-	8
3	Medan	North-Sumatera	11	4	6	10	17	48

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4	Pematang Siantar	North Sumatera	6	7	3	5	7	28
5	Padang	West Sumatera	6	4	6	5	7	28
6	Pakanbaru	Riau	8	3	5	10	8	34
7	Jambi	Jambi	7	4	3	2	5	21
8	Palembang	South Sumatera	5	3	7	5	7	27
9	Telukbetung	Lampung	7	3	8	8	5	31
10	Bengkulu	Bengkulu	4	5	5	3	3	21
11	Jakarta	DKI Jakarta	15	2	9	13	16	(55
12	Bandung	West Java	7	4	8	8	14	41
13	Serang	West Java	6	3	7	3	4	23
14	Bogor	West Java	7	4	5	8	6	30
15	Purwakarta	West Java	4	4	6	2	3	19
16	Tasikmalaya	West Java	6	4	4	9	8	31
17	Cirebon	West Java	8	4	5	2	7	26
18	Semarang	Central Java	17	3	6	9	18	53
19	Tegal	Central Java	6	3	5	4	7	25
20	Purwokerto	Central Java	4	4	8	4	5	25
21	Magelang	Central Java	5	2	5	3	5	20
22	Pati	Central Java	7	4	7	3	5	26
23	S o l o	Central Java	13	3	7	9	8	40
24	Yogyakarta	DI Yogyakarta	10	4	10	8	9	41
25	Surabaya	East Java	11	3	10	14	8	46
26	Bojonegoro	East Java	4	1	5	3	3	16
27	Madiun	East Java	4	3	5	6	5	23
28	Kediri	East Java	4	4	4	4	5	21
29	Malang	East Java	13	4	5	5	13	40
30	Jember	East Java	6	2	3	6	12	29
31	Pontianak	WestKalimantan	5	4	4	5	9	28
32	Singkawang	WestKalimantan	2	3	2	1	1	12
33	Palangkaraya	Central Kalimantan	5	6	3	1	4	19
34	Banjarmasin	South Kalimantan	5	4	6	2	5	22

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
35	Samarinda	EastKalimantan	4	5	6	8	6	29
36	Manado	North Sulawesi	5	1	7	3	4	20
37	P a l u	Central Sulawesi	6	7	3	3	9	28
38	Kendari	SE Sulawesi	4	1	7	3	12	27
39	Ujungpandang	South Sulawesi	9	9	4	4	13	39
40	Denpasar	B a l i	8	4	4	6	10	32
41	Mataram	West Nusa-Tenggara	7	7	3	4	7	28
42	Kupang	East Nusa-Tenggara	3	2	5	2	6	18
43	Ambon	Maluku	3	3	4	3	6	19
44	Ternate	Maluku	1	2	3	2	-	8
45	Jayapura	Irian Jaya	4	2	4	2	7	19
46	Sorong	Irian Jaya	1	2	4	1	-	8
47	D i l i	East Timor	1	2	5	3	1	12
	T O T A L		323	169	256	251	414	1413

b) Organization.

Organization of Metrology Regional Offices as attached.

c) Annual Budget.

- 1990/1991 : Rp. 3.344.143.000,-
- 1991/1992 : Rp. 3.739.812.000,-
- 1992/1993 : Rp. 4.907.435.000,-

d) Activities and Responsibility.

1) Activities.

Based on the Minister of Trade Decisions mentioned above, the activities of Metrology Regional Offices among other things:

- to maintain standards of measuring instruments.
- to carry out calibration and recalibration of measuring instruments.
- to carry out supervision of measuring instruments.
- to carry out elucidation (to give information) in the field of metrology.

- to carry out supervision of measuring instruments.
- to carry out elucidation (to give information) in the field of metrology.

2) Responsibility.

Generally, the Metrology Regional Offices responsible on the establishment of "Measuring Order" in their own area.

(4) Kinds of measuring instruments to be regulated under legal metrology :

- Graduated scale, tape measure, ruler.
- Weighing device (balance, weight).
- Thermometer.
- Taxi meter.
- Volume measures, gas meter, water meter, gasoline meter.
- Tank.
- Pressure gauge.
- Flowmeter.
- Watt-hour meter (electricity meter).
- Densimeter, Viscometer, liquid gas meter, Dead Weight Tester, Capacitance Level Gauge.

(5) Busines to be subjected under law.

Still prepared in Bandung.

(6) Number license.

Still prepared in Bandung.

(7) Number of manufacturer of measuring instruments.

a. in the field of mass and weight : 135.

b. in the field of flow measurement : 4.

c. in the field of length and volume: 90.

(8) Control procedure on legal metrology.

Still prepared in Bandung.

(9) Marking.

The procedure to obtain verification marks :

- DOM propose to the Minister of Trade (Through Director General

of Domestic Trade) about the number of verification mark, and the code of canceled mark, guarantee mark, regional mark and the competent official's authority mark.

- The Minister of Trade Decision on verification mark will be published.
- DOM will ask PERUM PERCETAKAN UANG RI (PERUM PERURI) to produce the body of the verification mark.
- The body of verification mark made by PERUM PERURI will be bought by DOM.

(10) Fees

Still prepared in Bandung.

(11) Technical requirement

Still prepared in Bandung.

(12) Actual number of calibration (verification) works

Still prepared in Bandung.

(13) Calibration (verification) report

Still prepared in Bandung.

(14) DSN

Will be discussed in SERPONG.

(15) National Policy on Legal Metrology

Still prepared in Bandung.

