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F I N A L R E P O R T (Draft)

UNIDO Contract No.92/108/VK

Project No.US/RAS/92/036

SEMINAR ON PROMOTION AND NEEDS ASSESSMENT ON
STANDARDIZATION AND QUALITY CONTROL

in

JAKARTA, INDONESIA

November, 1993

Japanese Standards Association

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1. Preface

With reference to the UNIDO Facsimile dated July 29, 1992, Japanese Standards Association (hereinafter referred to as JSA) was awarded the subcontract (No.92/108/VK) to execute the Project No.US/RAS/92/036.

The services required for the subcontractor consist of the following 2(two) works:

- (1) to organize a seminar concerning standardization and quality control in cooperation with Indonesian counterparts, and
- (2) to prepare a volume of audio-visual training materials related to the Project

Both of them have already been completed as scheduled in accordance with the Terms of Reference of the subcontract.

This draft final report describes the result of execution of all of the duties including the evaluation.

2. Background Information

In order to improve the quality of products of a country which will eventually lead to enhancement of its exports and international competitiveness, promotion of standardization and quality management is indispensable.

Japan has consistently been making efforts to encourage its industry through development of Japanese Industrial Standards (JIS), effective application of JIS Making System as well as promoting companies' quality management activities, and as a result, a firm basis for industrialization has been established.

More recently, Japan also pays particular attention to the world wide trend on the prevalence of quality system through ISO 9000 Series as a quality improvement tool.

UNIDO, which is well aware of the needs and importance of industrial development in a more integrated fashion for developing countries, is activity carrying out implementation of its extensive programmes in the pertinent fields.

This joint technical cooperation of UNIDO and Japan is expected to contribute to acceleration of the process of establishing an industrial basis and infrastructure in the field of standardization and quality management in developing countries.

3. Scope of Work

The Terms of Reference for Subcontracting Organization (ANNEX III of the Contract No.92/108/VK), describes the scope of work of the subcontractor as follows:

- A- The subcontracting organization will be directly responsible for coordinating with local authorities for provision of facilities and Indonesian counterparts.
- B- Preparation of working material according to the agreed programme, to be mailed two weeks in advance to the 120 participants, with specific information on the Japanese experience on promoting a firm basis for industrialization through standardization and quality control techniques.
- C- Five lecturers (experts) from Japan, selected according to project objectives and programme qualified to promote the importance of rationalizing production processes in developing countries through standardization. The subcontractor must provide travelling and DSA costs.

- D- Preparation of a third volume of audio-visual training material, including a video tape in three international systems (PAL, SECAM, NTSC). There will be a specific lecture in the seminar on the utilization of this material on a permanent basis, by Government and regional bodies in developing countries, to support their industrialization efforts through the transfer of Japanese technology, know-how and experience in this field.
- E- Travelling and DSA costs for five persons as supporting staff, which could be divided as follows:
- Two persons to concentrate on advance preparations, including negotiations with Indonesian authorities.
 - Three persons to support direct seminar activities.
- F- Logistics and technical services, assuring availability of local administrative support personnel.

In addition to the above, the following provision of facilities is required in cooperation with local authorities concerned:

- Conference room with sitting accommodations for 150 people
- Interpretation services (English - Japanese)
- Translation of materials (English - Japanese)
- Photocopying services
- Typing or word-processing services
(including secretaries or clerks)
- Microphones
- Audio-visual material: projector, movie screen, video-tape player, etc.
- Tape recorders

- Podium for lecturers
- Registration desks and ID card distribution
- Catering services
- Hotel reservations
- Transportation services
(Hotel - Conference location - Hotel)
- Miscellaneous services

It is to be noted that the preparation of a volume of audio-visual material (video tape) is to be intended not only for special or exclusive Seminar use but for general use; promotional activities by UNIDO in the field of standardization and quality control. This point has been agreed between UNIDO's substantive section and the subcontractor at the beginning stage of Project implementation.

4. Activities and Achievements

4.1 Seminar in Jakarta, Indonesia

4.1.1 Seminar Objective

The Project objectives described in the Project Document are as follows:

The immediate objectives of the project are to promote modern concepts of standardization and quality control in Indonesia and other ASEAN countries by:

- Acquainting representatives of the Governments and industry with the significance and real meaning and benefits of standardization and quality control as support activities for their industrial development, the rationalization of production, of import process that must be included in national policies and plans, of the strategies and programmes, along with human and

financial resources;

- Developing introducing audio-visual training aids to promote and expand the knowledge regarding practical techniques and means for standardization and quality control;
- Assessing the needs of developing countries (principally in the ASEAN region) and mapping out actions for standardization, metrology, quality control and other related disciplines to serve as engines of industrial growth.

Taking into consideration of the Project objectives above, and of the world wide trend on the prevalence of the quality system through ISO 9000 series and importance of systematic implementation of education and training, JSA set up, in consultation with the counterpart authority of Indonesia (DSN:Standardization Council of Indonesia), the Seminar Objective as follows:

SEMINAR OBJECTIVE

This seminar is specially organized for the middle-level managers who are directly responsible for promoting and implementing standardization and quality management in their factories or governmental agencies in Indonesia and ASEAN countries.

The following achievement can be expected by participating in the seminar:

- 1) to enhance quality consciousness,
- 2) to familiarize with the companywide quality management,
- 3) to understand the significance of cooperative effort between government and industry for quality improvement,
- 4) to understand how to promote company

standardization and quality management activities in small and medium sized companies,

- 5) to grasp the keypoints for companies to be registered to ISO 9000 series,
- 6) to understand the effectiveness of education and training.

4.1.2 Preparatory Works

In May 1992, a MITI official and a JSA staff visited Jakarta to discuss with the Indonesian counterpart authority (DSN) concerning the fundamental matters to hold the Seminar, such as term of the Seminar, title and contents and responsibility as well as to have a preliminary survey of nominated venues and interpretation facilities.

As a result, the followings were agreed between both sides:

- Ⓐ The Seminar would be conducted in Nov. 1992.
(After that the dates of the Seminar had been changed to the end of January 1993 in accordance with a proposal from DSN.)
- Ⓑ Responsibility
 - Japanese side:
 - Preparation of interpretation facilities based upon a recommendation by DSN
 - Printing of program and materials
 - Japanese speakers arrangement
 - Interpreter(s) arrangement
 - Transportation service for the speakers
 - Indonesian side:
 - Invitation of local participants
 - Secretariat services (reception, copy, I.D)
 - Nomination of an appropriate local speaker

- Information service for local participants

- Analysing of questionnaire distributed to participants

③ Venue: The Borobudul Inter. Continental, Jakarta

④ Title of the Seminar:

"Seminar on Achieving Competitive Quality through Standardization and Implementing Quality System"

⑤ Guests: One or two representative(s) from each ASEAN country

⑥ Expected number of the participants:

120 with the maximum of 150

⑦ Top Management Seminar: Further discussion should be necessary.

⑧ Others: The progress of preparatory works and any other related matters should be communicated each other through facsimile or telephone.

Based upon the discussion above both sides proceeded with their works respectively.

In June 1992, DSN sent their proposal to JSA by facsimile as outlined below;

① The timing for the the Seminar should be shifted backward to the end (from the 26th to the 28th) of January 1993.

② Further consideration concerning a top management seminar is necessary.

With cooperation from MITI, JSA has developed a tentative seminar program and submitted to DSN for their comment. Upon Ms. Savarain's (UNIDO) visit to Japan in October 1992, Japan has given explanation on the proposal, and she, in principle agreed to the proposal.

The agreed tentative program is as follows;

TENTATIVE SCHEDULE OF THE 3RD UNIDO SEMINAR
IN
JAKARTA INDONESIA
26 - 28 JAN. 1993

DATE	TIME	CONTENTS	SPEAKER
Jan. 26 (Tue)	09:30-10:00	Opening Ceremony	Minister, UNIDO, DSN and others
	10:00-10:20	Break	
	10:20-11:00	Keynote Address	Director-General of Standards Dept. AIST, MITI
	11:00-12:30	What is TQC : -- Overview --	University Professor
	12:30-14:00	Luncheon with all Participants	
	14:00-15:30	Implementation of TQC in Japanese Industries	Expert from Enterprise
	15:30-16:00	Break	
	16:00-17:00	UNIDO Presentation	UNIDO
Jan. 27 (Wed)	09:30-11:00	Quality Control Activities in Small-and-Medium Industry (I) -- Case Presentation --	Expert from Japanese Enterprise
	11:00-11:20	Break	
	11:20-12:50	Quality Control Activities in Small-and-Medium Industry (I) -- Case Presentation --	Expert from Indonesian Enterprise
	12:50-14:20	Luncheon with all Participants	
	14:20-15:50	Implementation of International Quality Assurance Scheme (ISO 9000 Series) I	Japanese Expert
	15:50-16:10	Break	
	16:10-17:40	Implementation of International Quality Assurance Scheme (ISO 9000 Series) I	Japanese Expert

DATE	TIME	CONTENTS	SPEAKER
Jan. 28 (Thu)	09:30-11:00	Country Report Presentation on Education and Training Programme for Standardization and Quality Control	Representative of ASEAN Countries
	11:00-11:20	Break	
	11:20-12:50	Panel Discussion on Education and Training Programme for Standardization and Quality Control	Panel Leader Panelists
	12:50-13:05	Closing Ceremony	UNIDO, DSN, MITI, JSA
	13:05-14:30	Luncheon with all Participants	
	14:30-16:00	Workshop	MITI, UNIDO, Representatives ASEAN Countries
	16:00-16:20	Break	
	16:20-17:50	Workshop (Continued)	ditto

In mid-October 1992, a JSA staff visited Jakarta to elaborately discuss with DSN concerning a joint-seminar and a rental contract for interpretation facilities, as well as to preview the meeting venue and to proceed with necessary preparation for its management.

The result of the discussion is as follows:

[DSN]

- ① Confirmed the overall schedule. DSN expressed their intention as not carry out a Top-Management Seminar. Japan decided to respect the disposition of DSN.
- ② DSN will select appropriate lecture(s) locally by the end of October, and will inform the result to JSA. The material for the lecture will be either mailed or FAXed

to JSA by the end of November.

- ③ DSN will inform JSA of the speakers for the Opening Ceremony and Keynote Address as soon as decided.
- ④ JSA will develop a seminar program which includes information obtained from DSN, and will send the necessary amount of it to DSN by November 20th.
- ⑤ DSN will prepare a quotation for hand-out materials for the participants, such as 150 pieces of bag, and the outcome will be informed to JSA.
- ⑥ Participation fee will be Rp140,000 (corresponds to US\$75.00) per participant, and it will not be collected from government officials.

[Interpretation facilities]

Based on recommendation of DSN, and as a result of preview, it was decided to rent facilities for interpretation and sound system from the Dedung Manggala Wanabakti as outlined below:

Transmitter	1
Loop amplifier	1
Interpreter set incl. booth	1
Receiver	150
Headphone	150
Micro computer	1
Switch board	1
Chairman microphone	1
Delegate microphone	25
Mic cable	25
Others	

[The meeting venue: The Borobudur Inter Continental Jakarta]

By referring to the drawing of the venue, JSA staff checked operation of the meeting venue, as well as arrangements for lunch and coffee-break session with a responsible persons from the Hotel respectively. In addition, the staff made confirmation on reservations for lectures, secretariats and interpreters, etc.

In mid-November, 1992, JSA has completed the program for the Seminar, and have mailed 500 copies to DSN. In parallel, JSA asked DSN to begin the application for the participants. (See ANNEX 1) Along with this, JSA has proceeded with necessary preparation, such as arranging Japanese lecturers, discussion for the content of the lectures, etc. Consequently, the main text has been completed in mid-January, 1993. (See ANNEX 2)

4.1.3 Execution of the Seminar

The Seminar was held from Jan. 26th, 1993 to Jan. 28th, 1993 in a smooth manner.

Centering on Indonesian enterprizes, attendants participating locally counted approximately 120 everyday. In addition to this, two representatives from each ASEAN country (except for Brunei) attended.

[Summary of the first day (1993-01-26)]

-Opening Ceremony (9:30~10:00)

H.E. B.J.Habibie, Minister of State for Research and Technology, delivered a welcome speech followed by a speech by Ms. Savarain, Chief, Basic Unit, UNIDO. (See ANNEX 3)

-Keynote Address (10:20~11:00)

At the beginning of the seminar, a keynote speech was

delivered from Japan and Indonesia.

③ Mr. Mukai, Director General of Standards Dept., AIST, MITI, Japan, talked under the theme of "Current Situation and Prospect of Standardization by Government in Japan", which covered several issues such as JIS, the national standard of Japan, JIS Marking System, the certification system for JIS, activities for promotion of international standardization activities such as that of ISO/IEC, technical cooperation for developing countries, and as to how environmental issues and new technology fields have been dealt. (See ANNEX 2 1-4-1-1-4-6)

④ Mr. Herudi, Chairman of Executive Council Indonesia, has delivered a speech concerning standardization in Indonesia, present situation related to quality control, how they deal with ISO 9000 series, importance of testing and metrology, as well as cooperation between ASEAN countries and Japan for quality control. (See ANNEX 4)

SESSION 1: QUALITY MANAGEMENT

"What are the Bases for Companywide Quality Control
- An Overview -" (11:00-12:30)

By Dr. Yoshio Kondo, Professor Emeritus, Kyoto Univ.

