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添付 A 現地調査工程

添付 A : 現地調査工程

第 1 次現地調査工程

No.	月日	曜日	工程	滞在地
1	9月21日	木	KAN/BSN (試験・校正ラボ認定)	ジャカルタ
2	22日	金	KIM-LIPI (計量標準)、KIMIA-LIPI (標準物質)、 JICA	ジャカルタ
3	23日	土	資料整理	ジャカルタ
4	24日	日	移動 (JKT/シンガポール/ヤンゴン)	ヤンゴン
5	25日	月	JICA、JETRO、EOJ、電機メーカー	ヤンゴン
6	26日	火	Dept. of Standard (計量標準)	ヤンゴン
7	27日	水	電機メーカー (日系、現地資本 2 社)、EOJ、JICA	ヤンゴン
8	28日	木	移動 (ヤンゴン/バンコク)	バンコク
9	29日	金	移動 (バンコク/ビエンチャン)、JICA	ビエンチャン
10	30日	土	資料整理	ビエンチャン
11	10月1日	日	資料整理	ビエンチャン
12	2日	月	DISM (計量行政)	ビエンチャン
13	3日	火	DISM (計量標準)、日系メーカー、JICA	ビエンチャン
14	4日	水	移動 (ビエンチャン/プノンペン)、JICA	プノンペン
15	5日	木	UNIDO (支援状況)、ILCC (計量標準)	プノンペン
16	6日	金	LPG 充填所、潤滑油充填所、DOM (法定計量)、 JICA	プノンペン
17	7日	土	移動 (プノンペン/ホーチミン)	ホーチミン
18	8日	日	資料整理	ホーチミン
19	9日	月	QUATEST 3 (試験・校正ラボ)	ホーチミン
20	10日	火	移動 (HCM/ハノイ)、JICA	ハノイ
21	11日	水	STAMEQ (計量行政)、日系自動車会社	ハノイ
22	12日	木	VMI (法定計量、計量標準)、BOA (試験・校正ラ ボ認定)	ハノイ
23	13日	金	QUATEST 1 (試験・校正ラボ)、ハノイ日本 C/C、 日系オートバイ会社、JICA	ハノイ
24	14日	土	移動 (ハノイ/東京)	機中
25	15日	日	東京着	

第2次現地調査工程

No.	月日	曜日	工程	滞在地
1	1月9日	火	移動（東京－マニラ）	マニラ
2	10日	水	JICA、日本人商工会議所、ITDI/DOST	マニラ
3	11日	木	NML/ITDI、PAO	マニラ
4	12日	金	NML/ITDI、JICA	マニラ
5	13日	土	資料整理	マニラ
6	14日	日	移動（マニラ－シンガポール）	シンガポール
7	15日	月	JICA、SIRIM、NMC、WMO、SAC	シンガポール
8	16日	火	FLUKE、MOGAS FLOW LAB	シンガポール
9	17日	水	移動（シンガポール－クアラルンプール）、JICA	KL
10	18日	木	Legal Metrology Unit/MTDCA、NML/SIRIM	KL
11	19日	金	DSM、JICA	KL
12	20日	土	移動（クアラルンプール－バンコク）	バンコク
13	21日	日	資料整理	バンコク
14	22日	月	JICA、MOST	バンコク
15	23日	火	NIMT	バンコク
16	24日	水	CBWM	バンコク
17	25日	木	TISI、DENSO	バンコク
18	26日	金	TPA、JICA	バンコク
19	27日	土	移動（バンコク－東京）	

添付 B 面談者リスト

添付 B: 面談者リスト

Cambodia		
1. Department of Metrology (DOM) (Metrology Center)		
	Mr. Ho Kadeb	Director, Department of Metrology (DOM), Ministry of Industry Mines and Energy
	Mr. Kim Chandara	Deputy Director, Department of Metrology (DOM)
2. Industrial Laboratory Center of Cambodia (ILCC)		
	Sreang Samnang	ILCC
	Mom Setha	ILCC
	In Sambo	ILCC
3. Private Company		
CAMGAS Co., Ltd.		
	Mr. Him-Komry	LPG Marketing Manager
Lao		
1. Department of Intellectual Property, Standardization & Metrology (DIPSM), Prime Minister's Office Science, Technology and Environment Agency (STEA)		
	Mr. Nheune SISAVAD	Director General, Dept. of Intellectual Property, Standardization & Metrology
	Mr. Khamphut PHENGMEUANGKHOUN	IP public awareness officer, Affairs and Dissemination Division, Dept. of Intellectual Property, Standardization & Metrology
	Mr. Soumana CHOULAMANY	Director, Standards and Quality Division
	Mr. Bounthiam PHIMVONGSA	Director of Metrology Division
	Mr. Viengkham SINGSONEXAY	Deputy Director of Metrology Division
	Mrs. Nhommla PHETSARATH	Technical Officer
	Mrs. Nisith Chanthalom	Technical Officer
2. Private Company		
Tokyo Coil Engineer (Lao) Co., LTD		
	Teerawoot Chudam	Administration Manager
Myanmar		
Myanmar Scientific & Technological Research Department, MOST		
	Dr. Aye Myint	Director General
	Dr. Zaw Min Maing	Director
	Dr. Khin Maung Latt	Professor & Head, Dept. of Engineering Physics, Yangong Technological University
	Dr. Khin Nar Zaw	Principal Scientist, Dept. of Standards
Vietnam		
1. STAMEQ, Metrology Department, Directorate for Standards and Quality, Ministry of Science and Technology		
	Mr. Nguyen Hung Diep	Director, Metrology Department, STAMEQ
	Mr. Vu Van Hong	Deputy Director, International Cooperation Dep., STAMEQ)
	Mr. Tran Quy Gian	Senior Officer, Metrology Department, STAMEQ
	Mr. Nguyen Manh Hung	Head of Planning and Cooperation Section, Vietnam Metrology Institute (VMI)