2. Traceability system

(1) Traceability

(2) National Metrology Laboratory

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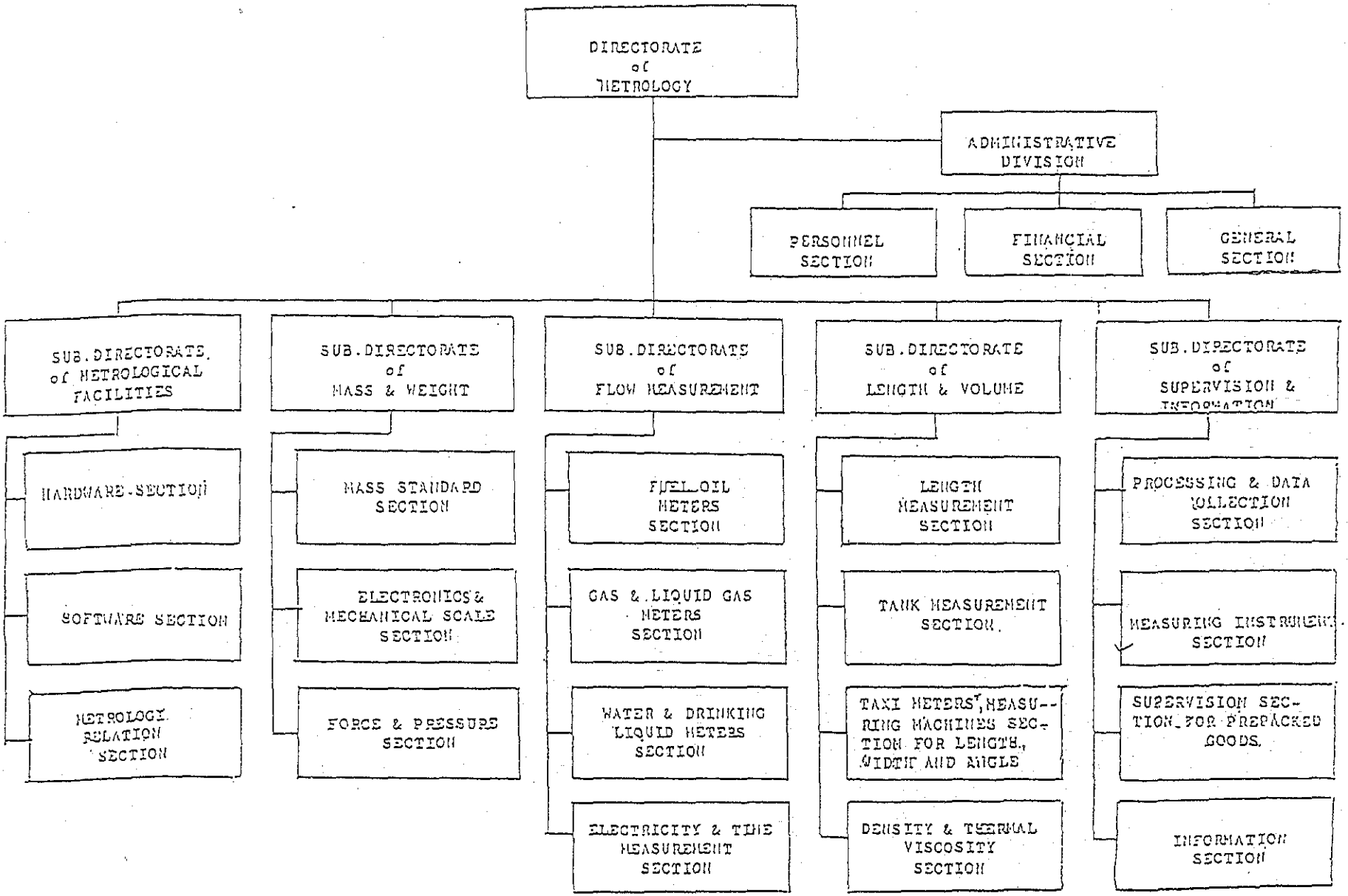
(5) National calibration network

Still prepared.


DIRECTORATE of METROLOGY
ADMINISTRATIVE DIVISION
PERSONNEL SECTION
FINANCIAL SECTION
GENERAL SECTION
SUB.DIRECTORATE of METROLOGICAL FACILITIES
SUB.DIRECTORATE of MASS & WEIGHT
SUB.DIRECTORATE of FLOW MEASUREMENT
SUB.DIRECTORATE of LENGTH & VOLUME
SUB.DIRECTORATE of SUPERVISION & INFORMATION
HARDWARE SECTION
SOFTWARE SECTION
METROLOGY RELATION SECTION
MASS STANDARD SECTION
ELECTRONICS & MECHANICAL SCALE SECTION
FORCE & PRESSURE SECTION
FUEL OIL METERS SECTION
GAS & LIQUID GAS METERS SECTION
WATER & DRINKING LIQUID METERS SECTION
ELECTRICITY & TIME MEASUREMENT SECTION
LENGTH MEASUREMENT SECTION
TANK MEASUREMENT SECTION
TAXI METERS, MEASURING MACHINES SECTION FOR LENGTH, WIDTH AND ANGLE
DENSITY & THERMAL VISCOSITY SECTION
PROCESSING & DATA COLLECTION SECTION
MEASURING INSTRUMENTS SECTION
SUPERVISION SECTION FOR PREPACKED GOODS
INFORMATION SECTION

3. 計　量　法

THE PRESIDENT

OF THE REPUBLIC OF INDONESIA

LAW OF THE REPUBLIC OF INDONESIA,

NO.2 OF 1981

RE

LEGAL METROLOGY

BY THE GRACE OF GOD THE SINGLENESS

THE PRESIDENT OF THE REPUBLIC OF INDONESIA

Having considered : a. that in order to protect the public, it is necessary to provide a guarantee in measurement as well as to maintain order and legal certainty in the use of measurement units, standard units, measuring methods and dimension measuring instruments, volume measuring instruments, weighing instruments and their related devices;

b. that it is necessary to replace the regulations that are stipulated in the 1949 Calibration Ordinance in the Statute Book No.175 on dimension measuring instruments, volume measuring instruments, weighing instruments and related devices because they are no longer suitable with current development and progresses that have taken

place in economy and technology and also to make them conform with the International System of Units (SI);

c. that in order to achieve the objectives mentioned above, it is necessary to regulate the same in a Law on Legal Metrology;

In view of : 1. Point (1) of Article 5, point (1) of Article 20 of the 1945 Constitution;

2. The Act of the People's Deliberative Assembly of the Republic of Indonesia No. IV/MPR/1978 re the Outline of State Policies;

With approval from

THE HOUSE OF REPRESENTATIVES OF
THE REPUBLIC OF INDONESIA

HAS DECIDED

To enact : THE LAW ON LEGAL METROLOGY.

CHAPTER I

Article 1

The terms as used herein and in its Implementation Regulations shall have meanings as follows:

a. Metrology is the science of measurement (the science of weights and measures) in the widest sense;

b. Legal Metrology is the metrology that concerns with measurement units, measuring methods and measuring instruments in relation with technical requirements and regulations based on the Law the purpose of which is to provide protection for the public in term of correct measurements;

c. The Convention on Meters (la Convention du Metre) is an International treaty the purpose of which is to seek and standardize measurement and weighing units. It was held and entered into in Paris on 20th May 1875 by fully authorized representatives from 17 countries;

d. The General Conference on Metres and Weights (la Conference Generale des Poids et Measure) is the conference which is based on the Convention on Metres;

e. The International Bureau For Metres and Weights (le Bureau International des Poids et Measures) is the international body the formation of which is based on the Convention on Metres;

f. The International System of Units (le Systeme International d'Unites) which will hereinafter be abbreviated as SI is the measurement unit system that stems from measurements obtained from base units and is ratified by the General Conference on Metres and Weights;

g. A base unit is a unit that serves as the base for

measurement units that can be derived into derivative units;

h. a symbol of unit is a symbol that describes a unit of measurement;

i. a standard unit is a measurement unit that is legally recognized/used as a base for comparison;

j. a base unit master standard is a standard of unit which is received from the International Bureau For Units and Weights and is adopted as the National Standard or Primary (First Level) Standard;

k. a measuring instrument is an instrument which is intended or used for quantity and/or quality measurement;

l. a contents measuring instrument is an instrument which is intended for quantity or contents/volumes measurement;

m. a weighing instrument is an instrument which is intended or used for mass or weights measurement;

n. accessories are other equipments/devices that are intended or used as complementary or additional instruments for measuring dimension, contents or weights, which determines results of dimension, content and weight measurements;