The abstract of Dr. Kondo's speech was that:

Quality is the key to competitiveness in the opening global market. The special features of quality of longer history and of common concern between manufactures and customer make it more compatible with human nature than cost and productivity. When quality is improved in a creative way, cost is reduced, and productivity is increased. In addition to improving "must-be" quality, providing "attractive" quality is indispensable for exploiting the way to customer

satisfaction. By doing this, the growth of market due to synergetic effect can be anticipated. By following the cycle of plan-do-check-act, not only the result of the work but also the process itself are improved in an upward spiral. Inductive problem solving approach is being widely applied for the process improvement. Comparing the Japanese strategies with the lessons learned by the American companies which won the Malcolm Baldrige National Quality Award, it was revealed that the way leading to the world-class quality is very similar. (See ANNEX 2 1-6-1-1-6-11)

"Application of CWQC to the Company Management"

(14:00-15:30)

By Mr. Masaru Sekiguchi, Advisor, Eiko Ltd.

To follow Dr. Kondo's speech, Mr. Sekiguchi gave lecture on how CWQC can be promoted in corporations by taking a Japanese corporation as a case study. He explained policy management, procedure for solving problems through QC story, and effective use of QC seven tools. Furthermore, he explicated standardization, QC circle activities, internal-audit system and importance of education and training employees, etc. (See ANNEX 2 1-7-1-1-7-20)

"UNIDO Programme on Quality Standardization and Metrology"

(16:00-17:00)

By Mr. Gilles Ledoux, Associate Industrial Development Officer, UNIDO

To follow is an abstract of presentation of Mr. Lodoux:

UNIDO has been engaged in an extensive programme of technical assistance developing countries in the disciplines of Quality, Standardization and Metrology (QSM) since 1967. This has provided valuable development to the relevant

organizations, institutes and enterprises of recipient countries. This paper describes how, based on actual mechanisms of Quality at the

national level, UNIDO can assist governments to assess and design development programmes in the field; then how the technical projects' contents have changes during the last few years to fulfil higher development needs and take international new practices into account.

(See ANNEX 2 1-8-1-1-8-24)

(Summary of the second day (1993-01-27))

SESSION II : QUALITY SYSTEM IN SMALL AND MEDIUM SIZED COMPANY

"Quality Control in Small and Medium-size Industries"

An Approach for the Improvement of Manufacturing Quality

(9:30-11:00)

By Masatoshi Ishino, Manager of Quality Assurance Dept.,
TOSHIBA Lighting and Technology Corporation

Toshiba Lighting & Technology Corporation (TLT) was established in 1989 by combining the Lamp Division of 100-year old Toshiba Corp., Toshiba Electric Equipment Corporation and Toki Electric.

Although the number of employees of the company is 4,100, the company comes under the category of medium-size corporation in Japan. The company has, in its name a hallmark of a famous company, Toshiba, nevertheless, Mr. Ishino introduced the company's quality system which is independent from the parent company, and which is based upon their own management policy as a medium-size company.

(See ANNEX 2 2-1-1-2-1-20)

"Quality Control in Small and Medium scale Industries"

- Case Study: P.T. EDS Manufacturing, Indonesia -

(11:20-12:50)

By Mr. Leo J. Susilo, Vice President, P.T. Astra Int'l.

P.T. Astra is an affiliated company of Toyota (Japan).

P.T. EDS Manufacturing Indonesia comes under the umbrella of the P.T. Astra and produces wiring harness. The number of employees is 950. Mr. Susilo, by using OHP, introduced quality system in P.T. EDS Manufacturing Indonesia.

(See ANNEX 5)

Mr. Susilo took place of Mr. Wiran Tanjung, P.T. Nippon Denso, Indonesia, who was, at first, scheduled to be a speaker.

SESSION III : ISO 9000 SERIES

"Significance of Firm Registration in Accordance with ISO 9002"

(14:20-15:50)

By Mr. Susumu Tsunasawa, Section Manager, QC Section, Suzuka Fuji Xerox Co., Ltd.

Suzuka Fuji Xerox Co., Ltd. is a subsidiary company of Fuji Xerox, and supplies electronic and electric parts to domestic and overseas manufactures producing OA machines and information equipments. The capital is 4 billion Japanese yen. The number of the employees is 1,100. Mr. Tsunasawa explained process and procedures for acquiring ISO 9002 (Firm Registration), as well as how the assessment has been taking place after acquiring the ISO 9002. He concluded his speech by clarifying that a base for acquiring ISO 9002 was set upon TQC activities which had been promoted in the company, and in order to enforce company structure,

harmonization of traits of ISO 9000 and their TQC activities is necessary. (See ANNEX 2 2-3-1-2-3-9)

"What is Needed for Enterprises Seeking Registration to ISO 9000 Series Standards?"

(16:10-17:40)

By Mr. Chikafumi Morita, Director, Quality Assurance Center, JMI Institute

JMI Institute is one of the assessment bodies for ISO 9000 series in Japan. Mr. Morita explained background of ISO 9000 boom currently perceived world-wide including Japan, and a basic policy and attitude of Japanese corporations towards obtaining ISO 9000 registration. Further, as an assessor, he explained important points for establishment of quality system based on the standards of the ISO 9000 series, respectively. (See ANNEX 2 2-4-1-2-4-17)

[Summary of the third day (1993-01-28)]

Country Report Presentations on Education and Training for Standardization and Quality Management (9:30-11:00)

Acquiring the ISO 9000 firm registration does not directly relate with improvement of the quality of products. Maintaining fruit of efforts, which were exerted to improve the culture and attitude of the corporations, aiming to obtain the ISO 9000, and furthering positive quality improvement activities based on established quality system, will lead to increase the competitiveness in the market.

In order to establish the quality system, improvement of consciousness concerning quality of top-managements to general workers is indispensable. In this direction, provision of training and education concerning quality control is of primary importance.

In this country report presentations, current situation and present problems concerning standardization taking place in ASEAN countries, including that of ISO 9000 series, as well as admiration and education & training concerning quality control were presented based on the position papers by the speakers, respectively

(INDONESIA)

① Mr. Suryadi H. and Mr. Kristiant W.

Center for Standardization - LIPI/DSN Secretariat.

Paper: Education and Training Programme for Standardization and Quality Management in Indonesia. (See ANNEX 6)

② Ir. Soebroto, M. Sc.

Chairman of Institute for Total Quality Control/MOI.

Paper: Some Brief Observation of T.Q.C. Activities in Indonesia (See ANNEX 7)

(JAPAN)

Mr. Kunio Inoue

Director for International Standardization Affairs,
AIST. MITI.

Paper: Problems Concerning Training of TQC and ISO 9000 Series for Small and Medium Size Businesses

(See ANNEX 8)

(MALAYSIA)

③ Mr. A. Aziz Mat

Deputy Director (Quality Assurance)

Standards and Industrial Research Institute of

Malaysia (SIRIM)

Paper: Quality Schemes in Support of Malaysia's
Industrialization Programme (See ANNEX 9)

- ⑥ Ir. Gian Singh P.E.
Deputy Director of Productivity and Quality Improvement
National Productivity Corporation (NPC)

Paper: Quality Education and Training (See ANNEX 10)

(THE PHILIPPINES)

Mr. Renato V. Navarrete
Director
and
Mr. Edison G. Calauor
Bureau of Product Standards (BPS) /DTI.

Paper: Education and Training Programme on Standardization
and Quality Management in the Philippines (See ANNEX 11)

(SINGAPORE)

Mr. Teo Nam Kuan
Novo Quality Service
and
Chang Weng Leong
Singapore Institute of Standards and Industrial
Research (SISIR)

Paper: Country Report of Singapore (See ANNEX 12)

(THAILAND)

- ① Ms. Kanya Sinsakul
Deputy Secretary-General

Thai Industrial Standards Institute (TISI) /MOI

Paper: Standardization and Quality Control in Thailand

(See ANNEX 13)

⑥ Mr. Prayoon Shiowattana

General Manager

Technological Promotion Association (Thai-Japan)

Paper: Education and Training Program for Standardization and Quality Management in Thailand: Private Org.

(See ANNEX 14)

Panel Discussion on Education and Training Programme for Standardization and Quality Management

(11:20-12:50)

Panel Leader: Mr. K. Inoue

Panelists : ASEAN Representatives

Dr. Y. Kondo (Japan)

Mr. G. Ledoux (UNIDO)

The Panel Discussion was proceeded in such manner that Mr. Inoue, Panel Leader, summarized the Country Report Presentation and made questions to each Panelist concerning following items and they answered:

- ① How to extend Training and education to small and medium sized company especially in case of TQC and ISO 9000
- ② Way of thinking concerning relationship between TQC and ISO 9000
- ③ Facing issues when conduct the education and training for TQC and ISO 9000, and possible ways to overcome them

-Closing Ceremony

Mr. Bambang, Secretary of Executive Council, DSN, developed a closing speech followed by a speech by Mr. Gen-ichi Fukuhara, Director General of JSA.

4.2 Video Tape

JSA prepared 3rd volume of audio-visual training material (video tape) titled "Quality Assurance and Quality Systems" in three video formats (VHS-SECAM, VHS-PAL and VHS-NTSC) in English and sent them to UNIDO together with the INTERIM-REPORT of Jan.25, 1993.

The following description is the abstract from the INTERIM-REPORT:

Activities and Achievements for Video Tape

We (JSA) made Vol.3 on a subject "Quality Assurance and Quality Systems" as the second of particular subjects.

Based on the concept that is important to maintain quality assurance as "systems" in order to construct the quality assurance systems, we tried to make explanations from the standpoint that the subject should be understood and trusted not from the sides of makers and sellers but from the sides of users and buyers.

As in the cases of Vol.1 and Vol.2, we held meetings 7 times of the video production committee consisting of specialists in the field of electricity and electronics, precision machinery, iron and steel as well as standardization consultants and officials of relevant government offices, Yozo Mukawa, honorary professor at Chuo University as the chairman. The company which had cooperated in filming on the spot also joined the committee as a temporary member to express its concrete opinion.

The committee particularly took into consideration the

following three points:

- 1) Production of video tapes which would assist the standardization body of each country for promulgating and educating quality system in its industries,
- 2) Production on the level specialized to some extent assuming that Vol.1 and Vol.2 had been mastered and basis created to some extent, and
- 3) Introduction of the ISO 9000 series as specific examples of quality assurance and quality systems; acceptance of the compliance with the ISO 9000 as conditions for smooth international transactions (measures for smooth exports).

A scenario (a draft) had been revised many times and finally, we made a scenario consisting of the following six chapters:

- 1) Prologue,
- 2) Quality Systems for Quality Assurance,
- 3) What is a Quality Systems (the ISO 9000 series)?,
- 4) This company which Applied Assessment and Registration according to the ISO 9002,
- 5) In the Future, and
- 6) Epilogue.

When making Chapter 4, particularly, we received full cooperation from the Video Products Division, Company of Japan, Ltd. which had received in May, 1992 assessment and registration in accordance with the ISO 9002 in the field "Production of video decks fro civilian use," and went on location for two days for on-the-spot filming of the Yokosuka Plant.

To enhance the effectiveness of these video tapes as a teaching aid, sub-texts were prepared so that viewer/listener would not miss the message even though he/she may have not heard or missed the narration.

The video tapes are available in all three video

formats: VHS-SECAM, VHS-PAL and VHS-NTSC in English.

Furthermore, we (JSA) recorded English commentary and music/effects on separate tracks to enable dubbing of the English version in French and Spanish so that the video tapes might be effectively used in various countries.

5. Remarks

5.1 Seminar in Jakarta, Indonesia

Seminar in Jakarta, Indonesia was the 3rd one which was sponsored by UNIDO, following last 2 Seminars held in Bangkok, Thailand (Jan.1990) and in Kuala Lumpur (Oct.1991), in the field of Standardization and Quality Control.

JSA, as the subcontract organization, implemented the Seminar based upon accumulated experiences of last two Seminars, in cooperation with the counterpart organization (DSN) under the guidance of AIST. MITI, Japan.

The Seminar title was "Achieving Competitive Quality through Standardization and Implementing Quality System", taking into consideration of the necessity of fostering recognition of harmonized integration of TQC and ISO 9000 series. And reflecting to the importance of education and training for quality control to achieve competitive quality, present situation and facing issues were reported by the representative(s) from the ASEAN countries respectively in the Country Report Presentations Session.

The Seminar was indeed a success. In accordance with the evaluation sheet (See ANNEX 16), the number of the participants are approximately 120 everyday, and degree of satisfaction reached 62.5%.

5.2 Video Tape

The video tape of Vol.2 "Standardization" was made in the style of conversations between Mr. A and Mr. B, but this volume (Vol.3) was made in the style of news comments by a female reporter's interviews.

In Chapter 1, by overseas telephone inquiries, acquisition of the third party registration of the quality systems based on the ISO 9000 series as a condition for smooth international transactions was discussed.

In Chapter 2, the basic knowledge of quality assurance and quality systems was explained and the relation to the ISO 9000 series was discussed.

In Chapter 3, important points of the requirements of the ISO 9001, 9002, and 9003 were explained. The elements of quality assurance and quality systems were explained step by step in Chapter 4 by making a trip to the Yokosuka Plant, Video Products Division, Victor Company of Japan, Ltd. which had received mutual recognition by BSI and JMI and the background of introduction of the ISO 9002 and its effects were discussed. In other words, its factory manager explained that by comparing the internal quality management system with the ISO 9002 series the factory's conventional TQC had been straightened out, the weak points of its old fashioned quality management system adjusted, and improvement of the structure of the entire factory achieved.