	Ms. Ho Minh Trang	Senior Accreditation Officer (In Charge of International Section, Bureau of Accreditation)
	Mr. Tran Thuy Ha	Officer, Metrology Department, STAMEQ
	Mr. Trinh Muil Tain	Officer, International Cooperation Department, STAMEQ
2. Vietnam Metrology Institute(VMI)		
	Mr. Nguyen Dac Loc	Deputy Director, Vietnam Metrology Institute
	Mr. Nguyen Manh Hung	Head of Planning and Cooperation Section, Vietnam Metrology Institute (VMI)
3. Bureau of Accreditation Directorate for Standards and Quality		
	Mr. Vu Xuan Thuy	Acting Director, Bureau of Accreditation
	Ms. Ho Minh Trang	Senior Accreditation Officer, Bureau of Accreditation
4. Quality Assurance and Testing Center 1 (Quatest 1)		
	Mr. Nguyen Canh Toi	Deputy Director, Quatest1
	Mr. Ngyin Tran Quan	Officer, Quatest1
	Ms. Ho Minh Trang	Senior Accreditation Officer, Bureau of Accreditation
5. Quality Assurance and Testing Center 3, (Quatest 3) Directorate for Standards and Quality		
	Mr. Tran Van Dung	Director, Quatest 3
	Mr. Dinh Van Tru	Vice Director, Quatest 3
6. Private Company		
Toyota Motor Vietnam Co., LTD		
	鈴木 鉄三	Product Director, Toyota Motor Vietnam Co., Ltd
	Tran Hoang Hai	Manager, Quality Control Department, Productive Division, Toyota Motor Vietnam Co., Ltd
Yamaha Motor Co., LTD		
	渡部 克明	Factory Director
	稲垣 均	Manager, Quality Assurance Division
Indonesia		
1. KIM-LIPI		
	Mr. Dede Erawan	
	Dr. Ir. Hussein Avicenna Akil, M. Sc.	
2. DOM		
	Oke Nurwan	Head of Sub-directorate, Metrological Facility & Cooperation
	Rusmin Amin	Facility & Cooperation Section
3. KAN/BSN		
	Kukuh S. Achmad	Director, Laboratory and Inspection Body Accreditation
	Sunyoto	Chief Secretary, Laboratory and Inspection Body Accreditation
Philippines		
1. National Metrology Laboratory (NML), Industrial Technology Development Institute (ITDI) Department of Science and Technology (DOST)		
	Mr. Edgardo Juan	Chief, National Metrology Laboratory
	Dr. Nuna E. Almanzor	Director, Industrial Technology Development Institute
2. Philippine Accreditation Office (PAO) Department of Trade & Industry Philippines		

	Ms. Perla F. Baje	Manager, Laboratory Accreditation, PAO
	Ms. Cirila S. Botor	Officer-in-Charge, PAO
Malaysia		
1. Metrology Unit (Legal Metrology) Ministry of Domestic Trade and Consumer Affairs (MDTCA)		
	Mr. Mohd Khalis Bin Kasim	Metrology Unit Director, MDTCA
	Mr. Peter J. Berinus Agang	Assistant Director, Legal Metrology, MDTCA
	Ms. Sapiah Binti Mdhd Ndr	Assistant Director, Legal Metrology, MDTCA
	Ms. Faizah Binti Othman	Assistant Director, Legal Metrology, MDTCA
2. National Metrology Laboratory (NML) SIRIM Berhad		
	Mr. Md Nor Md Chik	Senior General Manager, NML, SIRIM Berhad
	Dr. Osman Zakaria	Head, Chemical Section, NML, SIRIM Berhad
3. Department of Standards Malaysia (DSM) Ministry of Science, Technology & Innovation		
	Mr. Shaharul Sadri Alwi	Senior Principal Director, Accreditation Division, DSM
	Mr. Wan Rukiman Wan Mamat	Principal Assistant Director, Accreditation Division, DSM
Thailand		
1. Ministry of Science and Technology (MoST)		
	Dr. Saksit Tridech	Permanent Secretary, MoST
2. National Institute of Metrology (Thailand) (NIMT) Ministry of Science and Technology (MoST)		
	Dr. Pian Totarong	Director, NIMT
	Dr. Yoshiaki AKIMOTO	Chief Advisor, JICA/NIMT Project, Phase II
	Ms. Ikuko NIIZEKI	Coordinator, JICA/NIMT Project, Phase II
	Mr. Veera Tulasombut	Head of Mechanical Metrology Dep., NIMT
	Mr. Anusorn Tonmueanwai	Head of Length Laboratory, NIMT
	Mr. Arkom Krachangmol	Ass. Head of Photometry Metrology Dep. NIMT
	Dr. Charun Yafa	Chemical Metrologist, NIMT
3. Central Bureau of Weights and Measures (CBWM) Department of Internal Trade (DIT), Ministry of Commerce (MOC)		
	Mr. Veerasak Visutthatham	Director of Central Bureau of Weights & Measures (CBWM), DIT, MOC
	Mr. Chartree Areewong	Director of Weights & Weighing Instruments Standards, CBWM, DIT, MOC
	Mr. Samanya Theppabutra	Weights and Measures officer, CBWM, DIT, MOC
4. Department of Internal Trade (DIT), Ministry of Commerce (MOC)		
	Mr. Siripol Yodmuangcharoen	Director-General, Department of Internal Trade, MOC
	Mr. Veerasak Visutthatham	Director of Central Bureau of Weights & Measures (CBWM), DIT, MOC
	Mr. Chartree Areewong	Director of Weights & Weighing Instruments Standards, CBWM, DIT, MOC
5. Thai Industrial Standards Institute (TISI) (Office of the National Accreditation Council (ONAC)) Ministry of Industry (MOI)		