o. Indicator is part of a measuring instrument which shows results of measurement;

p. place of business is any place which is used for any activities in trade, industry, production, provision of services, keeping of documents in relation with the company, also any activities in storage or exhibition of goods. This shall include residential buildings in which or part of which are used for any of the said activities;

q. calibration is the action of marking a measuring instrument with a valid correctly calibrated mark or a valid cancelled mark, or of issuing a written certificate that validly certifies a measuring instrument as correctly calibrated or cancelled, which action is done by any competent official(s) and based on one or more examinations/tests on the dimension or content or weight measuring instrument concerned and related accessories/ equipments/devices which are brand new (have never been used before);

r. recalibration is the action of marking a measuring instrument with a valid correctly calibrated mark or a valid cancelled mark, or of issuing a written certificate that validly certifies a measuring instrument as correctly calibrated or cancelled, which action is done by one or more competent officials and based on one or more examinations/tests on the dimension or content or weight measuring instrument concerned and related accessories/equipments/devices, which are already calibrated before;

s. adjustment is the action to compare a measuring instrument with a standard (measuring) unit or to do a light repair on it the purpose of which is to make the instrument adjusted satisfy the calibration or recalibration criteria;

t. Minister is the Minister who are responsible in all matters relating with Legal Metrology.

CHAPTER II
UNITS

Article 2

Every measurement unit which is legally valid must be based on a decimal system and use SI units.

Article 3.

(1) a. the base unit of dimension is metre;
b. the base unit of mass is kilogram;
c. the base unit of time is second;
d. the base unit of electric current is ampere;
e. the base unit of thermodynamics temperature is kelvin;
f. the base unit of light intensity is candle;
g. the base unit of molecular weight is mole.

(2) The legally valid definitions for base units as re-

ferred to in point (1) of this article are the definitions that are currently applicable and introduced by the General Conference On Metres and Weights.

Article 4.

The symbols of units referred to in Article 3 of this Law are as follows:

Units	Symbol of Units
metre	m
kilogram	kg
second	s
ampere	A
kelvin	K
candela	cd
mole	mol

Article 5.

(1) In addition to the provision referred to in point (2) of this article and if no figures are used for denoting such multiples and parts on the left side of the units or the unit symbols concerned, one of the following prefixes or symbols may be used on the left side of the said units or unit symbols to denote the said multiples and decimal parts of the units referred to in Article 3 of this Law:

Multiples/parts of decimal		Prefix	Symbol
1 000 000 000 000 000 000	= 10	eksa	E
1 000 000 000 000 000	= 10	peta	P
1 000 000 000 000	= 10	tera	T
1 000 000 000	= 10	giga	G
1 000 000	= 10	mega	M
1 000	= 10	kilo	K
1 00	= 10	hecto	h
1 0	= 10	deca	da
0,1	= 10	desi	d
0,01	= 10	centi	c
0,001	= 10	mili	m
0,000 001	= 10	mikro	u
0,000 000 001	= 10	nano	n
0,000 000 000 001	= 10	pico	p
0,000 000 000 000 001	= 10	femto	f
0,000 000 000 000 000 001	= 10	atto	a

(2) one thousandth (0,001) part of a kilogram is a gram and is denoted by the unit symbol, g. The multiples and decimal parts of a kilogram must be written in grams if they are not denoted by figures on the left side of this kilogram unit or the unit symbol, kg;

Article 6.

The Celcius (centigrade) scale of temperature scale in general use, the zero point of which equals with 273.15 K,

is the same with that denoted by the Kelvin scale.

Article 7.

The following units shall be further regulated with Government Regulations:

a. derivative units of base units of either their numbers/figures, units or unit symbols;

b. additional units of either their numbers/figures, units or unit symbols;

c. other units that are legally applicable with the provisions on their use.

CHAPTER III

UNIT STANDARDS

Article 8

The master standards of base units as referred to in Article 3 of this Law are called the National Standards which shall be regulated with Government Regulations.

Article 9

Procedure on the management, maintenance and use of the National Standards referred to in Article 8 of this Law shall be regulated with Government Regulations.

Article 10

The system for derivatives of the National Standards as referred to in Article 8 of this Law shall be regulated with Government Regulations.

Article 11

(1) The National Standard as referred to in Article 8 of this Law shall be managed by a Body specially established for that purpose;

(2) The organizational structure and system of procedure of the said Body referred to in point (1) of this Article shall be regulated with a Presidential Decision.

CHAPTER IV

INSTRUMENTS FOR MEASURING LENGTHS, CONTENTS OR WEIGHTS AND RELATED ACCESSORIES/EQUIPMENTS/DEVICES

Article 12

Government Regulations shall regulate all instruments for measuring dimensions, contents, weights and related accessories/equipments/devices on the following matters :

a. obligatory calibrations and recalibrations;
b. exemptions from calibration or recalibration or from both;
c. obligatory requirements.

Article 13

The Minister shall regulate the following matters :

a. any tests and examinations of instruments for measuring lenght, content, weight and related accessories/equipments/devices;

b. the carrying out of and periodic time for calibrations and recalibrations;

c. places and regions in which calibrations and recalibrations shall be carried out for particular types of instruments for measuring dimension, content, weight and related accessories/equipments/devices.

Article 14

(1) All instruments for measuring dimension, volume, weight and related equipments which, when they are calibrated or recalibrated, do not satisfy the requirements as referred to in letter (c) of Article 14 of this Law and can not be repaired may be damaged until they can not be used any longer by the official(s) authorized to carry out such a calibration and recalibration.

(2) The procedure for damaging the instruments for measuring dimension, content, weight and related equipments shall be regulated by the Minister in compliance with statutory regulations applicable.

Article 15

The officials authorized to calibrate or recalibrate shall also have the authority to adjust the instruments for measuring dimension, content, weight and related equipments which are given for calibration or recalibration if he/she finds that such an instrument has not satisfied the requirements as referred to in letter (c) of Article 12 of this Law.

Article 16

(1) A test charge shall be imposed for the carrying out of calibration and recalibration or any other works relating with the examination of the instruments for measuring dimension, content, weight and related equipments.

(2) Such a calibration charge as referred to in point (1) of this article shall be regulated by and arranged in a Government Regulation.

Article 17

Any person that shall make/manufacture and/or repair any instruments for measuring dimension, content, weight and related equipments/devices/instruments shall obtain a prior approval from the Minister concerned.

Article 18

Any importation of instruments for measuring dimension, content, and weight and related equipments into the territory of the Republic of Indonesia shall be done with an approval from the Minister concerned.

CHAPTER V

VERIFICATION MARKS

Article 19

(1) Kinds of verification marks :
    a. calibrated mark;
    b. cancelled mark;
    c. guarantee mark;
    d. regional mark;
    e. the competent official's authority mark.

(2) The arrangement on size, form, period of validity, place of marks and procedure for making the verification marks as referred to in point (1) of this article shall be made further by the Government.