In Chapter 5, we emphasized that our efforts would not end by passing assessment and registration of the ISO 9002 but we should rather have a concept that a new start would begin from there and we should make efforts for development of products and improvement of quality and quality systems.

The scenario was concluded in Chapter 6.

In addition to the video tapes Vol.1, Vol.2 and Vol.3 it is advisable to produce audio-visual aids at a rate of one every year under the following subject:

Vol.4 Statistical Methods

Vol.5 Activities on QC Circles

Vol.6 Total Quality Control

(Company Management and Quality Control)

It is expected that the integrated effect of a series of Vol.1 to Vol.6 as well as that of education with each particular subject will help promote the popularization and recognition of each subject which will help the industrialization of developing countries and their economic development.

INTRODUCTION

In order to improve the quality of products of a country which will eventually lead to enhancement of its exports and international competitiveness, promotion of standardization and quality management is indispensable.

Japan has consistently been making efforts to encourage its industry through development of Japanese Industrial Standards (JIS), effective application of JIS Marking System as well as promoting companies' quality management activities, and as a result, a firm basis for industrialization has been established.

More recently, Japan also pays particular attention to the world wide trend on the prevalence of quality system through ISO 9000 Series as a quality improvement tool.

UNIDO, which is well aware of the needs and importance of industrial development in a more integrated fashion for developing countries, is actively carrying out implementation of its extensive programmes in the pertinent fields.

This joint technical cooperation of UNIDO and Japan is expected to contribute to accelerating the process of establishing an industrial basis and infrastructure in the field of standardization and quality management in developing countries.

SEMINAR OBJECTIVE

This seminar is specially organized for the middle-level managers who are directly responsible for promoting and implementing standardization and quality management in their factories or governmental agencies in Indonesia and ASEAN countries.

The following achievement can be expected by participating in the seminar:

- 1) to enhance quality consciousness
- 2) to familiarize with the companywide quality management,
- 3) to understand the significance of cooperative effort between government and industry for quality improvement.
- 4) to understand how to promote company standardization and quality management activities in small and medium sized companies
- 5) to grasp the keypoints for companies to be registered to ISO 9000 series
- 6) to understand the effectiveness of education and training

PROGRAMME

TUESDAY, 26th JANUARY 1993

8 30	9 30	Registration
9 30	10 00	Opening Ceremony Welcome Speech by Mr Bambang H HADIWIARDJO Secretary of Executive Council, DSN Address by Ms Magdalena F SAVAHAIN Chief, Basic Technology Unit, UNIDO Opening Address by Chairman of DSN
10 00	10 20	Coffee/Tea
10 20	11 00	Keynote Address 1) Mr Tamotsu MUKAI Director General of Standards Dept., AIST, MITI 2) Mr Herudi KARTOWISASTRO Head of Executive Council/Secretary of DSN
SESSION I QUALITY MANAGEMENT		
11 00	12 30	What are the Bases for Companywide Quality Control (CWQC) An Overview Dr Yoshio KONDO
12 30	14 00	Luncheon
14 00	15 30	Application of CWQC to the Company Management Mr Masaru SEKIGUCHI
15 30	16 00	Coffee/Tea
16 00	17 00	UNIDO Presentation Mr Gilles LEDOUX

WEDNESDAY, 27th JANUARY 1993

SESSION II QUALITY SYSTEM IN SMALL AND MEDIUM SIZED COMPANY		
9 30	11 00	Approach for Improvement of Manufacturing Quality Case Presentation Mr Masatoshi ISHINO
11 00	11 20	Coffee/Tea
11 20	12 50	Q C in Small and Medium Scale Industry Case Presentation Mr Wiran TANJUNGAN
12 50	14 20	Luncheon
SESSION III ISO 9000 SERIES		
14 20	15 50	Significance of the activities to obtain registration based on ISO 9002 Mr Susumu TSUNASAWA
15 50	16 10	Coffee/Tea
16 10	17 40	What is needed for enterprises seeking registration to ISO 9000 Series Mr Chikatumi MORITA

(Cont'd)

SEMINAR ON ACHIEVING COMPETITIVE QUALITY THROUGH STANDARDIZATION AND IMPLEMENTING QUALITY SYSTEM

REGISTRATION CARD

Please return this card before 15th January 1993,
to DSN, Sasana Widya Sarwono
LIPI Jl. Gatot Subroto 10,
JAKARTA 12710

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(Rp 140,000 include Luncheon and Coffee Break Charges)

For enquiries on this seminar, please contact DSN.

Tel: (021) 520 6574 (021) 522 1687 Fax: (021) 520 6574

**Minister of State for Research and Technology
Chairman, Agency for the Assessment and Application of Technology,
Chairman, National Research Council
Chairman, Agency for Strategic Industries
Chairman, Standardization Council of Indonesia
Republic of Indonesia**

Excellencies,
Mr Chairman,
Distinguished Delegates and Participants,
Ladies and Gentlemen.

Allow me to convey a sincere welcome to the representatives of the United Nations Industrial Development Organization (UNIDO), the Ministry of International Trade and Industry of Japan, representatives of the ASEAN countries on standardization, business communities and concerned institutions, meeting here to attend this Seminar on Achieving Competitive Quality Through Standardization and Implementing Quality System.

The topic of this seminar is timely and important as every region in the world is undergoing major changes which in turn have direct impact on international trade.

Mr Chairman,
Distinguished Delegates,
Ladies and Gentlemen,

Sufficient amounts of a society's human and natural resources over a sufficiently long time must be invested in the construction of an economic system and the maintenance of its competitiveness in its own and the world markets. As in physics, also in society, something cannot be created out of nothing. If a society desires an efficient and balanced economic system it must be prepared to invest in formal and informal education, which instills the values of entrepreneurship, of workmanship, of diligence and attention to detail, and in addition, gives appropriate weight to science and engineering knowledge and skills. It must also invest in the appropriate plant and

equipment for basic science and the development of new and better products and services in fields central to its existence as a society and to its functioning as a competitive, and therefore useful, member of the system of international exchange of information, knowledge, goods and services.

How much a society must invest in the basic underpinnings of a well functioning economic system depends on its resource base, its level of development, the constraints it confronts and its present position in terms of international competitiveness and the time allowed to it to become or remain internationally competitive. Indonesia, must rapidly catch up if it wants to create a comparative advantage in certain high-level manpower-based industries such as medium-size aircraft, ships, low-end electronics, and engineering industries, and low-level manpower-based industries such as textiles and other consumer durables and non durables based on a combination of manpower and natural resources.

We in Indonesia have made a commitment to make these investments. With a territory which contains 17,508 islands in an area of 2 million square kilometers stretching 5,000 kilometers from Sabang to Merauke, and a population of 185 million people, the major problem for Indonesia is to meet the basic needs of its population : food, health, education, clean water, housing and a healthy life environment, etc. , as well as to make more complete its economic infrastructure : land, sea and air transportation, telecommunications, and energy.

At this time, Indonesia is already self-sufficient in rice, fertilizer and pesticides. But in order to be able to maintain the continuity of Indonesia's successes in solving its agriculture problems, especially in food agriculture, there is a continued need to improve the engineering industry and the agricultural equipment industry. The pressure of these problems compels us to use all the technology available in the world today including sophisticated technologies.

In its effort to fulfill the basic needs of its population, especially in food, Indonesia has for a long time used remote sensing techniques such as aerial photography and radar and satellite imagery (Landsat) for natural resource mapping and the NOAA weather satellite and GMS (Geostationary meteorological satellites) to monitor the weather. GMS data are also used to monitor

sea currents, spawning grounds and other oceanological data relevant to fisheries.

In agriculture, Indonesia intends to apply plant biotechnology to raise the nutritive quality of rice, to develop cell fusion technology and clone production or hybrid coconut and other cash crops. In animal husbandry, test diagnostics are being developed for the study of certain prevalent diseases. In applying biotechnology to health, the development of diagnostics as well as vaccines against the hepatitis-B virus, the application of state-of-the-art fermentation technology to the production of anti-rabies vaccines, and the development of production facilities of tetracycline and other antibiotics are being planned.

Because of the need to replace Mc Donnell Douglas DC-9 and Fokker F-28 aircraft we are developing the N-250 aircraft designed for 50 passengers, using composite material, fly-by-wire, and other state-of-the-art technologies.

Given its geography, telecommunications in Indonesia cannot be divorced from satellite telecommunications. Satellites are not only important as a communication service facility, but also as a facility for education and nation unification for its many societies with their varied languages, arts and customs, all with the common desire to realize justice and welfare under the Pancasila, our national philosophy. Although today IPTN Nusantara Aircraft Industry is not yet a participant in the production of the Palapa-A, Palapa-B and Palapa-C satellites manufactured by Hughes as a platform for telecommunication services, it plans to participate in the definition, integration and production of the Palapa-D. In addition, PT INJI and other Indonesian companies are active in the production of telephone equipment as well as in the co-production of switching systems under license from international companies.

These are only some of the examples of the areas in which the appropriate levels of investment are currently being made for Indonesia to develop and restructure its economy into the high performance productivity and balanced economic system I have described previously.

For the same reasons that it would be both unwise and impossible for highly advanced industrial societies to consciously evolve their economies into one based only on services and information, given its geography and its natural and human resource endowments, we feel that it would be unwise for developing countries such as Indonesia to remain an agriculture and raw material based economy and are convinced that it is both necessary and

possible to develop manufacturing and the requisite educational, science and technology and economic infrastructure.

Mr. Chairman,
Distinguished Delegates.
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To be more competitive, we have to improve the quality of our products. This has to be supported by standardization activities, improvement of quality control, implementation of quality system, improvement of manpower skill and productivity. A lot of work remains to be done by the Standardization Council of Indonesia in cooperation with private industry.

We have succeeded in building a new momentum which we believe will give the strength to our economy to achieve sustained growth. The growth of non-oil exports is one of the most significant indicators of our economic progress. Today, non-oil exports constitute more than 60 percent of our total exports, while manufactured goods have become the main source (i.e. 80%) of non-oil exports. Industrial growth in 1991 was 11.03 %, much faster than the over 6.6% over-all growth of the economy.

But we need to consolidate this growth in the years to come. In this era of globalization industry must continuously improve its competitiveness both in local and international markets. To this end, it must continue to improve the quality of its products. It must implement quality systems. Effective cooperation between the government and industry is essential. Our products have to compete in price and quality with our neighbouring ASEAN countries in the European Community markets, the NAFTA market, and other markets of the developed countries.

The European Single Market will promote European economic competitiveness through efficiency improvement and increased economic scale. It is to be expected that there will be an increase in the imports by the European Community from developing countries. But in order to realize these opportunities, we must meet European Standards. We must keep up with the latest developments in the standards that apply in Europe. The New Approach to Technical Harmonization and Standardization was established by the European Community to promote trade within the Community. The New Approach links closely legislative requirements and standards. The legal

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Let me close by conveying my best wishes to all participants of the Seminar On Achieving Competitive Quality Through Standardization and Implementing Quality System, and my hope that you will find it useful.

Finally, I am pleased to declare the Seminar on Achieving Competitive Quality Through Standardization and Implementing Quality System officially open.

Thank you for your kind attention.

Jakarta, January 26, 1993.

B.J. HABIBIE

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KEYNOTE ADDRESS

STANDARDIZATION ACTIVITIES IN INDONESIA

By Herudi Kartowisastro
Chairman of Executive Council

I. Development of Standardization in Indonesia

Standardization has contributed to the building of Indonesia's development infrastructure and helped rationalize production in its industries, agriculture section, and service sectors.

The need of coordinating body in standardization activities has been responded by government which established the Standardization Council of Indonesia (DSN) in 1984.

The purpose of DSN is to Promote:

- (i) improved quality and rationalized production
- (ii) smooth and fair trade
- (iii) rational consumption through appropriate and rational "standards".

To achieve these goals, the DSN through its executive council established six committees to support its tasks which works in standardization activities, including standard formulation, testing and certification, and metrology.

Until the last plenary meeting of DSN, there have been 3246 standards approved to be promoted as Indonesian national Standard (SNI). This is quite an achievement considering that many of the standards were originally from several standards of different ministries, and it need consensus among them to make a single standard proposal.

Beside SNI, several guides in implementing standardization have also been approved by DSN. These guide are important to support a system in which standardization activities implemented, including testing, inspection and certification.

It has been decided that starting on the 1st of April 1994, the SNI will be fully implemented. The only marking nationally accepted will be SNI mark. There should be no sectoral marking anymore. It is also expected that most of ministries standards can be promoted to SNI. The National Standardization System will also be implemented, including the accreditation and certification systems.

II. Development of TQC/QCC In Indonesia

Total Quality Control (TQC) has entered in Indonesia long before ISO 9000 has did. Effectively Indonesia started TQC and Quality Control Circle(QCC) in 1985. At that time there were 52 companies applying TQC and QCC, with total of 3,605 Circles and 27,243 members. In the years after, TQC/QCC in Indonesia has been growing, with the last data found there are more than 644 companies, 24,813 circles, and 207,750 members applying TQC.

This growth still continues since the result and contribution to the company and employes are significant. The activities prove to give improvement to the employee personalities and company's efficiency.

The Indonesia Quality Control Circle Convention (IQCCC) is held every year natioanally, with the most recent one was held in December 1992.