Mr. Yanneupat Uthongsap	Chief of Laboratory Accreditation Group 4, Laboratory Accreditation Group 4, Standard Bureau 4, TISI, MOI
Mr. Bussaba Saelim	Standard Officer, Laboratory Accreditation Group 4, Standards Bureau 4, TISI, MOI
Ms. Nathinee Chantajaru	Foreign Relations Officer, Regional Organizations Group, International Relation Division, TISI, MOI
Dr. Sutavadee Techajunta	Head, Technical and Accreditation Cooperation Group, ONAC, MOI
Ms. Ekani Romyanon	Head, Certification Body, Accreditation Group 1, ONAC, MOI
Mr. Rangsan Nimitsawan	Head, Inspection Body, Accreditation Group, ONAC, MOI
6. Technology Promotion Association (Thailand-Japan) (TPA)	
Dr. Bandhit Rojarayanont	Executive Director and Director General
Mr. Mitr Veeratham	Section Manager, Calibration Services and Environmental Analysis Department
Mr. Supanithi Ruangthong	Media Creation and Support Manager, Education & Training Department
Ms. 藪内 友紀子	Advisor
7. Private Company	
Denso International (Thailand) Co., Ltd.	
中村 浩一	Senior Coordinator, Quality Control Department
Mr. Munggorn Chaigimanon	QC & Calibration Lab., General Manager
Mr. Ruch-Ake Phakdee	Head of Laboratory/Senior Officer, Calibration Center
Singapore	
1. Spring Singapore	
Mr. Steven TAN Beng Chye	Deputy Group Director, Corporate Development, SPRING
Dr. CHUA Sze Wey	Deputy Director, National Metrology Center, SPRING
Mr. S Koban	Senior Manager, Weights & Measures Office, SPRING
Mr. LEE Shih Mean	Senior Metrologist, Mechanical Metrology Department, National Metrology Center, SPRING
Mr. CHANG Kwei Fern	Director, Accreditation, SPRING
Ms. LEE Shou Yin	Manager, Corporation Communications, SPRING
Mr. Adrian ANG Pau Yuen	Inspector, Weights & Measures Office, SPRING
2. Singapore Accreditation Council	
Ms. CHIN Poh Yin	Head (Laboratory), Singapore Accreditation Council
3. Private Company	
Fluke South East Asia Pte. Ltd.	
Mr. Yeo Cheng Ngee	Regional Sales Manager, Precision Measurement Group/ASEAN, Fluke S. E. A. Pte. Ltd.
Mr. Wong Leong Yoh	Sales Program Manager, Precision Measurement Group/ASEAN, Fluke S. E. A. Pte. Ltd.
Mr. Ricky Chuan	Senior Sales Engineer, Fluke S.E. A. Pte. Ltd.
Mr. Anthony Ng	Service Manager, Fluke S. E. A. Pte. Ltd.
MOGAS FLOW LAB Pte. Ltd.	
Mr. Teoh Seng Eng	General Manager, Mogas Flow Pte. Ltd.

添付 C 質問票（インドネシア）

Questionnaire for**The Project Study on Effective Metrology Standard System of ASEAN Countries****Questionnaire to****Ministry of Research and Technology, and Ministry of Trade****(For Department in charge of Metrology Policy)**

The purpose of this questionnaire survey is to find out current status, progress, and needs of each country's metrology system, and to find a direction of Japan's future technical cooperation in this field on ASEAN countries. Please answer following questions. The JICA study team will visit your organization during Indonesia survey trip from September 20, 2006 till September 24, 2006 and collect this questionnaire sheet. Thank you very much for your kindness and for understanding.

Person in charge

Name:		Title/Position:	
Organization's name and address		Telephone/FAX:	
Date:		E-mail:	

Part I: Request for information

Please provide the following materials concerning metrological activities, if possible.

- Documents indicating present government policies relating to metrological control, such as measurement standards, legal metrology, laboratory accreditation, industrial standards, etc.
- Documents on the government's future plan for the metrology system.
- The latest chart of your organization with the number of staffs of each department and section

Part II: Questionnaire

Q1: Government's policy on metrological control

Please describe the government's policy on metrological control and its relationship with other policies, e.g. relationship with policies on consumer protection, industrial standards, industry promotion, export promotion, promotion of science and technology, etc.

Q2: Laws and regulations relating to metrological control

Please indicate current laws and principal regulations on metrology system and related fields.

1) For measurement standards

2) For laboratory accreditation

3) For legal metrology

Q3: Organizations and functions for metrological control

What organizations or departments do you have for metrological control including government (ministry, center, and lab...etc) and non-government ones. Please indicate their names, functions and approximate number of staffs, if available, e.g. national metrology institute, accreditation body, legal metrology institute, R&D laboratories, and calibration/testing laboratories, etc.

Q4: Government policy on measurement standards and traceability

Please describe the government policy on measurement standards and traceability.

Q5: Government policy on laboratory accreditation

Please describe the government policy on laboratory accreditation in relation to the traceability, legal metrology, industrial standards and testing of industrial products, international cooperation, etc.

Q6: Government policy on legal metrology

Please describe the government policy on legal metrology in relation to the measurement standards, traceability, industrial

standards and testing of industrial products, international cooperation, etc.

Q7: Budget allocations

Please indicate the government's approximate budget allocation and percentage to each organization for their metrological activities.

Q8: Future plan

Do you have any future plan to promote metrological activities, including human resources development, internationalization, affiliation to international organizations, international/bilateral cooperation...etc? If so, please indicate them.

Q9: Collecting and dispatching information concerning metrology policy making

How do you collect information concerning metrology and related technologies for policy making, e.g. scientific, technological, technical, and managerial...etc including oversea R&D information. How do you publicize and dispatch information to domestic and oversea organizations, and to the public, e.g. exchange of annual report, visit each other, etc.?

Q10: Technical support from oversea donors for metrology

1) Has your country ever received any technical support on metrology, including administration training, from oversea donors, e.g. from PTB, AusAID, KOICA, NZAID, etc?

(1) From PTB

(2) From AusAID or CSTRO

(3) From Others

2) Does your country have any plan to receive technical supports from oversea donors? If so, please describe them.

Q11: Problems to be solved

Do you have any problems on metrological activities, e.g. dissemination of measurement standards, enlightenment, consumer protection, fraud in measurements, market surveillance, etc? If so, how do you overcome those problems?

Q12: Any request to the international/regional metrology organizations and oversea donors

Do you have any requests to international/regional metrology organizations or international donors in the fields of metrology?

Q13. Necessity of a master plan for development of metrology system

Do you think that your country needs a master plan for development of metrology system and human resources?

Q14. About NMII

1) Policy on activities at NMII

2) For the realization of NMII (Any expected obstacles and problems)

Thank you very much for your cooperation.