Article 20

(1) A calibrated mark shall be put and or placed on the instrument for measuring dimension, content, and weight and related equipments and the mark shall become effective as from the time of calibration or recalibration.

(2) A cancelled mark shall be put on the instrument for measuring dimension, content, weight and related equipments which validity is cancelled and this shall become effective as from the time when they are calibrated or recalibrated.

(3) A guarantee mark shall be put and/or installed on certain parts of the instrument for measuring dimension, content, and weight and related equipments which have been made valid in order to prevent from changing and/or altering the marks.

(4) The regional and competent official's authority marks shall be put on the instruments for measuring dimension, content, weight and related equipments to serve as the information on the place in which and the person by whom the calibration has been carried out.

(5) In case of it is impossible to put a calibrated mark and a cancelled mark on an instrument for measuring dimension, content, and weight and related equipments, such an instrument and related equipments shall be completed with a written certificate as the substitute for such marks

Article 21

The written statement/certificate referred to in point (5) of Article 20 of this Law is exempted from the stamp duty

requirement.

CHAPTER VI
GOODS IN PACKAGINGS

Article 22

(1) All goods in packagings that are distributed, sold, offered or displayed for sale shall have a brief, correct and clear information on their packagings or labels on the following :

a. the name of the goods inside the packaging;

b. the net dimension, content or weight of the goods inside the packaging in units or symbols of measurement as referred to in Articles 4, 5 and 7 of this Law;

c. the quantity of the goods inside the packaging if they are sold by number.

(2) The written informations as referred to in point (1) of this article shall be in Arabic numbers and Latin letters in addition to any other letters/characters and shall be legible.

Article 23

(1) The name and address of the packer shall be given on

every packaging or label as referred to in Article 22 of this Law.

(2) For all goods which are originally manufactured or produced by the maker in an unpacked condition, the packer shall be required to satisfy the requirements referred to in Article 22 of this Law while also stating its name and working address.

Article 24

The regulations on goods in packagings as referred to in Articles 22 and 23 of this Law, shall be regulated further by Ministerial Decisions.

CHAPTER VII

ILLEGAL CONDUCTS

Article 25

It is illegal to possess, keep, display, use or ask any other person to use :

a. an instrument for measuring dimension and or content and or weight, and related equipments which bear a cancalled mark;

b. an instrument for measuring dimension and or content and or weight, and related equipments which do not bear a not-expired-yet calibrated mark or are not completed with a

not-expired-yet certificate of calibration, except those referred to in letter (b) of Article 12 of this Law;

c. an instrument for measuring dimension and or content and or weight, and related equipments the valid calibration/ recalibration mark of which is damaged/defaced.

d. an instrument for measuring dimension and or content and or weight, and related equipments which, after a repair or modification, might give a wrong result in dimension and or content and or weight and or as shown in its pointer and the instrument and or equipments have not been validly calibrated/recalibrated before being put into use;

e. an instrument for measuring dimension and or content and or weight and or related equipments, the dimension and or volume and or weight and or indicator of which deviate from the correct allowable value in accordance with the provisions on recalibration set out in letter (c) of Articlee (12) of this Law;

f. an instrument for measuring dimension and or content and or weight and or related equipments which have a special mark that enables a person to make measurement on dimension and or content and or weight on any bases and standards other than those referred to in Articles 6 and 7 of this Law;

g. an instrument for measuring dimension and or content and or weight and or related equipments for any uses other than

those referred to in or under this Law;

in a business place; or in a place for public use for measuring dimension and or content and or weight; or in a place for delivery of goods; or in a place for determining the amount of a charge/payment or wage based on such an instrument and or related equipments.

Article 26

It is prohibited to offer for purchase, for sale, for hire, for lease, to keep in stock for sale, for hire or for delivery or trade in whatever forms any of the following instruments/equipments :

a. an instrument for measuring dimension and or content and or weight and or related equipments which have a rejected/ cancelled mark;

b. an instrument for measuring dimension and or content and or weight and or related equipments which do have a valid calibration/recalibration mark, or not are completed with a valid certificate of calibration/recalibration except those referred to in letter (b) of Article (12) of this Law;

c. an instrument for measuring dimension and or content and or weight and or related equipments the guarantee/warranty mark of which is damaged/defaced;

Article 27

(1) It is prohibited to install a measuring instrument, indicator or any other instrument/equipment as an accessory to an instrument for measuring dimension and or content and or weight which have been calibrated or recalibrated;

(2) An instrument for measuring dimension and or content and or weight that has been modified or added with any of the instruments as referred to in point (1) of this Article shall be treated as having not been calibrated or recalibrated.

Article 28

It is prohibited in places referred to in Article 25 of this Law to use or ask any others to use :

a. an instrument for measuring dimension and or content and or weight and or related equipments by other means/method/ procedure or in other positions/on other bases than it should be;

b. an instrument for measuring dimension and or content and or weight and or related equipments for measuring dimension and or content and or weight in excess of its maximum capacity;

c. an instrument for measuring dimension and or content and or weight and or related equipments for measuring lesser

dimension and or content and or weight than the lowest limit determined by a Ministerial Decision.

Article 29

(1) It is prohibited to use unit terms and designations/ symbols other than those stipulated in Article 7 of this Law in information of goods for sale by measurement of dimension, or content, or weight either in newspapers, or magazines, or leaflets, or labels attached to or provided with the goods or packagings of the goods or packings/bags of the goods, or by other means containing information on dimension, content or weight.

(2) Such a prohibition referred to in point (1) of this article shall not be applicable for information on :

a. immovable goods that are situated outside the territory of the Republic of Indonesia;

b. movable goods that are despatched to outside the territory of the Republic of Indonesia;

(3) The original packagings of any movable goods that are sold by dimension, or content, or weight shall contain a term or unit symbol/designation that are applicable under the provisions of Article 7 of this Law whenever such goods entering into the territory of the Republic of Indonesia;

Article 30

It is prohibited to sell, to offer for sale, or to trade by any means whasoever any goods by measurement of dimension, or content, or weight, or by number other than the correct dimension, or content, or weight, or number.

Article 31

It is prohibited to make, distribute, pack or to keep for sale, or offer for purchase/sale any goods in packaging, which dimension, net content, net weight or number :

a. is less than to that stated on its package or label, or

b. deviates from the provisions stipulated in Article 22 of this Law.

CHAPTER VIII

PROVISIONS RELATING TO CRIMINAL OFFENCES

Article 32

(1) Anyone doing any of the conducts referred to in Articles 25, 26, 27, and 28 of this Law shall be sentenced to imprisonment for a maximum term of 1 (one) year and or fined to pay a maximum amount of Rp. 1,000,000.- (one million Rupiahs).

(2) Anyone doing any of the conducts referred to in Articles

30, and 31 of this Law shall be sentenced to imprisonment for a maximum term of 6 (six) months and or fined to pay a maximum amount of Rp. 500,000.- (five hundred thousand Rupiahs).

(3) A violation against any of the provisions stipulated in Articles 22, 23 and points (1) and (3) of Article 29 of this Law shall be sentenced to imprisonment for a maximum term of 6 (six) months and or fined to pay a maximum amount of Rp. 500,000.- (five hundred thousand Rupiahs).