III. Recent Development of ISO 9000 In Indonesia

The publication of ISO 9000 series in 1987, together with the accompanying terminology standard (ISO 8402) has brought harmonization on international scale, and has supported the growing impact of quality as a factor in international trade. The ISO 9000 series has quickly been adopted by many nations and regional bodies, and is rapidly supplanting prior national and industry-based standards. Until now there have been 46 country adopting this standard as their national standard, including the developed industrial countries such as Japan, Europe and USA.

Indonesia is one of them; we have adopted ISO 9000 as SNI Series 19 - 9000.

Basically ISO 9000 gives guidelines on how to organize quality system using principles as follows:

- Method of implementing quality system
- Involvement of all organization's staff and management
- Clear and unambigious procedures and documentation

Currently several companies have applied to some certification bodies to be registered in implementing ISO 9000. Though this can be considered as indication of the awareness of industries in Indonesia to the global trend of quality system, the fact that the certification bodies come from abroad shows that we are still one step behind. The absence of

certification body in Indonesia is still a challenge for all of us, to work harder, especially comparing to our neighbouring countries, for example Malaysia and Singapore which have already their certification bodies and have started their registration of ISO 9000 implementation. We need to move as fast, otherwise we will be further and further behind. In this current development, active participations from all parties, i.e. producers, consumers, professionals, and government, are badly needed.

Close relationship and cooperation among these parties have to be maintained to achieve the ultimate goal, i.e. to build a strong ground of quality and recognition where our national trade and thus national economic can stand on.

At the moment, the Standardization Council of Indonesian or DSN, is developing a national standardization system, abbreviated as SSN, in which the standardization activities including testing laboratories, certification bodies, and inspection bodies are constructed under a national body called National Accreditation Body (KAN). This body is the only national body which will accredit all other bodies, governmental or private, which want to participate in standardization activities. KAN is also responsible in developing a credible accreditation and certification system and seeking mutual recognition with similar bodies in other countries.

Of course KAN cannot stand alone, it needs active participations from other parties, both government and private sectors.

Though the system under KAN has not been complete yet, some guides still need to be finished, government and private business are invited to fill the system in a parallel way, especially for the need of certification body. It is a good chance, eventhough it is also tough challenge, to develop certification bodies in this nation. The presence of such bodies in Indonesia will greatly help our industries and trade, especially in promoting ISO 9000 implementation in medium and small scale industries, as domestic certification bodies certainly reduce the cost of assessment and registration.

We can still be optimistic. At least we have about 35 assessors already finished their "lead Assessor" training organized by internationally recognized training organization. What they have to do now is to get experience by directly assessing companies under supervisor of internationally registered assessor. To anticipate this problem, we are trying to cooperate with other countries. Hope we fully we can solve this problem, and therefore in the near future will have our own registered assessors.

IV. Development of Testing and Metrology

Globalization has become a present reality in the few years since the ISO 9000 Series was published. Today, all but the smallest or most local commercial and industrial enterprises are finding that their principal market-place competitors include companies headquartered in other countries. Consequently, product development and marketing strategy must be done globally to reckon with global competition. Quality continues to grow in importance as a factor in market-place success.

Testing laboratories have been and are still important "tools" as quality control. Their main task is to determine whether a product is in conformance to a standard or not. The result of is very crucial, a small fault of measurement or measuring instruments can allow non-conformance products to go to the market, which will in turn cause serious damage to the manufacturer's reputation. For this reason alone, it is clear that a testing laboratory must satisfy certain criteria so that the laboratory has ability to fulfill its task properly.

The internationally accepted criteria of testing laboratory is the ISO/IEC Guide 25 which has been adopted by DSN as DSN Guide 01-1991. This guide will be endorsed by DSN for a testing laboratory to be accredited by KAN. The requirement of satisfying the guide is to promote and maintain credibility of Indonesian testing laboratory. To maintain and synchronize their accuracy and precision, all the accredited testing laboratories cooperate in a National Testing Laboratory Network. In this network, they make inter-laboratory proficiency test.

In this relation, a national calibration system is also developed to support the National Testing Laboratory Network. The system is called the National Calibration Network. The heart of the system is the laboratories of national standard for measurement unit. These laboratories, the R & D centre for Calibration, Instrumentation and Metrology, National Agency for Atomic Energy (BATAN) and Directorate of Metrology, keep the highest level of basic units in Indonesia. Under these laboratories, a network of calibration centres was developed which currently consists of 21 members.

This network together with the testing laboratory network will greatly support the effort of promoting and maintaining quality of Indonesian products, especially in creating an atmosphere for accreditation and certification system currently developed by KAN.

Cooperation with other countries is also being carried out. This cooperation has a purpose of increasing the capability of the networks and ultimately getting international recognition.

V. Asean and Japan Cooperation on Quality Assurance

It cannot be denied that the economic development in ASEAN region grows relatively rapidly, even some countries have achieved "double digit" growth. The development of "Pacific Rim" region is projected to be developed rapidly and this will make the region to be an important economic region in the world. The economic relationship between Japan and ASEAN countries has reached an important and deterministic stage to the future development of ASEAN economy.

In the other hand, the ASEAN decision to develop AFTA fully in the next 15 years force us to improve and develop the cooperation among its members in the field of quality system. This is required to anticipate the international competition as the globalization is becoming a reality that we cannot close our eyes from.

The world trends of globalization has to be anticipated with the improvement of infrastructure and personnel capability in Quality system in each ASEAN member, and through a cooperation with Japan hopefully we can succeed in achieving our goals, to promote quality of ours.

I do really hope that in this meeting we can start this effort, and for ASEAN countries I do really hope cooperation in Quality System and Quality Assurance can be improved and can become a formal cooperation among ASEAN countries. Let us together consider and learn how the Japan moved to develop the cooperation between ASEAN-Japan, that Japan is politically, geographically and in trade, close to us.

VI. Conclusions

The creation of the economic blocks forces a harder effort of our industries to get through the blocks. Only those who succeed in these efforts will survive in our highly - competitive world. The establishment of European Market, NAFTA, and AFTA for example, has to be anticipated in the right manner. One of the anticipations required is quality.

ISO 9000, which goes along with Total Quality Control, is a tool to improve quality assurance of a company. By applying quality system, it is expected that Indonesian product will be more reliable in term of quality. This will increase the competitiveness of

the products in the market, domestically or internationally. Also the reputation of Indonesian products will be kept highly which is of course great advantage in the long run.

Finally, the participation of all parties, government, and private sectors, is required to establish a system in which all standardization activities are coordinated and synchronized to support the promotion of quality among industries, big and small scales. It needs hard work, but surely it will be fruitful.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO)
SEMINAR ON
ACHIEVING COMPETITIVE QUALITY THROUGH
STANDARIZATION AND IMPLEMENTING QUALITY SYSTEM

QUALITY CONTROL IN SMALL AND MEDIUM SCALE INDUSTRY
CASE STUDY : P.T. EDS MANUFACTURING INDONESIA

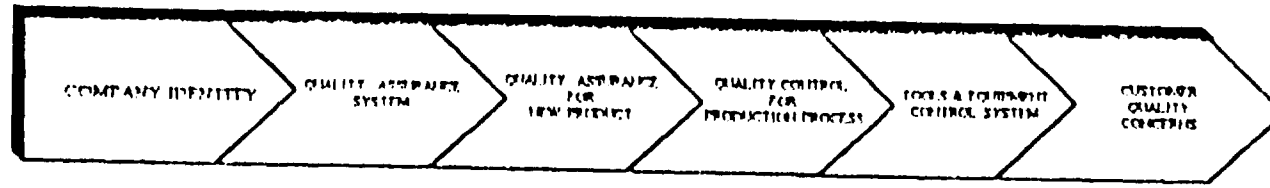
BY :
LEO J. SUSILO
SHERLY HIDAYAT

26 th - 28 th, JANUARY 1993
THE BOROBUDUR INTER, CONTINENTAL JAKARTA

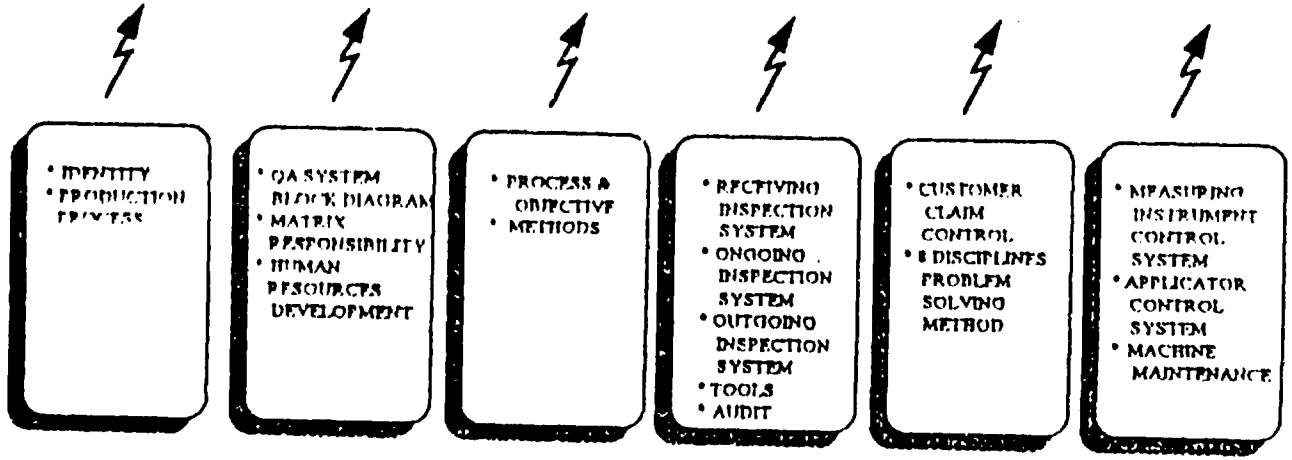


PRESENTATION SYSTEMATIC

Technology
Development
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QUALITY SYSTEM





PRESENTATION SYSTEMATIC

Technology
Development
Division



- IDENTITY
- PRODUCTION PROCESS

- QA SYSTEM
- BLOCK DIAGRAM
- MATRIX RESPONSIBILITY
- HUMAN RESOURCES DEVELOPMENT

- PROCESS & OBJECTIVE
- METHODS

- RECEIVING INSPECTION SYSTEM
- ONGOING INSPECTION SYSTEM
- OUTGOING INSPECTION SYSTEM
- TOOLS
- AUDIT

- CUSTOMER CLAIM CONTROL
- 8 DISCIPLINES PROBLEM SOLVING METHOD

- MEASURING INSTRUMENT CONTROL SYSTEM
- APPLICATOR CONTROL SYSTEM
- MACHINE MAINTENANCE



COMPANY IDENTITY

Technology
Development
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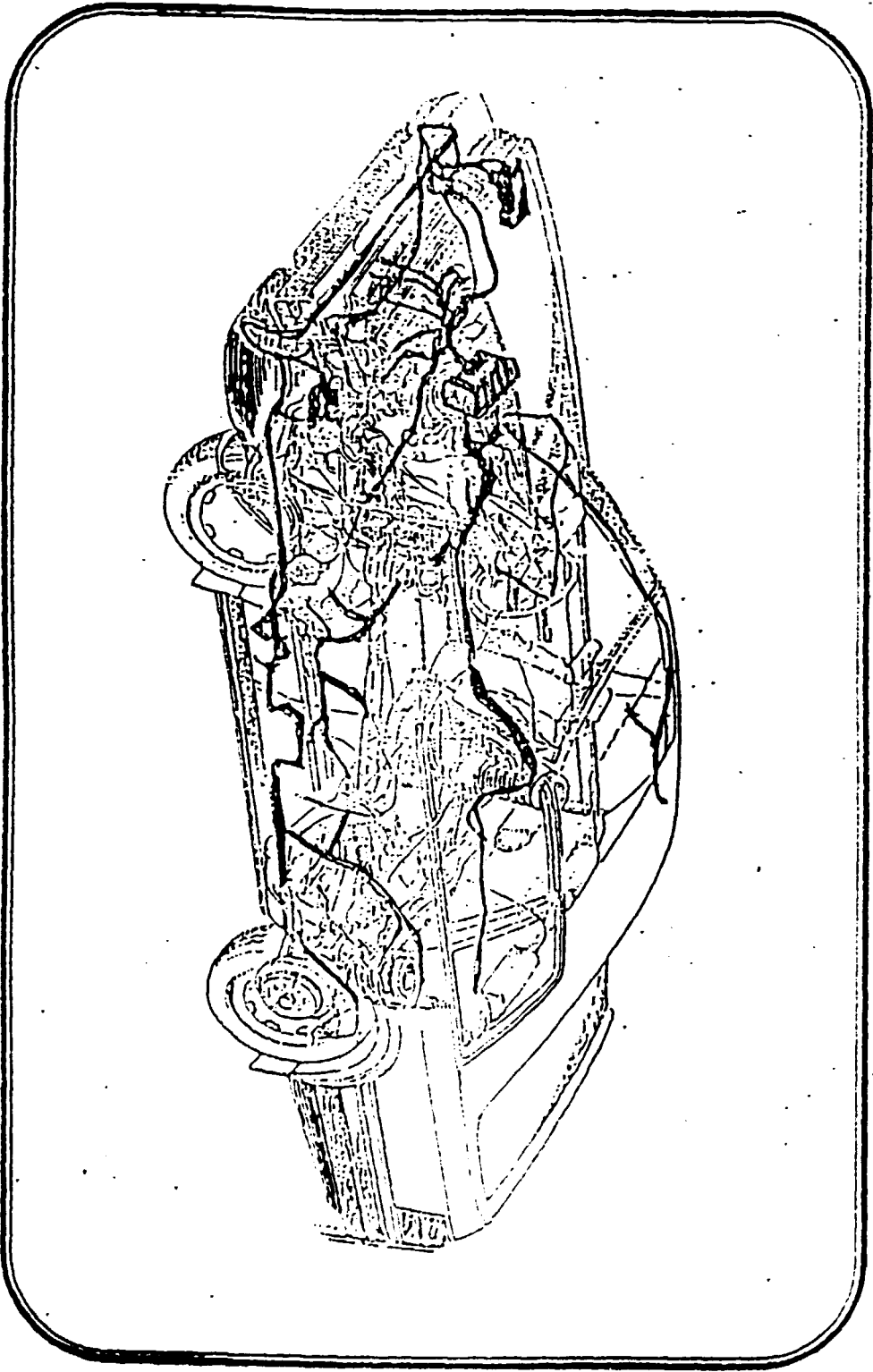
P.T. EDS MANUFACTURING INDONESIA