Questionnaire for

The Project Study on Effective Metrology Standard System of ASEAN Countries

Questionnaire to the National Metrology Institute

(KIM-LIPI, DOM, KIMIA-LIPI, and BADANG)

The purpose of this questionnaire survey is to find out current status, progress, and needs of each country's metrology system, and to find a direction of Japan's future technical cooperation in this field on ASEAN countries. Please answer following questions. The JICA study team will visit your organization during Indonesia survey trip from September 20, 2006 till September 24, 2006 and collect this questionnaire sheet. Thank you very much for your kindness and for understanding.

Person in charge

Name:		Title/Position:	
Organization's name and address		Telephone/FAX:	
Date:		E-mail:	

Part I: Request for information

Please provide the following materials, if possible.

- Annual reports of your organization
- List of publications (papers, reports, guidelines, manuals, leaflets, etc.)
- The latest chart of your organization with the number of staffs of each department and section
- Financial records (annual budget allocation) of your organization

Part II: Questionnaire

Q1: Metrology system and traceability of measurement, and their future plan

1) Please describe the metrology system and traceability of measurement, in relation to the dissemination of measurement standards, cooperation with the other organizations etc., and their development plan or improvement plan, if any.

2) Is there any field of measurement standard of which quality system has been accredited by any accreditation body? If any, please indicate the fields of measurement standards and accreditation body and standard used for accreditation.

Q2: Physical quantities of the currently maintained national measurement standards, their maintenance, control and, research and development

1) Please indicate the physical quantities of the national measurement standards currently maintained by the national metrology institute, e.g. length, mass, time, pressure, force, etc.

2) How do you maintain these standards, e.g. by bilateral comparisons, APMP key comparisons, etc?

3) Do you need to develop any other measurement standard? If so, how do you develop them?

Q3: Future plan to develop facilities and equipments

1) What kind of facilities and principal equipments do you currently have?

2) Please describe your future plan, if any, to develop or improve facilities and equipments?

3) Future correspondence to the disorder or confusion on metrology standards (mass and length)

Q4: Human resources development (HRD)

1) Do you have any HRD program for metrology? If so, please indicate the type and details of the program, e.g. on the job training, seminar, workshop, etc, and their organizers, trainers affiliations, participants qualifications, relationship with oversea organizations, if any, etc.

Name of the program, type of the training course and the details

2) Have your staffs ever participated in oversea training courses, seminars intended for human resource development, etc.? If so, please indicate them.

Name of the program, organizer, number of participants from your organization, etc

Q5: Outline and functions of the other national metrology institutes

Is there any other national metrology institute for the other physical quantities, e.g. chemical standards, radiation standards, etc.? If so, please provide their names, outlines, functions and approximate number of staffs.

Q6: International, regional and bilateral cooperation

1) Have your staffs ever participated in any international, regional or bilateral cooperation concerning measurement standards, e.g. hosting meetings, seminars, training courses, participating in international/regional meetings such as meetings of APMP, etc? If any, please indicate them.

2) What international/regional organizations do you join? If any, please indicate them.

Q7: Collecting and dispatching information on metrological activities

1) How do you collect information from oversea on metrological activities and technologies, e.g. meetings, scientific, technological, technical, and managerial...etc?

2) How do you publicize and dispatch information to domestic organizations and to the public?

3) How do you publicize and dispatch information to oversea organizations concerned, e.g. exchange of annual report, visit each other, etc.?

Q8: Technical support from oversea donors for metrology, especially for measurement standards.

1) Have you ever received any technical support for metrology from oversea donors, e.g. from PTB, AusAID, NZAID, KOICA, and IDB...etc? If so, please describe them.

(1) From PTB

(2) From IDB

(3) From Others

2) Do you have any plan to receive technical supports from oversea donors? If so, please describe them.

Q9: Problems to be solved

Are there any problems or difficulties on development of measurement standards, traceability or metrological activities? If any, how do you overcome them?

Q10: Request to the international/regional metrology organizations and oversea donors

Do you have any request to international/regional metrology organizations or international donors in the fields of metrology? If so, please describe them.

Thank you very much for your cooperation.

Questionnaire for
The Project Study on Effective Metrology Standard System of ASEAN Countries

Questionnaire to KAN
(Laboratory Accreditation Body)

The purpose of this questionnaire survey is to find out current status, progress, and needs of each country's metrology system, and to find a direction of Japan's future technical cooperation in this field on ASEAN countries. Please answer following questions. The JICA study team will visit your organization during Indonesia survey trip from September 20, 2006 till September 24, 2006 and collect this questionnaire sheet. Thank you very much for your kindness and for understanding.

Person in charge

Name:		Title/Position:	
Organization's name and address		Telephone/FAX:	
Date:		E-mail:	

Part I: Request for information

Please provide the following materials concerning metrological activities, if possible.

- Annual reports of your organization
- List of publications (papers, reports, guidelines, manuals, leaflets, etc.)
- The latest chart of your organization with the number of staffs of each department and section
- Financial records (annual budget allocation) of your organization

Part II: Questionnaire

Q1: Process and procedures of the designation as an accreditation body.

1) Please describe the process that your organization has been designated as an accreditation body, or the intent of establishment.

2) How is your organization designated as an accreditation body? What are the procedures for it?

3) How do you accredit a laboratory as a testing and calibration laboratory? What are the procedures for it?

4) What standard do you use for accreditation of testing and calibration laboratories?

5) How do you designate peer reviewers for accreditation? What are their qualifications?

Q2: Current demands (needs) to testing and calibration laboratories

1) What needs do the clients have of the testing and calibration laboratories?

2) Please provide the current conditions of testing and calibration laboratories from the point of view of accreditation.

3) How many laboratories are currently accredited as a testing and calibration laboratory? Please provide the number of accredited laboratories by sectors, i.e. government laboratories and private ones. Please indicate major fields of accreditation, if possible, e.g., metrology, industrial testing, agricultural testing, etc.

Number of accredited government laboratories and major fields of accreditation

Number of accredited private laboratories and major fields of accreditation

Q3: Future plans for accreditation scheme

Do you have any plan for improvement of accreditation scheme? If any, please describe it.

Q4: Human resources development (HRD)

1) Do you have any HRD program for accreditation? If so, please indicate the type and details of the program, e.g. on the job training, seminar, workshop, etc, and their organizers, trainers affiliations, participants qualifications, relationship with oversea organizations, if any, etc.