Article 33

(1) The conducts referred to in points (1) and (2) of Article 32 are criminal offences.

(2) The conducts referred to in point (3) of Article 32 are violation against statutory regulations.

(3) Any goods which is an evidence of a criminal offence and or a violation against statutory regulation may be held for the Government's interest.

Article 34

(1) If a criminal offence or a violation against statutory regulations which is indictable under this Law is done by a natural person, charges and or punishments shall be made against or to :

a. its members of the board of management, if the legal person is a company;

b. its active partners, if the legal person is a firm/ partnership;

c. its members of the board of management, if the legal person is a foundation/institute/non-profit making body;

d. its representative or agent in Indonesia, if its head office is located outside the territory of the Republic of Indonesia.

(2) A conduct referred to in point (1) of this article shall include all conducts done by the legal person's management members, employees or agents which are working/acting for and on behalf of the legal person concerned.

(3) If a person referred to in letters (a), (b), (c), and (d) of point (1) of this article is found not guilty in the conduct, the charges and punishment shall be made against and to those who lead to commit, ask others to commit or due to their fault has caused such a criminal offence or violation against statutory regulations.

(4) If the conduct of anyone referred to in point (2) of this article arises any financial obligation, such an

obligation shall become the responsibility of the natural person concerned.

(5) If the conduct referred to in point (1) of this article is done by other natural person which is acting for and on behalf of the natural person concerned, the provisions of in letters (a), (b), (c), and (d) of point (1) of this article shall also be applicable to the other natural person.

Article 35

(1) Any instrument for measuring dimension and or content and or weight which is held but not confiscated shall not be returned to the rightful owner before, for his/her/its account, such an instrument being calibrated or recalibrated;

(2) Confiscation shall be done in compliance with the rules under the applicable Rules of Criminal Procedure.

CHAPTER IX

SUPERVISION AND INVESTIGATION

Article 36

(1) The Government agency's official in charge of Legal Metrology Nurturing whose duties are to supervise and monitor shall have the obligation to investigate criminal offences referred to under this Law.

(2) The competent Government agency for the nurturing of Legal Metrology when undertaking its duties set out in point (1) of this Article may ask for assistance from other Government agencies which duties are supervision and monitoring in their own particular fields for matters relating with measurement of dimension, content and weight.

(3) The Government agency's official referred to in point (1) of this Article has the authority to seal and or seize any goods which are suspected as an evidence.

(4) The Government agency's official referred to in point (1) of this Article has the authority to undertake his/her duties in any places referred to in Article 25 of this Law during the hours open to the public.

(5) The Government agency's official referred to in point (1) of this Article has the authority to undertake his/her duties between 06.00 hour through 18.00 local time in places which are closed to the public, all of which places or any part thereof is used for places referred to in Article 25 of this Law.

(6) If within the time referred to in points (4) and (5) of this Article, the official undertaking the investigation is not allowed to enter into such a place, he/she shall enter the same with help from the Investigator Police of the Republic of Indonesia.

(7) Investigation shall be done in accordance with the procedures set out in the Indonesian Criminal Law Procedure applicable.

CHAPTER X

TRANSITIONAL PROVISIONS

Article 37

Any instrument for measuring dimension and or content and or weight and or related equipments which are certified as calibrated by any means under the 1949 Calibration Ordinance in the Statute Book No.175 may be recertified during recalibration if its measuring qualities comply with the deviation tolerance limits stipulated under this Law, and marks, designations or values on it are still visible and will still be durable for a long time.

Article 38

Any provisions under the existing statutory regulations and not in conflict with this Law shall still be applicable until revocation of or replacement by other new provisions.

CHAPTER XI

CLOSING PROVISIONS

Article 39

(1) At the time of this Law coming into effect, the Statute

Book of 1949 No. 157 shall be revoked and no longer applicable.

(2) Any other matters that are not or not adequately covered by this Law shall be further regulated with statutory regulations.

Article 40

This Law shall come into effect at the date of enactment. In order to make it known by everyone, it is ordered that this Law shall be enacted by publishing it in the Statute Book of the Republic of Indonesia.

Enacted in Jakarta
On 1st April, 1981
THE PRESIDENT OF THE REPUBLIC OF INDONESIA
SOEHARTO

Promulgated in Jakarta
On 1st April 1981
THE MINISTER/SECRETARY OF STATE OF
THE REPUBLIC OF INDONESIA
SUDHARMONO, S.H.
IN STATUTE BOOK No.11 OF 1981 OF
THE REPUBLIC OF INDONESIA

ELUCIDATION

ON

LAW NO.2 OF 1981

RE.

LEGAL METROLOGY

GENERAL

All things relating with measuring dimension, volume and weight widely which is normally called "metrology" includes all theoritical and practical matters relating with measurement, i.e. their types, characteristics, accuracy and correctness.

Metrological matters relating with units of measurement, methods of measurement, and instruments for measuring dimension and or volume and or weight and related equipments and technical requirements as well as related regulations which are covered in or enacted under the Law with a purpose of providing protection and public services in the form of supervision on and correctness in measurement is called LEGAL METROLOGY or metrologie legale.

Regulation on metrology has become more and more important because measurement orderliness/correctness in all fields involves also a safety aspect for human being, such as for :

- dose of medicine, radiation, injection;
- measurement of blood pressure, human body temperature, sound, pollution;
- measurement for navigation; etc.

Besides that, measurement orderliness also covers the effort to standardize System of Units in measurement of dimension and or volume and or weight and related equipments using International System of units (SI) which is also called Modern Metric System.

In Indonesia, standardization efforts have been done in phases since 1923 with a 10 (ten) year transitional period but it took 15 (fifteen) years in practice to implement it, therefore, since 1st January 1938 the Metric System Units has been in force officially in Indonesia for measurement of dimension and or volume and or weight and related equipments which replaces the traditional system units such as Elo, Kati, etc.

It has been realized that the traditional measurement system and instruments are limited in usage and people will adjust themselves gradually to the measurement units referred to in this Law. The popularization of the contents of this Law in order to achieve measurement orderliness in all fields will be done through a persuasive and educative approach.

On 20th May 1875 the Convention on Metre (la Convention du Metre) was signed in Paris by representatives from 17 (seventeen) countries. Other countries then joined/ratified the convention so that in 1980 the Convention members totalled 46 (forty six) countries including Indonesia which joined the Convention On Metre in 1960. The main purpose of

the Convention On Metre is to seek and standardize units of measurement of dimension and weight.

To achieve such a purpose, members of the Convention on Metre are embodied in an organization called the International Organization For Measurement of Dimension and Weight (la Organisation Internationale des Poids et Mesures or shortened as OIPM). The highest forum of OIPM is the General Conference For Measurement of Dimension and Weight (la Conference Generale des Poids et Measures or shortened CGPM) which has a direct control over the International Committee For Measurement of Dimension and Weight (le Comite International des Poids et Mesures or shortened as CIPM). The duties of CIPM are to implement and make preparation for CGPM's decisions. Besides that, the CIPM also manages an institute which is called the International Bureau For Measurement of Dimension and Weight (le Bureau International des Poids et Mesures or shortened as BIPM). Therefore, it is necessary to regulate matters relating with Legal Metrology.