LOCATION : BALARAJA, WEST JAVA
PRODUCT : AUTOMOTIVE WIRING HARNESS
MAN POWER : 950 PERSONNEL
MARKET : AUSTRALIA AND USA
TOTAL EXPORT: US\$ 1,000,000 / MONTH



AUTOMOTIVE WIRING HARNESS

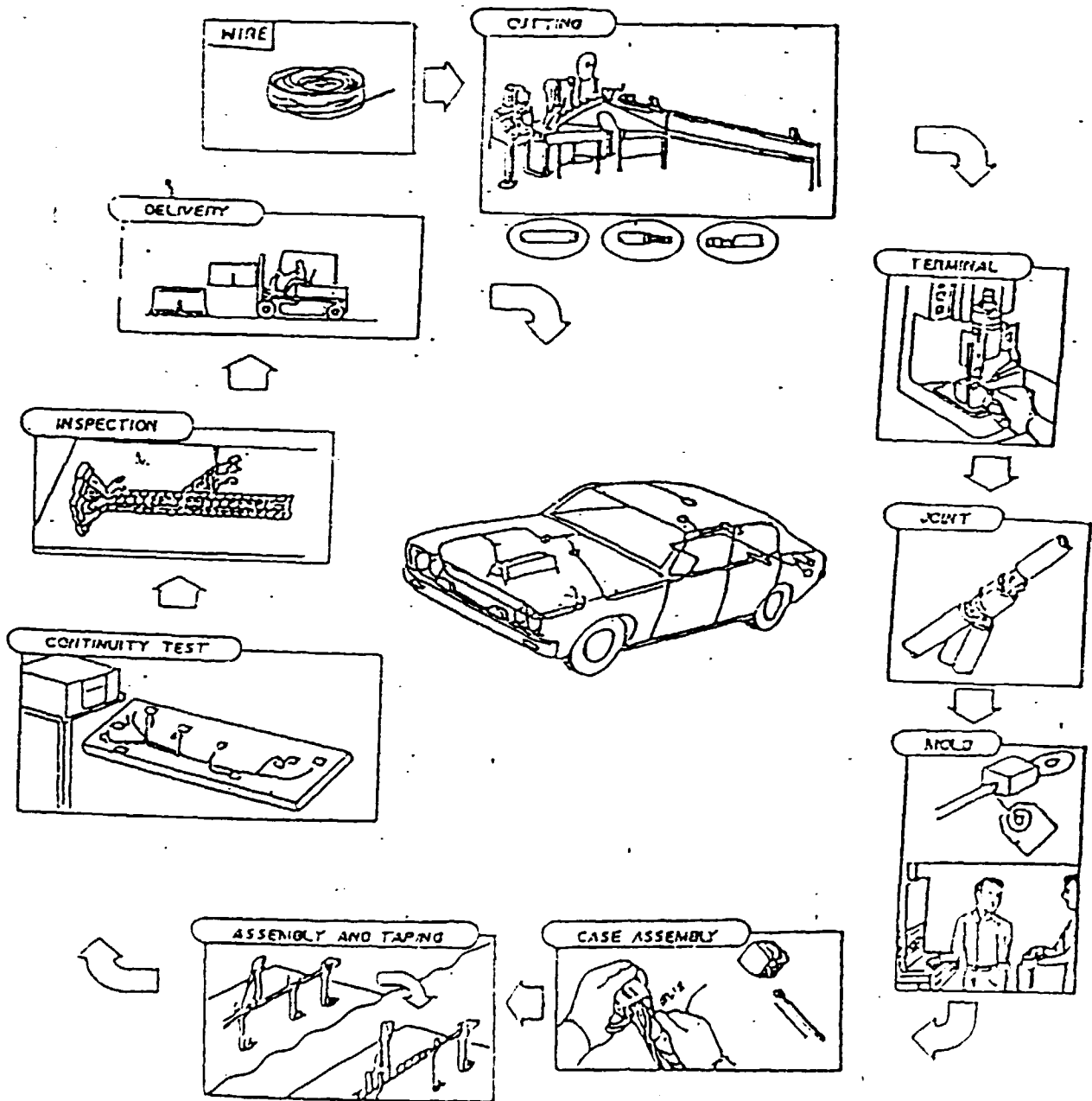
Technology
Development
Training





PRODUCTION PROCESS

Technology
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Division





PRESENTATION SYSTEMATIC

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QUALITY
SYSTEM



- IDENTITY
- PRODUCTION
- PROCESSES

- QA SYSTEM
- BLOCK DIAGRAM
- MATRIX
- RESPONSIBILITY
- HUMAN
- RESOURCES
- DEVELOPMENT

- PROCESS &
- OBJECTIVE
- METHODS

- RECEIVING
- INSPECTION
- SYSTEM
- ONGOING
- INSPECTION
- SYSTEM
- OUTGOING
- INSPECTION
- SYSTEM
- TOOLS
- AUDIT

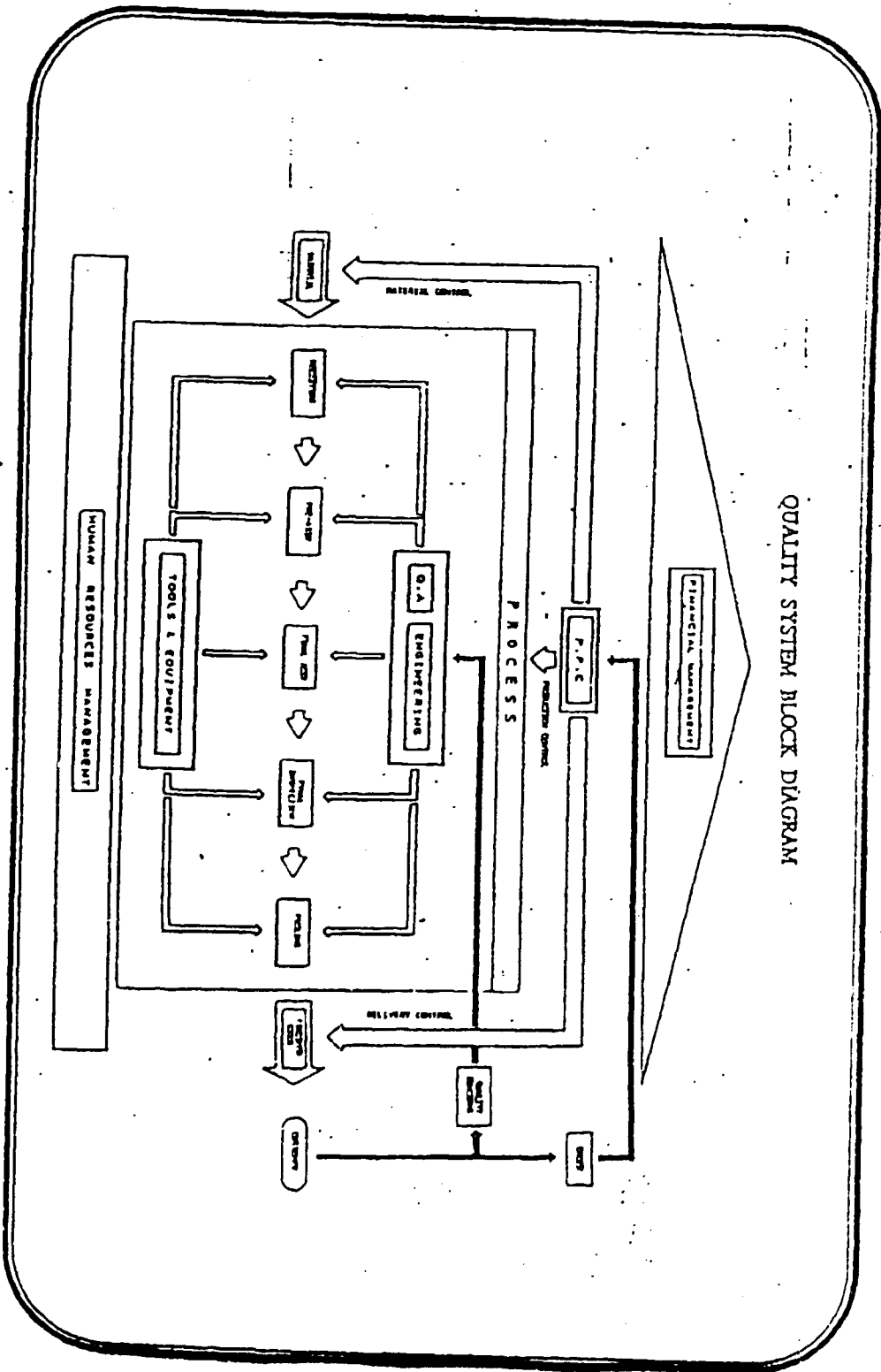
- CUSTOMER
- CLAIM
- CONTROL
- 8 DISCIPLINES
- PROBLEM
- SOLVING
- METHOD

- MEASURING
- INSTRUMENT
- CONTROL
- SYSTEM
- APPLICATOR
- CONTROL
- SYSTEM
- MACHINE
- MAINTENANCE



QUALITY SYSTEM BLOCK DIAGRAM

Technology
Development
Pty/tdm



QUALITY SYSTEMS FUNCTIONAL CHART

No.	KEY SECTION POSITION	PRODUCT QUALITY	AUDIT	INSPECTION	STANDARIZATION	ANALYZE CUSTOMER CLAIM
1	QUALITY SYSTEM ADM.	○	◆	○	◆	○
2	QUALITY ASSURANCE	○	○	◆	○	◆
3	PRODUCTION DEPT.	◆	○	○	○	○
4	ENGINEERING	○	○	○	◆	○
5	MANAGING DIRECTOR	○	○	○	○	○
	NOTE :					
	◆ = KEY SECTION					
	○ = SUPPORTING SECTION					
	REMARKS :					
	1 = PRODUCTION SYSTEM STANDARD					
	2 = PRODUCT STANDARD					



HUMAN RESOURCES DEVELOPMENT

Technology
Development
Division

PHILOSOPHY:
HUMAN RESOURCES AS THE FOUNDATION FOR
THE WHOLE ACTIVITIES IN THE FACTORY

RECRUITMENT

2 WEEKS
IN CLASS
TRAINING

3 MONTHS
ON THE JOB
TRAINING

6 MONTHS
EVALUATION
PERIOD

PERMANENT
EMPLOYMENT

SPECIFICATION
· HEIGHT
· COLOUR
BLIND

THEORY:
· COMPANY FILE &
REGULATION
· PRODUCT & CUSTOMER
KNOWLEDGE
· SPECIFIC
· MATERIAL KNOWLEDGE
· MEASURING EQUIPMENT
KNOWLEDGE
· OPERATION STANDARD
· INSPECTION STANDARD
· DEMONSTRATION OF
PROCESS OPERATION
· PRACTICES & WRITTEN
TEST