Name of the program, type of the training course and the detail

2) How do your staffs study procedures and skills of accreditation?

3) Have your staffs ever participated in oversea training courses, seminars intended for human resource development, etc.? If any, please indicate them.

Q5: Collecting and dispatching information on accreditation

Currently, how do you collect information concerning laboratory accreditation? How do you publicize and dispatch information to the domestic organizations, the public people and oversea, e.g. exchange of annual report, visit each other, etc.?

Q6: International, regional and bilateral cooperation

Have your staffs ever participated in any international, regional or bilateral cooperation concerning laboratory accreditation, e.g. hosting meetings, seminars, training courses, participating in international/regional meetings concerning laboratory accreditation such as meetings of APLAC, etc? If any, please indicate them.

2) What international/regional organizations do you join? If any, please indicate them.

Q7: Technical support from oversea donors for laboratory accreditation

1) Have you ever received any technical support on laboratory accreditation from oversea donors, e.g. from PTB, AusAID, KOICA, NZAID... etc? If any, please indicate them.

2) Do you have any future plan to receive technical supports for laboratory accreditation from oversea donors? If so, please indicate them.

Q8: Problems to be solved

Do you have any problems or some technical difficulties concerning promotion of laboratory accreditation? If any, how do you overcome them?

Q9: Any request to the international/regional metrology organizations and oversea donors

Do you have any request to international/regional metrology organizations or international donors in the field of laboratory accreditation? If so, please describe them.

Thank you very much for your cooperation.

Questionnaire for
The Project Study on Effective Metrology Standard System of ASEAN Countries

Questionnaire to DOM
(Legal Metrology Organization)

The purpose of this questionnaire survey is to find out current status, progress, and needs of each country's metrology system, and to find a direction of Japan's future technical cooperation in this field on ASEAN countries. Please answer following questions. The JICA study team will visit your organization during Indonesia survey trip from September 20, 2006 till September 24, 2006 and collect this questionnaire sheet. Thank you very much for your kindness and for understanding.

Person in charge

Name:		Title/Position:	
Organization's name and address		Telephone/FAX:	
Date:		E-mail:	

Part I: Request for information

Please provide the following materials concerning metrological activities, if possible.

- Annual reports of your organization
- List of publications (papers, reports, guidelines, manuals, leaflets, etc.)
- The latest chart of your organization with the number of staffs of each department and section
- Financial records (annual budget allocation) of your organization

Part II: Questionnaire

Q1: Legal metrology system

We would like to know legal metrology system of your country, such as legislation, technical infrastructure, type approval testing, verification system, etc.

1) Measurement law

<p>(1) What is the purpose of the measurement law of your country?</p> <p>(2) When was it enacted? When were major amendments made to it, and what was the gist of the amendments?</p> <p>(3) What kind of measuring instruments is the measurement law applied to?</p>

2) Technical Infrastructure

<p>(1) What facilities and testing/measuring instruments do you have in your institute? Please indicate some principal ones.</p> <p>(2) What are they used for?</p>

3) Type approval testing

<p>(1) What measuring instruments is type approval testing applied to?</p> <p>(2) What organization conducts type approval testing?</p>

4) Verification

<p>(1) What measuring instruments is verification applied to?</p> <p>(2) What organizations conduct verification?</p>

Q2: Organizations and their functions for legal metrology

Please describe the functions of your organization and other organizations concerning legal metrology, and provide their

organization charts, if available.

Name of the organization
Functions

Q3: Traceability for legal metrology

1) What standards measuring instruments are maintained at your institute for legal metrology, e.g. type approval testing, verification, etc? For example, standard weights, a standard kW-h meter, a standard scale of length, and standard volume tanks...etc

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2) How are those above mentioned standards maintained? Are they calibrated by the primary standards? If so, how often are they calibrated? Are they traceable to the national standards?

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3) Is there any field of legal metrology of which quality system has been accredited by any accreditation body? If any, please indicate the fields of measurement standards and accreditation body and standard used for accreditation.

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Q4: Dissemination of legal metrology

How do you disseminate legal metrology to the public? Do you have any regional offices for legal metrology services? If so, please describe the relationship between them.

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Q5: Future plan for legal metrology system, facilities and equipments

1) Do you have any plan to improve facilities and equipments in your institute? If so, please describe it.

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2) Do you have any plan to improve legal metrology system in your country? If so, please describe it.

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Q6: Human resources development (HRD)

1) Do you have any HRD program for legal metrology? If so, please indicate the type and details of the program, e.g. on the

job training, seminar, workshop, etc, and their organizers, trainers affiliations, participants qualifications, relationship with oversea organizations, if any, etc.

Name of the program, type of the training course and the details

- 2) Have your staffs ever participated in oversea training courses, seminars intended for human resource development, etc.? If so, please indicate them.

Name of the program, organizer, number of participants from your organization, etc

Q7: Dissemination and promotion of legal metrology to the public

What activities do you perform for dissemination, promotion and enlightenment of legal metrology to the public?

Q8: Collecting and dispatching information on legal metrology

- 1) How do you collect information from oversea on metrological activities and technologies, e.g. meetings, scientific, technological, technical, and managerial...etc?

- 2) How do you publicize and dispatch information to domestic organizations and to the public?

- 3) How do you publicize and dispatch information to oversea organizations concerned, e.g. exchange of annual report, visit each other, etc.?

Q9: International, regional and bilateral cooperation on legal metrology

Have your staffs ever participated in any international, regional or bilateral cooperation concerning legal metrology, e.g. hosting training courses, seminars, meetings, participating in international/regional meetings, etc.? If so, please indicate them.

Q10: Technical supports from oversea donors for legal metrology.

- 1) Have you ever received any support from oversea donors, e.g. from PTB, AusAID, KOICA, NZAID, etc.? If so, please

indicate them

2) Do you have any future plan to receive technical supports from oversea donors? If so, please indicate them.

Q11: Problems to be solved

Are there any problems or difficulties concerning development of legal metrology? How does your organization (laboratory) overcome those problems?

Q12: Any request to the international/regional legal metrology organizations and oversea donor organizations

Do you have any requests to international/regional metrology organizations or international donors in the fields of legal metrology? If any, please indicate them.