ARTICLE BY ARTICLE

Article 1

The definition of terms which are used herein and its Implementation Regulations are meant to avoid misunderstanding.

The Minister in charge of matters relating with Legal

Metrology at the time of enactment of this Law is the Trade and Cooperative Minister.

Article 2

The objectives to be achieved are standardized and uniform terms and use of units of measurement.

Article 3

Paragraph (1)

Up to now there have been seven base units in the International System of Units (SI) which have been adopted by the General Conference For Measurement of Dimension and Weight.

Paragraph (2)

The definitions applicable at the time of enactment of this Law are as stipulated by the General Conference For Measurement of Dimension and Weight :

1. meter according to the 11th General Conference in 1960
2. kilogram according to the 3rd General Conference in 1901
3. second according to the 13th General Conference in 1967
4. amper according to the 9th General Conference in 1948
5. kelvin according to the 13th General Conference in 1967
6. candela according to the 13th General Conference in 1967
7. mole according to the 14th General Conference in 1971

Article 4

The seven symbols of units of these base units are as decided by the General Conference For Measurement of Dimension and Weight.

Article 5

Paragraph (1)

To state the multiple and part of decimal, prefixes and symbols that have been adopted and decided by the General Conference For Measurement of Dimension and Weight are used.

Paragraph (2)

Examples:

a. 1,000 kgs may not be stated or written in 1 kkg (one kilokilogram) but 1 Mg (one megagram).
b. 0.1 kgs may not be stated or written in 1 dkg (one decikilogram) but 1 hg (one hectogram).

Article 6

Self explanatory

Article 7

Self explanatory

Article 8

Due to the crucial function of the National standard as

hereinbefore referred to, it is necessary to regulate them with a Government Regulation.

Article 9

Self explanatory

Article 10

The direct derivations from the unit standard are intended to avoid unlimited use of the National Standard and at least one of each of the Standard Meter and Standard Kilogram which are a level lower than the National Standard shall be given to the Government Agency which has the duty of nurturing Legal Metrology for the public's interest.

Article 11

Self explanatory

Article 12

Self explanatory

Article 13

Places and areas for calibration and recalibration for the following types of instruments for measuring dimension, volume and weight and related equipments, among others, i.e. water meter, gas meter, electric meter, telephone pulse meter, moister tester, have to be decided.

Article 14

Paragraph (1)

Any instrument for measuring dimension and or volume and or weight and related equipments which does not satisfy the requirements so that it can not be repaired needs to be destroyed to avoid the possibility of use or sale of such an instrument for measuring dimension and or volume and or weight and related equipments so as to inflict a loss upon any other person.

Paragraph (2)

Because the procedure for destroying instruments for measuring dimension and or volume and or weight and related equipments is related with technical and specific matters, therefore, the rules on it have to be decided by the Minister while also taking into consideration other statutory regulations applicable.

Article 15

For adjustment works which can be done easily and do not take much time and, therefore, enable the competent officials who have the authority to do calibration or recalibration.

Article 16

Self explanatory

Article 17

Because the use of instruments for measuring dimension and or volume and or weight and related equipments must be under the supervision of the competent Government agency which is authorized to deal with metrological matters, production of such instruments must be done only with a license from the agency concerned so as to facilitate control and nurturing, and so that the instruments are made by only qualified makers.

Also, repair of instruments for measuring dimension and or volume and or weight and related equipments, for example repair of weighing machines, must receive a license so as to facilitate supervision and nurturing.

By that procedure, it is hoped that repair of weighing machines will be done by only persons that are qualified in that field and with a full sense of responsibility, so as to protect owners of weighing machines from cheating by persons who claim as repairers of weighing machines but who, in fact, do not have such a skill and only seek to take a personal advantage.

Article 18

Import license is needed in order to prevent importation and distribution of non-standard instruments for measuring dimension and or volume and or weight and related equipments because when this happens difficult problems will arise in

implementing this law.

Article 19

Self explanatory

Article 20

Paragraph (1)

The purpose of giving a valid mark is to show that the instrument for measuring dimension and or volume and or weight and related equipments have already satisfied the requirements set out in Article 12 of this law.

Paragraph (2)

The purpose of giving an invalid mark is to show that the instrument for measuring dimension and or volume and or weight and related equipments have not yet satisfied the requirements set out in Article 12 of this law.

Paragraph (3)

Self explanatory

Paragraph (4)

Self explanatory

Paragraph (5)

Self explanatory

Article 21

Self explanatory

Article 22

Paragraph (1)

In line with rapid development in production and trade, merchandises which are sold in packagings play a crucial role and this is an effort to facilitate sale and transportation of the goods. Therefore, a regulation is needed that makes it obligatory for goods sold in packagings to have information on dimension, net weight, net content or true quantity.

Goods as meant herein exclude food or other goods that are easily stale or can not stay fresh for longer than 7 (seven) days.

Any goods which are sold by measurement of weight or volume in a packaging will cause a difficulty for the consumers to know exactly the dimension, weight, net volume/content or quantity of the goods in the packaging, because there is no other way to know it besides opening it or just accept the contents as they are.

The size of a packaging does not always give a correct information on the goods' dimension, net weight, net content or quantity. Without any information or misrepresentation in dimension, net weight, net volume, or quantity that will cause doubtful for the consumers in purchasing the goods in packaging.

It is, therefore, very necessary and obligatory to give brightly, clearly and easily legible on every packaging information on dimension, net weight, net volume, or actual number of goods sold in packaging.

Paragraph (2)

Self explanatory

Article 23

Paragraph (1)

Supervision on goods in packaging can be done by making it an obligation for the manufacturers to give their names and addresses.

Paragraph (2)

Self explanatory

Article 24

Very often, there are many different sizes of packagings for the same quantities of goods, this confuses prospective purchasers in choosing the most economical price goods in packaging out of several goods of the same kind, the same weight and the same volume.

In order to prevent such a problem, it is necessary to regulate that generally/widely used goods must be packed in a standard size of packaging and with the same net weight or net volume.

There may be some goods in packaging, which weight or volume will change due to decrease of moisture or any other changing conditions that take place after the goods are packed until they are sold. In such a case, it is necessary to estimate how far each of those goods will decrease/ change. The regulation for which must state the maximum limit of net weight or volume decrease resulted from such a change.

So that the obligation to state net weight or net volume during packing of the goods will not cause any loss to the packer nor user in term of financial aspect and decrease of the goods.

In order to simplify price estimation or price comparison, it is necessary to recommend that packaging of goods must be made in accordance with the following quantities: 1×10^n, 2×10^n, or 5×10^n (n = even number) for example 100 ml, 500 g, 50 m, etc.

Article 25

This prohibition is intended to protect the public from any losses that are caused by the use of instruments for measuring dimension, volume, weight or related equipments which are not correct and or indicators of which are insensitive and inaccurate.