1. TUTOR
EVALUATION
2. SKILL
EVALUATION
BOARD

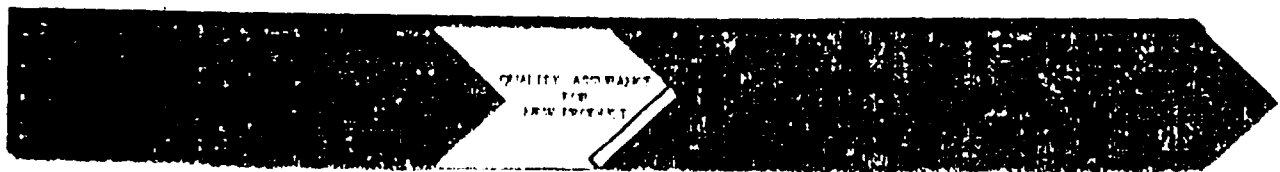
1. SKILL
EVALUATION
BOARD
2. MONTHLY
PERFORMANCE
EVALUATION

1. SKILL
EVALUATION
BOARD
2. ADDITIONAL
TRAINING
3. PERFORMANCE
EVALUATION



PRESENTATION SYSTEMATIC

Technology
Development
Division



QUALITY
SYSTEM



- IDENTITY
- PRODUCTION PROCESS

- QA SYSTEM
- FLOW DIAGRAM
- MATRIX RESPONSIBILITY
- HUMAN RESOURCES DEVELOPMENT

- PROCESS & OBJECTIVE
- METHODS

- RECEIVING INSPECTION SYSTEM
- ONGOING INSPECTION SYSTEM
- OUTGOING INSPECTION SYSTEM
- TOOLS
- AUDIT

- CUSTOMER CLAIM CONTROL
- 8 DISCIPLINES PROBLEM SOLVING METHOD

- MEASURING INSTRUMENT CONTROL SYSTEM
- APPLICATOR CONTROL SYSTEM
- MACHINE MAINTENANCE



QUALITY ASSURANCE FOR NEW PRODUCT

Technology
Development
Division

STAGE

OBJECTIVE

PRODUCT
DEVELOPMENT
AND DESIGN



FEASIBILITY OF QUALITY, COST, AND DELIVERY

MANUFACTURING
PROCESS
DEVELOPMENT



ESTABLISH THE CONFORMANCE OF MANPOWER,
MATERIAL, EQUIPMENT, AND METHODS

INITIAL
PRODUCTION



ESTABLISH AND MAINTAIN QUALITY, COST AND
DELIVERY TARGETS

MASS
PRODUCTION



IMPROVE QUALITY, COST AND DELIVERY



STAGE 1 - PRODUCT DEVELOPMENT AND DESIGN

Technology
Development
Division

QUALITY
FUNCTION
DEPLOYMENT

Dr. SHIGERU MIZUNO :
STEP BY STEP DEPLOYMENT IN GREATER DETAIL
OF THE FUNCTIONS OR OPERATIONS THAT FORM
QUALITY SISTEMATICALLY AND WITH OBJECTIVE
RATHER THAN SUBJECTIVE PROCEDURES

FMEA
PROCESS

AN ANALYTICAL TECHNIQUE UTILIZED BY
MANUFACTURING ENGINEERS AS A MEANS
TO ASSURE THAT POTENTIAL CONCERNS
HAVE BEEN CONSIDERED AND ADDRESSED

FEASIBILITY
STUDY

AN ASSESSMENT OF THE SUITABILITY OF
A PARTICULAR DESIGN, PROCESS OR MATERIAL
FOR PRODUCTION, WHILE CONFORMING TO ALL
ENGINEERING REQUIREMENTS AT THE REQUIRED
MINIMUM CAPABILITY



FAILURE MODE AND EFFECTS ANALYSIS

Technology
Development
Division

Company Name: PT. PWS Manufacturing Ltd.

POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS (PROCESS FMEA)

Part or Process Name/No. _____

Page: 1 of 1

Design/Eng. Responsibility: _____

Suppliers and Flows affected: _____

Prepared By: _____

Other Areas Involved: _____

Model Year/Vehicle(s): _____

FMEA Date (Date 1) _____ (Date 2) _____

Engineering Release Date: _____

Key Production Site: _____

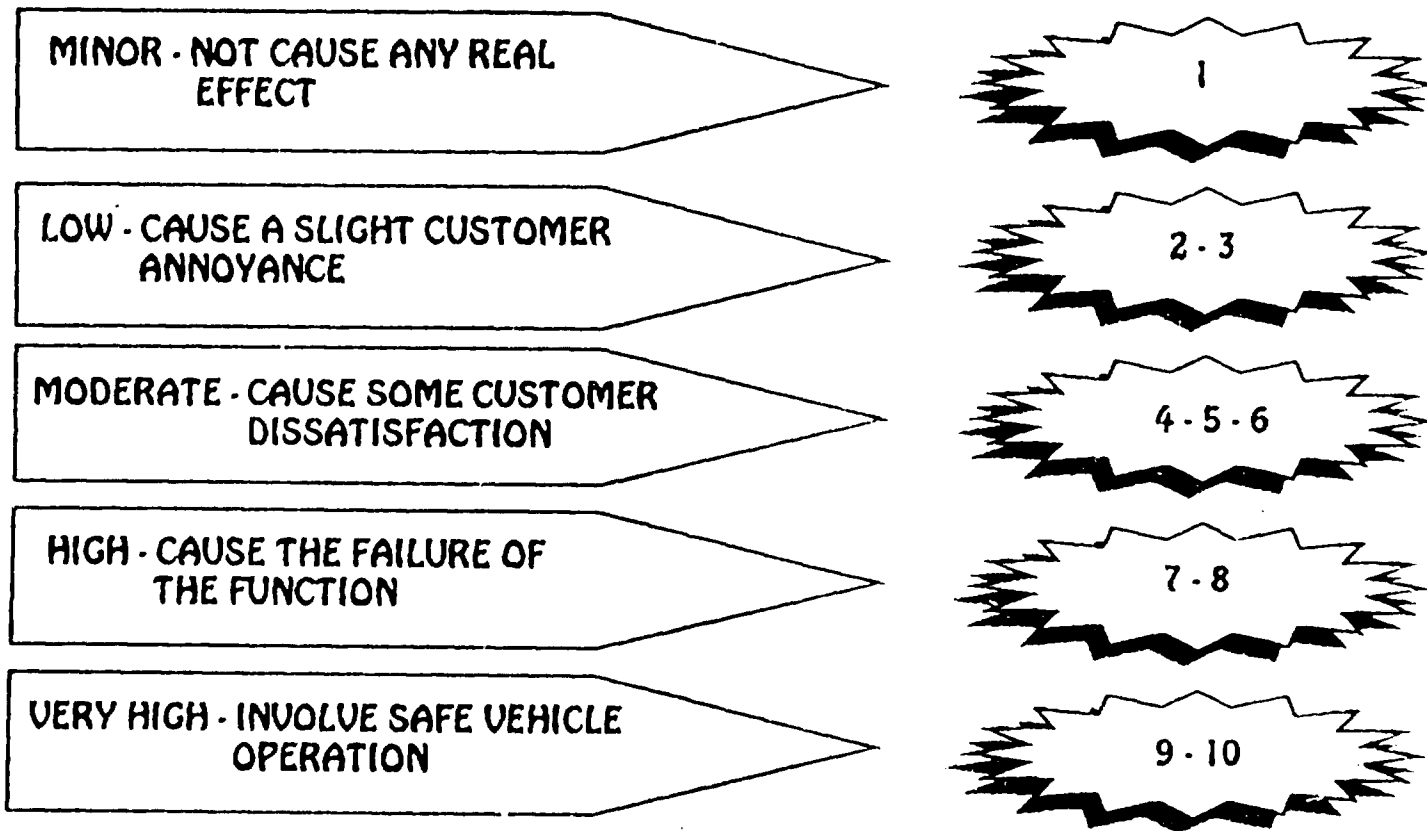
Process Description Process Purpose	Potential Failure Mode	Potential Effect(s) of Failure	S e v	Potential Cause(s) of Failure	O. C e s s r	Current Controls	D e t e r m i n e d	R. P. E.	Recommended Action(s)	Area/Individual Responsible & Completion Date	Action Results			
											Action Taken	S e v	O. C e s s r	R. P. E.



FAILURE MODE AND EFFECTS ANALYSIS (FMEA)

Technology
Development
Division

**SEVERITY : AN ASSESSMENT OF THE SERIOUSNESS OF THE EFFECT
OF THE POTENTIAL FAILURE MODE TO THE CUSTOMER.**





FEASIBILITY STUDY

Technology
Development
Division

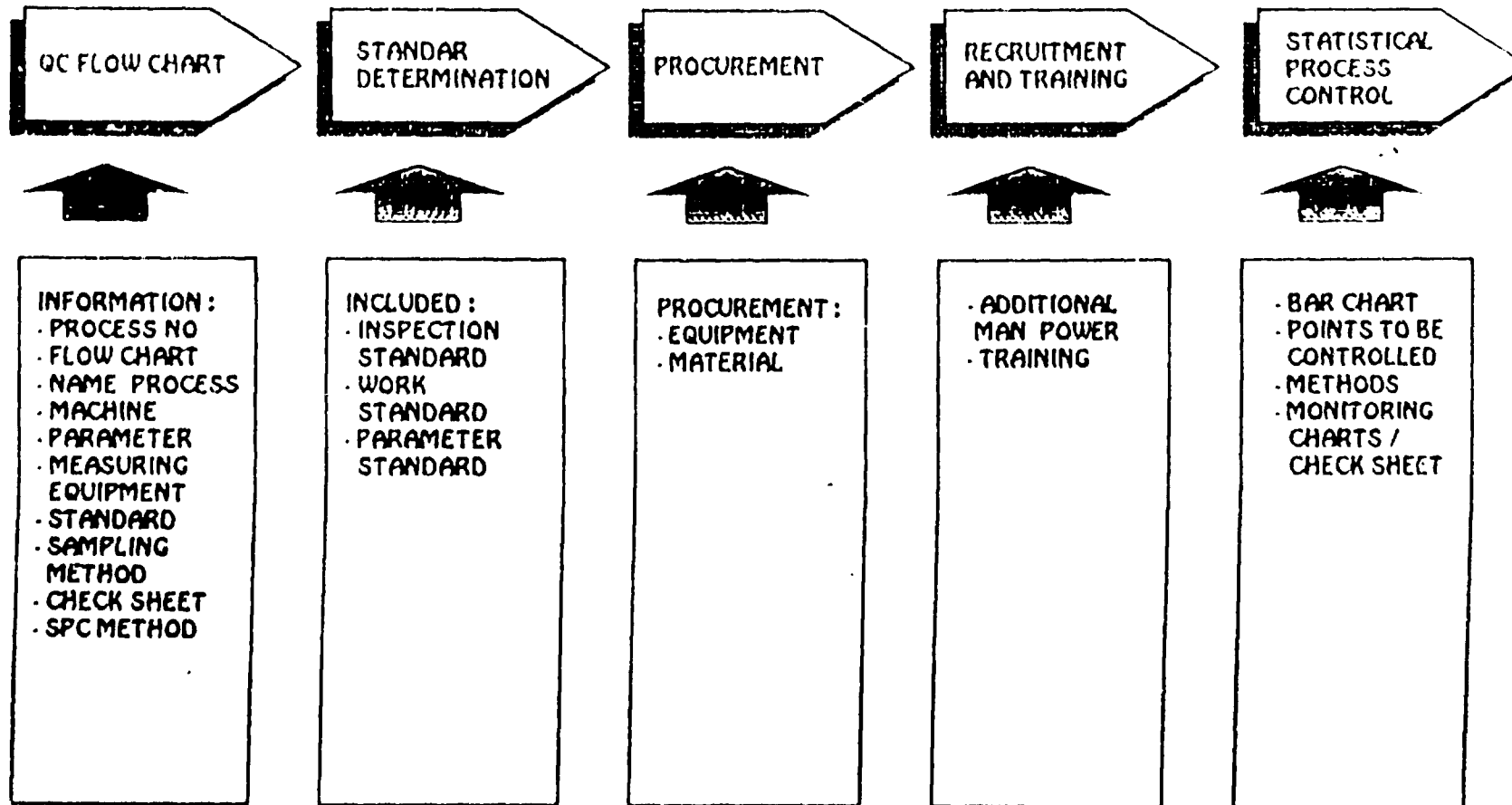
POINTS FOR FEASIBILITY :

- MACHINE / EQUIPMENT / FACILITY
- TOOLING / GAUGE / TEST EQUIPMENT
- CAPACITY / VOLUME
- COST
- MANPOWER / TRAINING
- PROCESS CONTROL
- MATERIAL
- PACKAGING
- SPECIFICATION
- PROCESS FMEA
- QC PROCESS FLOWCHART



STAGE 2 - MANUFACTURING PROCESS DEVELOPMENT

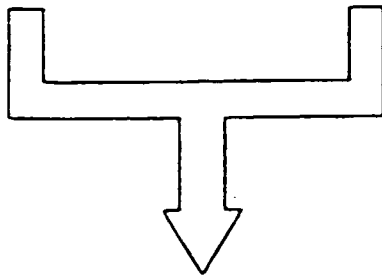
Technology
Development
Division



STANDARD
DETERMINATION

QC
PROCESS
FLOWCHART

DRAWING
+
SPEC



STANDARD

INSPECTION
STANDARD

WORK
STANDARD

PARAMETER
STANDARD



STAGE 3 - INITIAL PRODUCTION

Technology
Development
Division

PRELIMINARY
PROCESS
CAPABILITY

INITIAL SAMPLES

INITIAL
PRODUCTION
DELIVERY
INSPECTION

UPDATE
IMPROVEMENT
PROGRAMME



OBJECTIVES :
CAPABILITY TEST
FOR NEW EQUIPMENT
VERIFICATION /
STANDARD
DETERMINATION
TOOLS CHANGEOVER

SETTING UP
INITIAL SAMPLES
ADJUSTMENT OF
PRODUCTION
EQUIPMENT

GIVE PRODUCTION
SAMPLE TO
CUSTOMER

TO BUILD-IN-QUALITY
AND RUN
CONTINUOUS
IMPROVEMENT



STAGE 4 - MASS PRODUCTION

Technology
Development
Division

**NORMAL
PRODUCTION
DELIVERY
INSPECTION**

**PROCESS
CAPABILITY & QUALITY
MONITORING**

**REGULAR
PROCESS
REVIEW
FOR
IMPROVEMENT**

BUILD IN QUALITY AND RUN CONTINUOUS IMPROVEMENT



PROCESS CAPABILITY STUDY

Technology
Development
Division

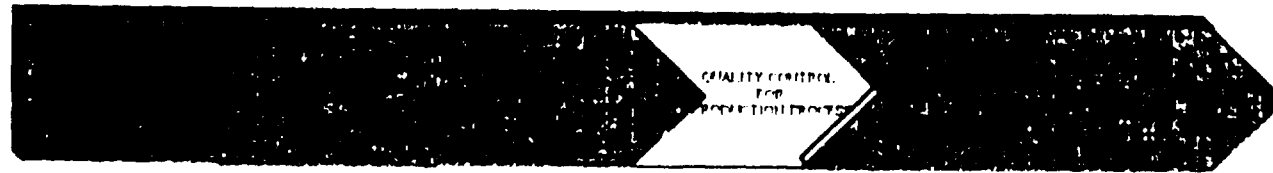
PROCESS CAPABILITY STUDY DATA CHECK SHEET												
PART NO.		SPECIFICATION			MIC NO.		CHANGE		T.R.P.S.		REQ. NO.	
							<input type="radio"/> YES <input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> NO					
DESCRIPTION		UNIT OF MEASUREMENT			OPERATOR		PROCESS PARAMETER					
							STRIP LENGTH : APPLICATOR : A. : W. : L. :					
PROCESS		SAMPLE SIZE			DATE							
NO	DATA		NO	DATA		NO	DATA		NO	DATA		
1			26			51			76			
2			27			52			77			
3			28			53			78			
4			29			54			79			
5			30			55			80			
6			31			56			81			
7			32			57			82			
8			33			58			83			
9			34			59			84			
10			35			60			85			
11			36			61			86			
12			37			62			87			
13			38			63			88			
14			39			64			89			
15			40			65			90			
16			41			66			91			
17			42			67			92			
18			43			68			93			
19			44			69			94			
20			45			70			95			
21			46			71			96			
22			47			72			97			
23			48			73			98			
24			49			74			99			
25			50			75			100			
\bar{x}			\bar{x}			\bar{x}			\bar{x}			
SIGMA			SIGMA			SIGMA			SIGMA			
Cp			Cp			Cp			Cp			
Cpk			Cpk			Cpk			Cpk			