Thank you very much for your cooperation.

添付 D 収集資料リスト

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Title	Issuing Organization	Remarks
Cambodia		
Asia-Pacific Legal Metrology Forum - Circular 47 Jan.2005	APLMF	Catalogue
Country Report of Kingdom of Cambodia	Ministry of Industry, Mines and Energy	Leaflet
Department of Metrology (DOM)	Department of Metrology (DOM)	Catalogue
Lao		
Division of Standards & Quality	DISM/STEA	Catalogue
Metrology Division	- ditto -	Catalogue
Lao PDR Economic Monitor	The World Bank	Catalogue
Myanmar		
Earth Group of Companies Profile	Earth Trading Co., Ltd.	Catalogue
Outline of JICA Myanmar Office	JICA Myanmar Office	Leaflet
Technology for Safety & Reliability	Earth Industrial (Myanmar) Co., Ltd	Leaflet
Transformer	SOE Electric & Machinery Co., Ltd.	Catalogue
Vietnam		
Directorate for Standards and Quality – STAMEQ	Bureau of Accreditation	
Missions of the National Metrology Institute	National Metrology Institute	Leaflet
Prosperity Through Quality - STAMEQ	Directorate for Standards and Quality	Catalogue
Indonesia		
Chemistry for Better Life	Lembaga Ilmu Pengetahuan Indonesia (LIPI)	Catalogue
MM 2100 Industrial Town	Marubeni Corporation	Catalogue
Philippines		
Department of Science and Technology	Department of Science and Technology	Catalogue
Techno Bulletin	Industrial Technology Development Institute (ITDI)	Leaflet
National Metrology Laboratory	- ditto -	Leaflet
Malaysia		
Department of Standards Malaysia Application Kit	Skim Akreditasi Makmal Malaysia (SAMM)	Leaflet

Title	Issuing Organization	Remarks
National Metrology Laboratory	National Metrology Laboratory	Catalogue
Malaysia	Ministry of Domestic Trade and Consumer Affairs	Power Point
Metrology News	SIRIM	
Better Standards for Better Life	- ditto -	
Greeting from the Senior General Manager	- ditto -	
Towards Achieving Traceability in Chemical Measurement	- ditto -	
The World of Standards	Department of Standards Malaysia (DSM)	Catalogue
Commemorative Moment of DSM 1996-2006	- ditto -	Catalogue
Standards & Accreditation News	- ditto -	Booklet
Thailand		
DENSO Thai DENSO Group Outline	DENSO International (Thailand) Co., Ltd.	
Development-Calibration-Accuracy-Lab. Calibration Section	- ditto -	Power Point
National Institute of Metrology Ministry of Science and Technology	National Institute of Metrology Ministry of Science and Technology	Catalogue
NIMT Project – Results, Subjects, Prospects -	- ditto -	Power Point
Metrology Info	- ditto -	Catalogue
Metrology Demands for ASEAN Economy	- ditto -	Catalogue
History of Metrology in Thailand	- ditto -	Power Point
TPA Newsletter	TPA	Leaflet
Translation of the Weights and Measures Act B.E.2542	General Bureau of Weights & Measures	Catalogue
Guide to JTECS and TPA	JTECS/TPA	Catalogue
The Legal Metrology in Thailand	Ministry of Commerce	Catalogue
The National Standards Body of Thailand	Thai Industrial Standards Institute, Ministry of Industry	Catalogue
Thai Laboratory Accreditation Scheme (TLAS)	TLAS	Power Point
Thai-Nichi Institute of Technology	Technology Promotion Association	Power Point
National Metrological System Development Act, B.E.2540		Leaflet
Ministry of Science and Technology	MOST	Catalogue
Singapore		
Enterprise Today	SPRING	Catalogue
Standards and Conformance for Business Growth	- ditto -	Catalogue

Title	Issuing Organization	Remarks
Business Excellence Awards 2006	- ditto -	Catalogue
Making it BIG is SMEs	- ditto -	Catalogue
Enabling Enterprise	- ditto -	Catalogue
National Accreditation Programme	- ditto -	Catalogue
National Accreditation Framework	- ditto -	Power Point
The Validation and Calibration Link	Mogas Flow Lab	Catalogue

添付 E セミナーリスト

添付E: セミナーリスト

No.	Date	Measurement Quantity	Short-Term Expert	Counterpart	Title	No. of Participant
1	Feb. 11, 2003	Radiation Thermometer Standard	Dr. Fumihiko SAKUMA	Mr. Narudom Nouikow	Seminar on Measurement Standards and Calibration Service 1. Radiation Thermometer and Calibration in Japan : Dr. Sakuma 2. Establishment of Radiation Thermometer Standards in Thailand : Mr. Narudom	29 persons
2	Feb. 13, 2003	Plug and Ring Standard	Mr. Kazuo TOMIYAMA	Mr. Samana Piengbangyang	Seminar on Measurement Standards and Calibration Service 1. Japanese Traceability system of Diameter Standard: Mr. Tomiyama 2. Calibration of Ring Gauge using Optical Inner Diameter Measuring : Mr. Samana	46 persons
3	Feb. 28, 2003	Roundness Standard	Mr. Yuji WAKABAYASHI	Mr. Samana Piengbangyang	Seminar on Measurement Standards and Calibration Service 1. Current Situation of Roundness Measurement : Mr. Wakabayashi 2. Calibration of Roundness Tester using Indexing Table : Mr. Samana	21 persons
4	Apr. 2, 2003	Wavelength Standard	Mr. Jun ISHIKAWA	Ms. Monludee Ranusawat	Seminar on Measurement Standards and Calibration Service 1. Current Situation of Wavelength Standard in National Metrology Institute : Mr. Ishikawa 2. Establishment of Length Standard and Traceability system in Thailand : Mr. Anusorn 3. Establishment of Wavelength Standard and Uncertainty measurement of Iodine Stabilization He-Ne Laser : Ms. Monludee	72 persons
5	Apr. 9, 2003	Acoustics Standard	Mr. Hiroaki NOMURA	Miss Surat Pattarachindanuwong	Seminar on Measurement Standards and Calibration Service 1. Technical Transfer to NIMT on Acoustics : Mr. Nomura 2. Verification of SLM and Sound Calibration : Miss Surat	38 persons
6	May 6, 2003	Hardness Standard	Mr. Hajime ISHIDA	Mr. Tassanal Sanponpute	Seminar on Measurement Standards and Calibration Service 1. Rockwell Hardness Measurement and Calibration : Mr. Ishida 2. Rockwell Traceability System of Thailand: Mr. Tassanal	19 persons
7	May 7, 2003	Hardness Standard	Mr. Hajime ISHIDA	Mr. Tassanal Sanponpute	Seminar on Measurement Standards and Calibration Service 1. Rockwell Hardness Measurement and Calibration : Mr. Ishida 2. Rockwell Traceability System of Thailand: Mr. Tassanal	104 persons
8	Dec. 12, 2003	AC Power and Calibration	Mr. Masao YAMAWAKI	Mr. Sittisak Pimsut	Seminar on Measurement Standards and Calibration Service 1. Current Situation of AC Power Standard in JEMIC : Mr. Yamawaki 2. AC Power Calibration Method in JEMIC: Mr. Sittisak	107 persons