Article 26

This article is intended to protect consumers, hirers or users from getting or acquiring any instruments for measuring dimension, volume, weight or related equipments which do not satisfy the requirements set out under this Law.

Article 27

Installation of new devices or accessories to any instruments for measuring dimension, volume, weight or related equipments which have been calibrated or recalibrated will affect originality of the same and might also cause deviations from the technical requirements. Because of this addition, the instruments/equipments must be regarded as not calibrated or not recalibrated.

Article 28

It is very important to observe the characteristic and capability to give correct services within error tolerance in the use of instruments for measuring dimension, volume, weight or related equipments so as not to cause any loss to the public/users.

Article 29

Paragraph (1)
This prohibition must be observed properly. It is the purpose of this Law to achieve the uniform standard in the

designation and mentioning of units and symbols of units that are based on the International System of Units.

Paragraph (2)

It is understandable that designation and mentioning of units and symbols of units of immovable goods located outside the territory of the Republic of Indonesia or movablee goods that are despatched to outside the territory of the Republic of Indonesia are exempted from this prohibition.

Paragraph (3)

It is intended to prevent unfair competition among local and foreign producers in term of measurement.
In addition to that, it is also intended to protect consumers so as to enable them to choose their needs economically.

Article 30

It is understandable that users of the goods (consumers) want to get the goods with the right measurement of dimension, volume, weight or quantity.

Article 31

This article is intended to prevent bad practices or deceitful acts by makers/manufacturers, packers and or distributors of goods to take an advantage from incorrect measurement of dimension, volume, weight or quantity of the goods sold/delivered.

Article 32

Self explanatory

Article 33

Self explanatory

Article 34

The purpose of this article is to facilitate filing of claims against a violation of this law, which is done by a legal entity, company, firm/partnership; or charity body/ foundation/institution.

Article 35

Any instruments for measuring dimension, volume, weight or related equipments which by a court decision are not seized shall not be interpreted that the instruments/equipments may be put into use again nor satisfy the requirements without having to be calibrated/recalibrated.

Therefore, in order to prevent unwanted circumstances the instruments/equipments have to be calibrated/recalibrated on the owner's cost.

Article 36

Paragraph (1)

The officials undertaking the supervision and investiga-

tion are those who are entrusted with the duties in writing by their superiors.

Paragraph (2)
The supervision on observation of this Law must also involve officials of other agencies relating with the supervision of results of measurement of dimension, volume and/or weight in their own fields.

Paragraph (3)
Self explanatory

Paragraph (4)
Self explanatory

Paragraph (5)
Self explanatory

Paragraph (6)
Self explanatory

Paragraph (7)
Self explanatory

Article 37

Instruments for measuring dimension, volume, weight and related equipments the calibration of which is obligatory under the 1949 Calibration Ordinance in the Statute Book No.175 (former Metrology Law) may still be used as long as they satisfy the requirements of this Law.

Article 38

The purpose of this article is to prevent a vacuum of Law situation.

Article 39

Self explanatory

Article 40

Self explanatory

A SUPPLEMENT TO THE OF THE REPUBLIC OF INDONESIA

NUMBER 3193

4. ＤＳＮ（The Standardization Cunncil of Indonesia）概要

ORGANIZATIONAL STRUCTURE

The Standardization Council of Indonesia – DSN is headed by a chairman. The daily work of the Council is carried out by the Executive Council. The Secretary of the Council acts as the Chairman of the Executive Council.

Pusat Standardisasi – LIPI (The Institute for Standardization – Indonesian Institute of Sciences) provides the Secretariat of the Council with the task to carry out administrative and technical services both to the Council and Executive Council.

For supporting the task of the Council, six Committees are formed with specific function to carry out coordination, evaluation and assessment of standardization activities in a given field.

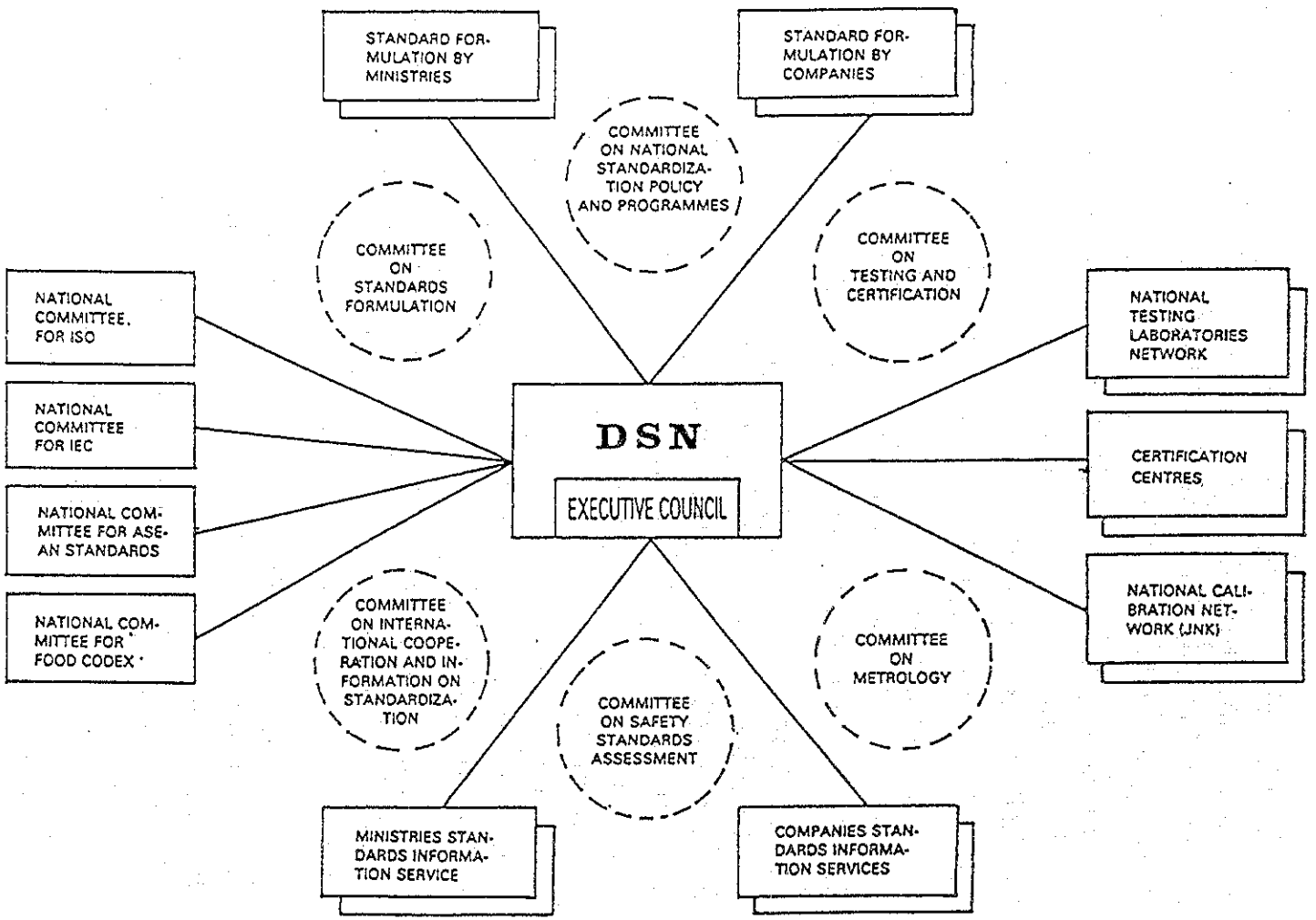
The six Committees are :

1. Committee on Standardization Policy and Programmes
2. Committee on Standards Formulation
3. Committee on Standards Implementation, Testing and Certification.
4. Committee on International Cooperation and Information on Standardization.
5. Committee on Metrology.
6. Committee on Safety Standards Assessment

To support the task of the Council on Metrology, the Council establishes Committee on National Physical Standards whose members consists of experts on specific field of metrology.