IS PROCESS CAPABLE ? <input type="radio"/> YES <input type="radio"/> NO		ANALYZED BY		DATE
QUALITY ASSURANCE	REMARKS :			SIGNATURE
				DATE
Engineering	REMARKS :			SIGNATURE
				DATE



PRESENTATION SYSTEMATIC

Technology
Development
Division



QUALITY
SYSTEM



- IDENTITY
- PRODUCTION PROCESS

- QA SYSTEM
- RICE DIAGRAM
- MATRIX RESPONSIBILITY
- HUMAN RESOURCES DEVELOPMENT

- PROCESS & OBJECTIVE
- METHODS

- RECEIVING INSPECTION SYSTEM
- ONGOING INSPECTION SYSTEM
- OUTGOING INSPECTION SYSTEM
- TOOLS
- AUDIT

- CUSTOMER CLAIM CONTROL
- DISCIPLINES
- PROBLEM SOLVING METHOD

- MEASURING INSTRUMENT CONTROL SYSTEM
- APPLICATOR CONTROL SYSTEM
- MACHINE MAINTENANCE



QUALITY CONTROL FOR PRODUCTION PROCESS

Technology
Development
Division

RECEIVING INSPECTION SYSTEM

- RECEIVING INSPECTION STANDARD
- SUPPLIER PERFORMANCE RECORD
- COLOUR CODING
- STANDARD SAMPLE

ONGOING INSPECTION SYSTEM

- DEFECTIVE TAG
- REJECT REPORT
- REQUEST FOR CONCESSION
- NON CONFORMANCE PRODUCT CONTROL
- QUALITY ALERT
- AUDIT PROCESS

OUTGOING INSPECTION SYSTEM

- CONTINUITY TEST
- VISUAL I
- VISUAL II
- DELIVERY INSPECTION
- ES - TEST



RECEIVING INSPECTION SYSTEM

Technology
Development
Division

TO GUARANTEE THAT ALL MATERIAL RECEIVED FROM SUPPLIER
SAME AS SPECIFICATION AND DRAWING WHICH IS STATED
TO FIX QUALITY LEVEL FROM SUPPLIER AND NEW MATERIAL

RECEIVING
INSPECTION
STANDARD

TO HAVE STANDARD CHECKING ITEMS FOR RECEIVING INSPECTION
DONE BY INSPECTOR

SUPPLIER
PERFORMANCE
RECORD

TO EVALUATE SUPPLIER PERFORMANCE AND FEED IT BACK TO
THE SUPPLIERS FOR IMPROVEMENT

COLOUR CODING

TO PUT THE COLOUR CODE ON THE MATERIAL BASED ON
THE ARRIVAL TIME TO ENSURE THAT THE FIRST IN FIRST OUT
MATERIAL HANDLING IS HAPPENING

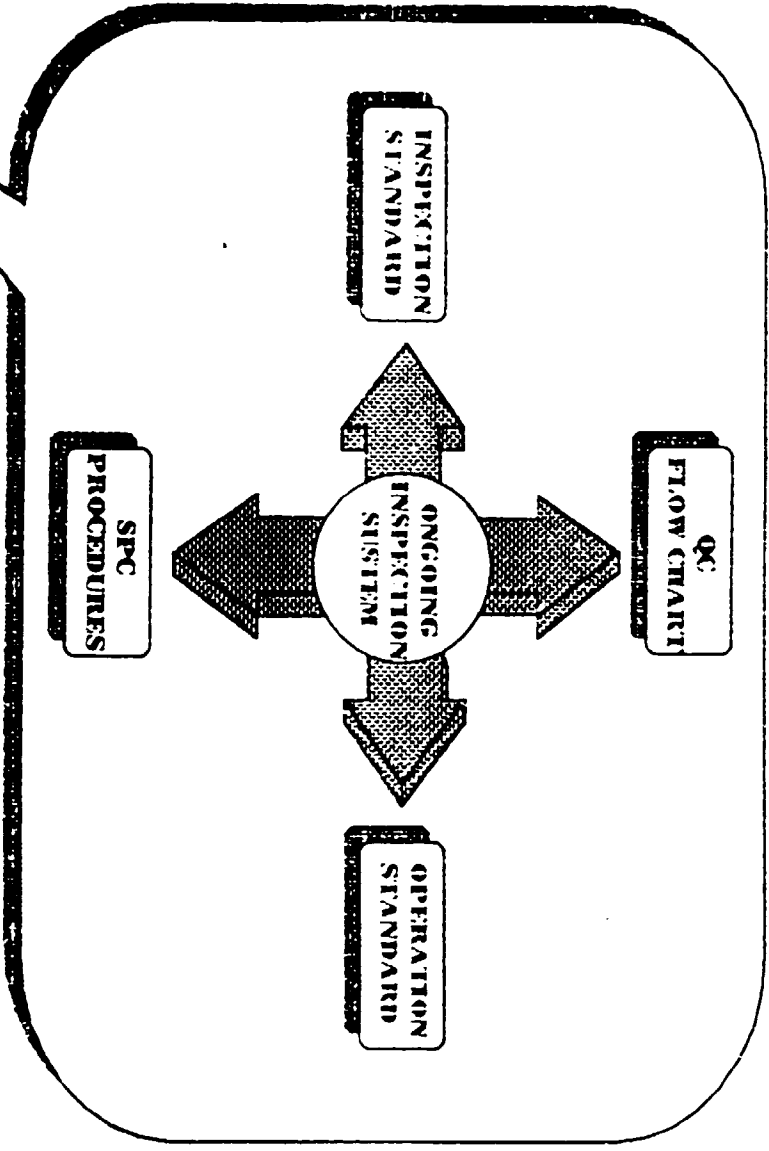
SAMPLE STANDARD

TO MAKE THE INSPECTOR'S JOB EASIER AND MORE ACCURATE
THRU VISUAL SAMPLES



ONGOING INSPECTION SYSTEM

Technology
Development
Division



AS DEFINED IN STAGE 2.
MANUFACTURING PROCESS DEV.



OUTGOING INSPECTION

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Development
Division

100 % INSPECTION

CONTINUITY TEST :
CHECKING THE FUNCTION OF THE PRODUCT

VISUAL I :
CHECKING ACCESORIES SHOULD BE ATTACH

VISUAL II :
COMPLETE VISUAL CHECKING

SAMPLING

DELIVERY INSPECTION :
TO INSPECT ALL THE MATERIAL ACCESORY, AND LABEL
COMPLETELY

ENGINEERING SPECIFICATION TEST (ES-TEST) :
TO ASSURE THE OUTPUT IS THE SAME WITH ENG. SPEC
BY CHOOSING RANDOMLY



TOOLS OF INSPECTION SYSTEM

Technology
Development
Division

QUALITY ALERT :
TO WARN THE
PRODUCTION
CONCERNING
THE SAME DEFECT
FOUND 3 TIMES
GRADUALLY

NON CONFORMANCE
PRODUCT CONTROL :
TO SEPARATE THE
DEFECT PRODUCT,
TOOLS :
- DEFECTIVE TAG
A TAG THAT SIGN
THE DEFECT PRODUCT
- REJECT REPORT
A FORM TO REPORT
THE DEFECT PRODUCT

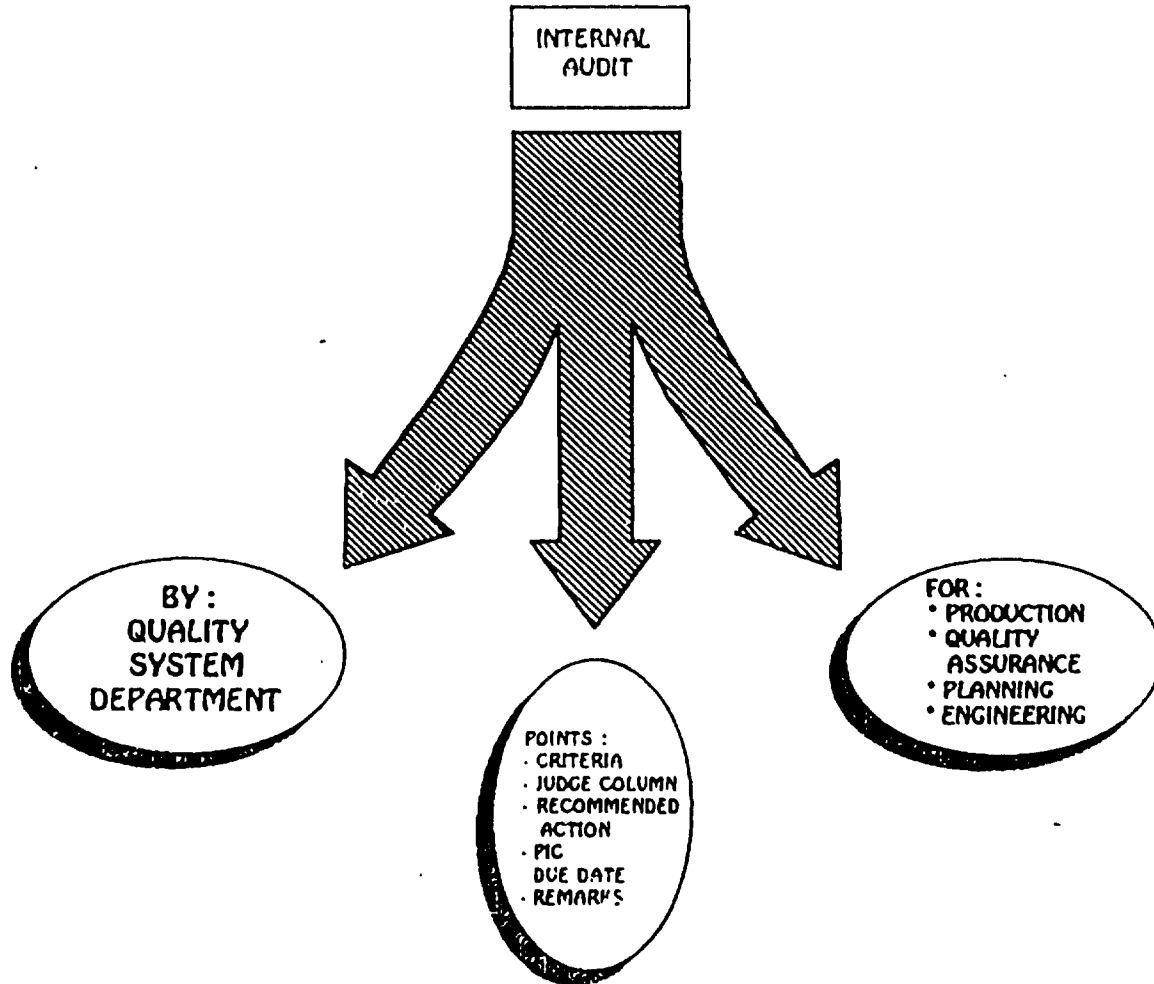
PROCESS AUDIT :
TO EVALUATE
HOW EFFECTIVE IS
THE CONTROL RUN

INSPECTION SYSTEM



INTERNAL AUDIT

Technology
Development
Division





INTERNAL AUDIT

Technology
Development
Division

QUALITY SYSTEM AUDIT

Section/Dept. : PRODUCTION

Audit by : _____
 S. p. date : _____
 Date : _____

part 1 of 2

DISTRIBUTION :

TO : DIRECTOR FROM : QUALITY

CC : AUDIT DIRECTOR & LIAISON

BY : QUALITY

NO	CHECKLIST	OK/NO	RECOMMENDATION	FINDING DATE	
1	Apakah ada pengendalian yang efektif untuk memastikan prosedur yang sudah ditetapkan?				
2	Apakah telah ada prosedur untuk penanganan produk yang rusak?				
3	Apakah ada pengendalian yang efektif dalam menjaga kondisi alat dalam proses produksi?				
4	Apakah telah ada prosedur untuk kontrol kualitas?				
5	Apakah ada prosedur tindakan koreksi untuk masalah kualitas yang ditemukan?				
6	Apakah prosedur yang ada untuk memastikan tingkat kebersihan lingkungan produksi?				
7	Apakah ada prosedur untuk memastikan tingkat kebersihan lingkungan produksi?				
8	Apakah prosedur yang ada untuk memastikan tingkat kebersihan lingkungan produksi?				
9	Apakah prosedur yang ada untuk memastikan tingkat kebersihan lingkungan produksi?				
10	Apakah telah ada prosedur penanganan keluhan pelanggan yang efektif?				
11	Apakah ada prosedur yang memastikan tingkat keamanan Sistem & Waring?				
12	Apakah Sistem & Waring telah terjamin keamanannya?				
13	Apakah NTC telah dilaksanakan secara efektif?				
14	Apakah prosedur yang ada untuk memastikan pelaksanaan NTC berjalan dengan baik?				
15	Apakah prosedur yang ada untuk memastikan pelaksanaan NTC berjalan dengan baik?				
16	Apakah prosedur yang ada untuk memastikan pelaksanaan NTC berjalan dengan baik?				
17	Apakah prosedur yang ada untuk memastikan pelaksanaan NTC berjalan dengan baik?				
18	Apakah prosedur yang ada untuk memastikan pelaksanaan NTC berjalan dengan baik?				
19	Apakah prosedur yang ada untuk memastikan pelaksanaan NTC berjalan dengan baik?				
20	Apakah prosedur yang ada untuk memastikan pelaksanaan NTC berjalan dengan baik?				