No.	Date	Measurement Quantity	Short-Term Expert	Counterpart	Title	No. of Participant
9*	Jan.27, 2004	Acoustics Standard	Mr. Takeshi FUJIMORI	Ms. Surat Pattarachindanuwong	Seminar on Measurement Standards and Calibration Service 1. Current Situation of Acoustics Standard in Japan : Mr. Fujimori 2. Acoustics Standard and Calibration Service in Thailand : Mr. Virat 3. Calibration Technique of Sound Level Meter and Acoustical Calibrator at NIMT : Ms. Surat	50 persons
10*	Jan.27, 2004	Wavelength Standard	Mr. Jun ISHIKAWA	Ms. Monluee Ranusawud	Seminar on Measurement Standards and Calibration Service 1. Length Standard today : Mr. Ishikawa 2. The Open Laser Project : Mr. Ishikawa 3. Calibration Technique of Wavelength Standard in NIMT : Ms. Monluee 4. Calibration Service of Gauge Block in Thailand : Mr. Anusorn	191 persons
11*	Feb. 24, 2004	Geometrical Standard	Dr. Sonko OSAWA	Mr. Nann Chanthawong	Seminar on Measurement Standards and Calibration Service 1. Dimensional Metrology in NMIJ : Dr. Osawa 2. Gauge Calibration Technique Using a CMM : Dr. Osawa 3. Calibration Techniques of Gear Wheel Using CMM in NIMT : Mr. Nann 4. Calibration Service of CMM in Thailand : Mr. Anusorn	184 persons
12*	Feb. 24, 2004	DC High Voltage Standard	Mr. Tomeji IGUCHI	Mr. Danai Pattarakijkul	Seminar on Measurement Standards and Calibration Service 1. Current Situation of DC High Voltage Standard in Japan : Mr. Iguchi 2. Traceability of DC Voltage up to 1kV in Thailand : Ms. Alchana 3. Calibration Technique of DC High Voltage Standard in NIMT : Mr. Danai	83 persons
13	Apr. 22, 2004	RF/Microwave Measurement Standards	Ms. Keiko SATO	Mr. Chairat Wichianmongkonkul	Seminar on Measurement Standards and Calibration Service 1. RF Power and RF Voltage Traceability system in JQA : Ms. Sato 2. RF&Microwave Measurement Fundamentals : Ms. Sato 3. Calibration Technique of RF Power and Calibration Services at NIMT : Mr. Chairat	76 persons
14	Aug. 20, 2004	Roughness Standard	Dr. Kazuya NAOI	Mr. Samana PhengBangyang	Seminar on Measurement Standards and Calibration Service 1. Trend of Calibration Technique for Surface Texture Measurement Standards : Dr. Naoi 2. Establishment of Roughness Standard and Calibration Service in NIMT : Mr. Samana 3. Roughness Calibration in NIMT : Mr. Muhammad	61 persons
15	Sep. 23-24, 2004	Calibration Procedure	Mr. Katsuburo KANO		Seminar on Introduction to Accreditation 1. What is Accreditation 2. Outline of ISO/IEC 17025	78 persons

No.	Date	Measurement Quantity	Short-Term Expert	Counterpart	Title	No. of Participant
16*	Jan. 26, 2005	ASEAN Seminar			Plenary lecture 1. JQA Activities for Promoting Industries ; Mr. Yamasaki 2. Harmonization of Hardness Standards in the World ; Mr. Takagi 3. How to Strengthen Metrology in Chemistry System in ASEAN ; Dr. Chamarong 4. World Trends of Resistance Standard ; Dr. Kinoshita 5. Metrology Demands for ASEAN and APMP DEC ; Dr. Plan 6. Current Situation of JICA/NIMT Project ; Dr. Akimoto 7. Importance of the Measurement and Intellectual Infrastructure in Modern Society ; Ms. Nakamura	287 persons
17*	Jan. 26, 2005	Hardness Standard	Mr. Satoshi TAKAGI	Mr. Tassanal Sanponpote Ms. Rugkanawan Wongphithavadijai Mr. Montree Pakkratoke Dr. Khanchai Kosonhongkeee	Seminar and Workshop on Measurement Standards and Calibration Service 1. Verification of Indenters for Hardness Standards ; Mr. Takagi 2. Calibration Service of Hardness Standard in Vietnam ; Mr. Sanh Vo 3. Establishment of Hardness standard in Thailand ; Mr. Veera	74 persons
18*	Jan. 26, 2005	Chemical Standard	Dr. Akira NOMURA	Dr. Preeyaporn Pookrod Mr. Burthoon Loangsi Ms. Nongluck Tangpaisamkul	Seminar and Workshop on Measurement Standards and Calibration Service 1. Metrology in Chemistry and Certified Reference Materials ; Dr. Nomura 2. Calibration Service of Chemical Standard in Malaysia ; Mr. Khirul Anuar Mohd 3. DISM Activities in Laos ; Mr. Singsonexay Vengkhom 4. Recent Activities of Metrology in Chemistry in NIMT ; Dr. Preeyaporn	101 persons
19*	Jan. 26, 2005	Resistance Standard	Dr. Joli KINOSHITA	Ms. Natenapit Chookunthom	Seminar and Workshop on Measurement Standards and Calibration Service 1. Dissemination of DC Resistance Standards in Thailand ; Mrs. Aichara ; Mr. Ang Chee Klang 3. Calibration Service of Resistance Standard in Vietnam ; Mr. Dien Khac Tran 4. How to Maintain Group of 1 Ohm Standard ; Ms. Natenapit	76 persons
20	Feb. 16, 2005	Angle Standard	Dr. Tsukasa WATANABE	Mr. Wacharin Samit	Seminar on Measurement Standards and Calibration Service 1. Angle Standard Present condition of National Institute of Metrology (NMI) ; Dr. 2. Angle Traceability System in Japan ; Dr. Watanabe 3. Autocollimator Calibration System at NMJ ; Dr. Watanabe 4. Rotary Encoder Calibration System at NMJ ; Dr. Watanabe 5. The Calibration Method of Polygon Mirror ; Mr. Wacharin 6. The Calibration Method of Angle Gauge Block ; Mr. Wacharin 7. Angle Measurement with a Sine Bar ; Mr. Wacharin 8. Angle Traceability System in Thailand ; Mr. Anusorn	73 persons