To support the task of the Council on Accreditation and Certification, the Council establishes Committee on National Accreditation, which accredits inspection and testing laboratories, and certification bodies for quality system, products, personnel.

NATIONAL STANDARDIZATION SYSTEM IN INDONESIA



ORGANISATIONAL STRUCTURE

THE STANDARDIZATION COUNCIL OF INDONESIA – DSN

Chairman	:	Minister of State for Research and Technology
Vice Chairman I	:	Minister of Industry
Vice Chairman II	:	Minister of Trade
Secretary	:	Deputy Chairman of LIPI
Members	:	Representative of :

1. Ministry of Industry
2. Ministry of Trade
3. Ministry of Health
4. Ministry of Agriculture
5. Ministry of Forestry
6. Ministry of Manpower
7. Ministry of Public Work
8. Ministry of Mining and Energy
9. Ministry of Communication
10. Agency for the Application and Assessment of Technology
11. National Atomic Energy Agency

EXECUTIVE COUNCIL

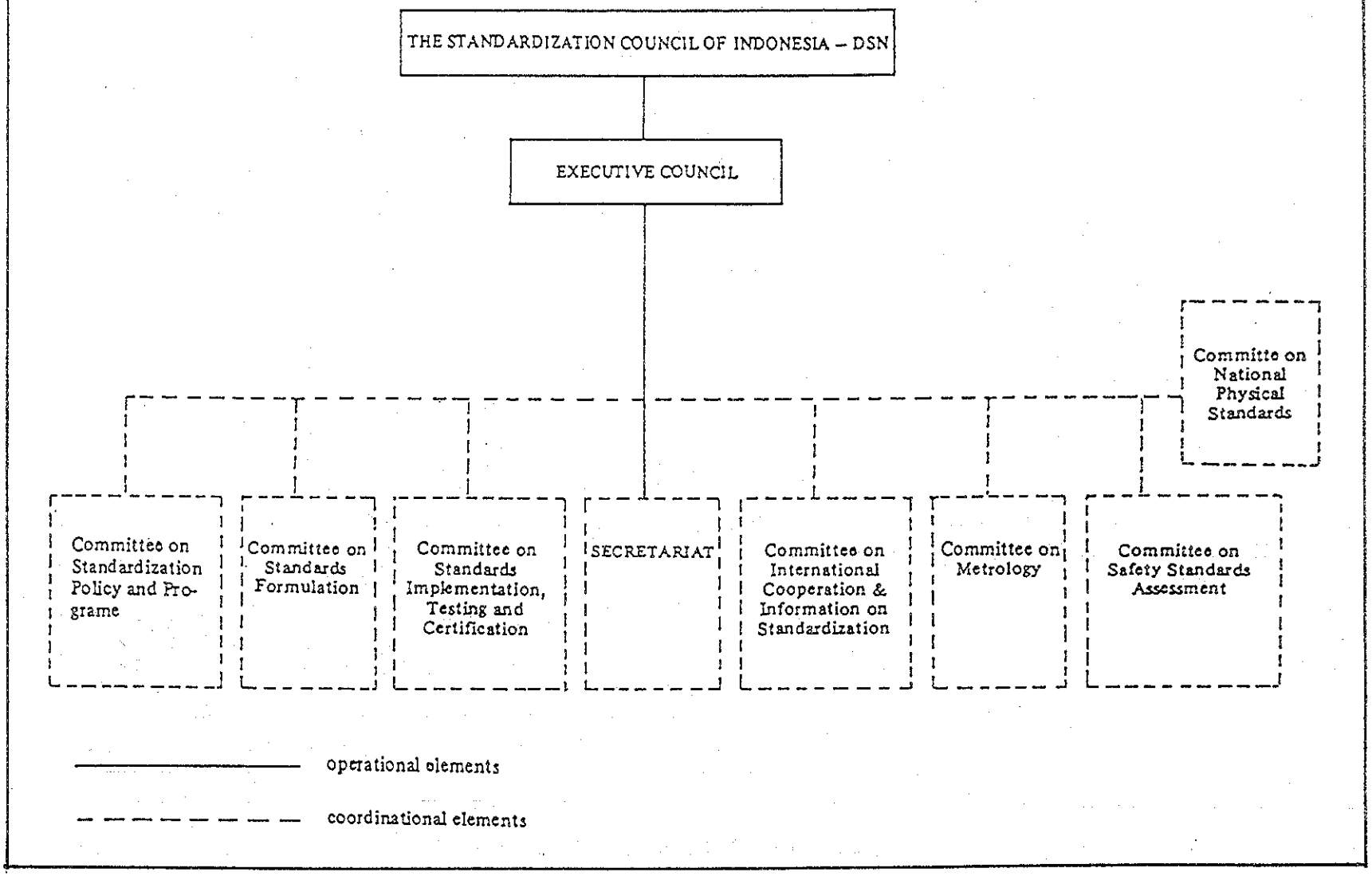
Chairman	:	Secretary of DSN
Vice Chairman I	:	Member of DSN from Ministry of Industry
Vice Chairman II	:	Member of DSN from Ministry of Trade
Members	:	Member of DSN from Ministry of Health
		Member of DSN from Ministry of Agriculture
		Member of DSN from Ministry of Manpower
		Member of DSN from Agency for Application and Assessment of Technology

DEPUTY CHAIRMAN OF LIPI

SECRETARIAT

INSTITUTE FOR STANDARDIZATION LIPI

SUPPORTING UNITS OF DSN



INTERNATIONAL STANDARDIZATION

International participation in international standards work is an integral part of the National Standardization System. The Standardization Council of Indonesia – DSN represents Indonesia as the Indonesian members body of the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC) and also represents Indonesia in Codex Alimentarius Commission (CAC). It also maintains liaison with and participates in the work of other international standardization organization.

Pusat Standardisasi LIPI as the Secretariat of the DSN, has been appointed to manage Indonesian participation in the activities of ISO and IEC. The actual work associated with the various technical committees is carried out by expert from various government and private institutions, industries and professional associations.