No.	Date	Measurement Quantity	Short-term Expert	Counterpart	Title	No. of Participant
21	Mar. 28, 2005	RF Attenuation	Mr. Shigeru IGARASHI	Mr. Charat Wichianmongkonkun	Seminar on Measurement Standards and Calibration Service 1. The Handling Method in High Frequency Equipments : Mr. Igarashi 2. Calibration Service of RF Attenuation in JQA : Mr. Igarashi 3. Calibration Techniques and Uncertainty of RF Attenuation Measurement : Mr. Charat	78 persons
22	Jul. 18, 2005	Flatness Standard	Dr. Toshiyuki TAKATSUJI	Mr. Muhammad Madden	Seminar on Measurement Standards and Calibration Service 1. World Trend of Flatness Standard: Dr. Takatsuji 2. Establishment of flatness standard by measure of relative methods: Dr. Takatsuji 3. Application of Interferometer techniques to metrology: Mr. Anusorn 4. Establishment for Thailand flatness standard: Mr. Muhammad	45 persons
23*	Nov. 30, 2005	ASEAN Seminar			Plenary lecture 1. Development and maintenance of Measurement Standards-Today and Future in Japan: Ms. Nakamura 2. Recent Activity of CCL: Dr. Matsumoto 3. "e-trace" New Dissemination System for Measurement Standards: Dr. Yoshida 4. World Trends of Vibration and Acceleration Standard: Mr. Ota 5. World Trends of Time and Frequency Standard: Dr. Suzuyama 6. Compact, Low-cost, and Programmable Josephson Voltage Standards System : Dr. Shoji 7. How to make ASEAN Measurement Recognizable: Dr. Pian	183 persons
24*	Nov. 30, 2005	e-trace	Dr. Haruo YOSHIDA Dr. Hitoshi SASAKI	Mr. Chalit Kumtawee	Seminar and Workshop on Measurement Standards and Calibration Service 1. Josephson Voltage Standard for "e-trace": Dr. Yoshida 2. Compact Primary AC-DC Transfer Standard for e-trace Calibration: Dr. Sasaki 3. International Comparison of AC/DC Transfer Standard: Mr. Chalit	84 persons
25*	Nov. 30, 2005	Time and Frequency Standard	Dr. Tomonari SUZUYAMA	Mr. Somchai Nuamsettee	Seminar and Workshop on Measurement Standards and Calibration Service 1. Frequency Remote Calibration using GPS Common View Method at NMIJ :Dr. Suzuyama 2. Time and Frequency Activities at NMI, SIRIM Berhad, Malaysia: Mr. Ahmad Sahar 3. Time Transfer in Thailand: Mr. Somchai	40 persons
26*	Nov. 30, 2005	Vibration and Acceleration Standard	Mr. Akihiro OTA	Mr. Pairoj Rattanangkul	Seminar and Workshop on Measurement Standards and Calibration Service 1. Recent Progress of Vibration and Acceleration Standard in Japan: Mr. Ota 2. Vibration Standards and Calibration Services, SPRING Singapore :Mr. Chan Chee Keong 3. Vibration Standards and Calibration Services of Vibration in Thailand: Mr. Virat	48 persons
27	Mar. 23, 2006	pH Standard	Dr. Susumu NAKAMURA	Ms. Nongluck Tangpaisarnkul	Seminar on pH Measurement 1. Development of Metrology for pH Measurement in Thailand: Dr. Chamarong 2. Measurement of Hydrogen Ion Activity using the Harned Cell: Dr. Nakamura 3. How to Measure pH Value Accurately by Secondary Methods: Dr. Nakamura 4. pH Meter Calibration: Ms. Nongluck	96 persons

No.	Date	Measurement Quantity	Short-Term Expert	Counterpart	Title	No. of Participant
28	Apr. 3, 2006	Humidity Standard	Mr. Yoshihiro IMURA	Ms. Thasorn Sinhanetii	Seminar on Humidity Measurement 1. Two - Pressure Generator Standard : Mr. Imura 2. Hygrometer Calibration in Thailand : Ms. Thasorn	44 persons
29	Aug. 18, 2006	Inorganic and Organic Standard Solutions	Dr. Akiharū HIOKI	Ms. Nongluck Tangpaisamkul	Seminar on Inorganic and Organic Standard Solutions 1. Metrology in Chemistry in Thailand - Past, Present and Future : Dr. Chainarong 2. Overview and International Situation on Elemental Standard Solutions and Titrimetry : Dr. Hloki 3. Practice on Elemental Standard Solutions at NIMT : Ms. Nongluck	57 persons
30	Aug. 18, 2006	Inorganic and Organic Standard Solutions	Mr. Katsuhiko HIGUCHI	Dr. Preeyaporn Pookrod	Seminar on Inorganic and Organic Standard Solutions 1. Overview and International Standard on Organic Standard Solutions and Chromatography : Mr. Higuchi 2. Practice on Organic Standard Solutions at NIMT : Dr. Preeyaporn	57 persons

Remark:

* ASEAN Seminar