GS4/FEN/ (X) :



PRESENTATION SYSTEMATIC

Technology
Development
Division



QUALITY
SYSTEM



- IDENTITY
- PRODUCTION PROCESS

- QA SYSTEM
- BLOCK DIAGRAM
- MATRIX RESPONSIBILITY
- HUMAN RESOURCES DEVELOPMENT

- PROCESS & OBJECTIVE
- METHODS

- RECEIVING INSPECTION SYSTEM
- ONGOING INSPECTION SYSTEM
- OUTGOING INSPECTION SYSTEM
- TOOLS
- AUDIT

- CUSTOMER CLAIM CONTROL
- DISCIPLINES
- PROBLEM SOLVING METHOD

- MEASURING INSTRUMENT CONTROL SYSTEM
- APPLICATOR CONTROL SYSTEM
- MACHINE MAINTENANCE



TOOLS AND EQUIPMENT CONTROL SYSTEM

Technology
Development
Division

MEASURING INSTRUMENT CONTROL SYSTEM



- INSTRUMENT RECEIVING INSPECTION
- REGISTRATION
- MARKING & LABELLING
- PERIODICAL CALIBRATION
- MAINTENANCE
- GAGE VARIATION STUDY
- GAGE TESTING METHOD

APPLICATOR CONTROL SYSTEM



- PRESET PROCEDURES
- PRELIMINARY CAPABILITY ESTIMATE
- TOOL RUN PROVING SAMPLE

MACHINE MAINTENANCE



- MACHINE DATA
- MAINTENANCE SCHEDULE
- PATROL MAINTENANCE
- PERIODIC SERVICES



PRESENTATION SYSTEMATIC

Technology
Development
Division



QUALITY
SYSTEM



- IDENTIFY PRODUCTION PROCESS

- QA SYSTEM BLOCK DIAGRAM
- MATRIX RESPONSIBILITY
- HUMAN RESOURCES DEVELOPMENT

- PROCESS & OBJECTIVE
- METHODS

- RECEIVING INSPECTION SYSTEM
- ONGOING INSPECTION SYSTEM
- OUTGOING INSPECTION SYSTEM
- TOOLS
- AUDIT

- CUSTOMER CLAIM CONTROL
- DISCIPLINES
- PROBLEM SOLVING METHOD

- MEASURING INSTRUMENT CONTROL SYSTEM
- APPLICATOR CONTROL SYSTEM
- MACHINE MAINTENANCE



CUSTOMER QUALITY CONCERNS

Technology
Development
Division

CUSTOMER CLAIM CONTROL



A PROCEDURES TO ANALYZE
CUSTOMER CLAIM ABOUT
PRODUCT FAILURE SO THAT
CAN TAKE CORRECTIVE
AND PREVENTIVE ACTION

8 DISCIPLINES PROBLEM SOLVING METHOD



1. USE THE TEAM APPROACH
2. DESCRIBE THE CONCERN
3. IMPLEMENT INTERIM
CONTAINMENT ACTIONS
4. DEFINE AND VERIFY
ROOT CAUSES
5. VERIFY PLANNED
CORRECTIVE ACTION
6. IMPLEMENT PERMANENT
CORRECTIVE ACTION
7. ACTION TO PREVENT
RECURRENCE
8. CONGRATULATE YOUR
TEAM

(i) Analyze plan
(ii) Implement training
(iii) Build in Quality
& Inspection

EDUCATION AND TRAINING PROGRAMME FOR STANDARDIZATION AND QUALITY MANAGEMENT IN INDONESIA *)

By: Suryadi H. and Kristianto W. **)

1. Introduction

To anticipate the global market waving throughout the world, developed or developing countries must prepare themselves in their standardization and quality management programmes according to international requirements. The field of standardization and particularly quality management are growing rapidly, and hence Indonesia has to enhance its ability in those fields. The world's trend and what has been done by the government of Indonesia need to be informed to all parties involved in standardization activities in the country, and thus enables us to work together in the same direction.

The Standardization Council of Indonesia (DSN) was established to coordinate and synchronize standardization activities in Indonesia including the education and training programme for standardization. In doing that task, DSN cooperates with various experts or bodies, inside or outside the country, working in the field of standardization. The rapid growing of quality management was also anticipated. In Indonesia, the demand of know how of standardization and quality management is very high. The education and training programme in standardization are the answer of these needs. But DSN alone can not satisfy the demands of the education and training in standardization.

The training in quality management at the moment is conducted by various organizations. But in general these organizations do not have regular quality management training programme, the training is held mostly on request.

Education programme of general standardization is also not yet founded in Indonesia. This is due to expertise and fund constraints. To satisfy the need, each government institution requiring the training held its own by their experts or inviting experts from other bodies, inside or outside the country.

2. Education and Training Programme coordinated by DSN.

2.1 Education and training programme in provincial capital throughout Indonesia.

Education and training have been done in some cities such as Medan, Palembang, Jakarta, Bandung, Semarang, Surabaya, Ujung Pandang and Samarinda. The scope of the training includes General Standardization, Quality Management, Good Laboratory Practice and Metrology, with the experts being from various member institutions of DSN.

- * Presented in the Seminar on Achieving Competitive Quality Through Standardization and Implementation Quality System, in Jakarta 26-28 January 1993
- ** Center for Standardization - LIPI/DSN Secretariate.

These education and training were done in cooperation with Regional Offices and Provincial Governments. The participants were from various industries, testing laboratories, exporter, universities, etc.

This programme will be continuously followed by other with subject according to the development and trend of the field.

2.2 Education and training programme in November.

Since 1990, DSN held seminar and workshop in November the field of standardization and quality control.

In those seminar and workshop, training in ISO 9000 series has been conducted. In 1991 November was declared by the President of Indonesia as the "Month of Quality and Productivity". DSN uses this important moment to conduct training in standardization and quality management.

2.3 Education and training programme in cooperation with Germany.

At the moment DSN has a technical cooperation with Germany in the field of standardization. The activities in education includes among others education and training in the field of Standardization and Quality Management such as :

- Visiting the relevant bodies in Germany.
- Training in information system.
- Training in certification field.
- The visit of German expert to various industries and government bodies.

This cooperation is planned for 3 years.

2.4 Training programme in other countries.

As the representative body of Indonesia in international activities in standardization, DSN is coordinating in sending trainees to other countries which conduct training such as India (two participants per year in the standardization field) and Japan (one participant per year in the field of Metrology and one in certification).

2.5 Education and training through participation in Technical-Committee ISO - IEC activities.

DSN has learned that through participation in a Technical Committee of ISO - IEC, knowledge in standardization can be improved. And therefore to gain the optimum knowledge and experience in the field of quality management, DSN plans to upgrade its participation from O-member to P-member in the TC-176.

3. Education and Training conducted by technical institutions and private sectors.

In conjunction with the overall programme of DSN in providing education and training, the technical institutions which are members of DSN and private organizations are actively participating in education and training activities by organizing such training or sending their staff especially in quality management education.

There are currently 35 Indonesians who have been trained in a basic International Lead Assessor Training, but none is registered as lead assessor due to some requirements of which experiences are required. This means that assessment of quality system implemented in industries can not be done yet by Indonesian assessor.

4. Conclusions.

1. The establishment of market blocks, including AFTA, requires Indonesia to work harder particularly in the field of standardization and quality management. Education and training programme is required especially for preparing the accreditation and certification system.
2. More attention should be paid for the specific education and training programme in standardization especially in quality management.
3. Cooperation with other countries need to be enhanced, especially in the ASEAN region.
4. Indonesia has to establish its own internationally registered Lead Assessors so that they can help the implementation of quality management in industries.

SOME BRIEF OBSERVATION
OF T.Q.C. ACTIVITIES
IN INDONESIA

IN THE BEGINING OF 1984 THE MINISTER OF INDUSTRY AND MINISTER OF MANPOWER EMBARKED THE FIRST T.Q.C. MOVEMENT IN INDONESIA, STARTS WITH THE STATE OWNED ENTERPRISED WITHIN THE MINISTRY OF INDUSTRY.

IMPLEMENTATION STATES OF TQC/QCC CONCEPT WAS ON THAT TIME REVEALING OF A QUITE STEADY PROGRESS UNTILL NOW. AT PRESENT SOME COMPANIES ARE LACK OF A --- CLEAR UNDERSTANDING OF THE STATE OF AFFAIRS THE NECESSARY STEPS HAVE NOT BEEN MADE SO FAR.

IN ORDER TO ENHANCE THE COMPETITIVENES OF INDONFSIA INDUSTRY, AN EFFEC-- TIVE PROGRAM OF QUALITY DEVELOPMENT WAS NEEDED.

TO PROMOTE SOCIETY CONSCIOUSNESS IN RELATION TO QUALITY AND PRODUCTIVITY CREATING SOME PROBLEMS TO COMPANIES TOP EXECUTIVES.

STRONG GOVERNMENTEL COMMITMENT AND INVOLVEMENT IN CONDUCTING SUCH ACTIVI-- TIES IS A "MUST" (NECESSARY).

FINANCIAL SUPPORT FROM THE MINISTRIES IS ALSO AN ESSENTIAL FACTOR IN ORDER TO PUSH FORWARD THE IMPLEMENTATION OF TOTAL QUALITY CONTROL.

SOCIAL SENSITIVE PROGRAM, SUCH AS QUALITY AND PRODUCTIVITY MONTH SHOULD BE PROMOTED UNDER THE MINISTER JURISDICTION ANNUAL EVENTS TO FORCE SOCIAL ATTENTION AND AWARENESS TO QUALITY AND PRODUCTIVITY ARE THE BEST METHOD TO ACHIEVE SUCCESS FULLY.

A NATION WIDE QUALITY AND PRODUCTIVITY PROGRAM WILL CREATE BOTH SOCIAL SENSITIVITY TO WARD THE NEW TOTAL QUALITY CONCEPT AND LATER ON SOCIAL READNESS FOR IMPLEMENTATION.

BUT ACTION FOR IMPLEMENTATION CANNOT ACCUR, WITHAOUT STRONG MARKET FOR BETTER QUALITY.

IT IS THE MARKET PRESSURE THAT MAKES A COMPANY'S TOP MANAGEMENT ITSELF REALIZE THE STRONG DESIRE TO IMPLEMENT A QUALITY IMPROVEMENT PROGRAM, BUT THEY SHOULD HAVE PROFESSIONAL KNOW HOW ABOUT T.Q.C.

PRIVATE AND STATE OWNED ENTERPRISES OPERATE IN A CONTINUOUSLY CHANGING ENVIRONMENT DEMANDS WILL CONTINUE TO GROW AND DOES COMPETITION TO MEET THESE DEMANDS.

A COMPANY CAN NOT LAST LONG IF RIVAL COMPANIES OFFER BETTER GOODS AND --- SERVICES SUCCESS IN COMPETITION WOULD MEAN PROFIT AND GROWTH.

MANAGING QUALITY IS A JOURNEY OF CONSTANT IMPROVEMENT. IT MEANS KEEPING IN STEP WITH CUSTOMERS AND COMPETITION.

TO DO THIS, MANAGERS MUST TO FOCUS ON THE QUALITY OF THE PROCESSES THAT MAKE PRODUCT OR SERVICE.

THIS REQUIRES A SYSTEM WHICH IDENTIFIES AND ELIMINATES CAUSES OF NON - QUALITY PERFORMANCE WITHIN EACH PROCESS.

SUCH A SYSTEM COULD INCLUDE PROCESS OWNERSHIP, DOCUMENTATION, DATA GATHERING, STATISTICAL AND PROBLEM SOLVING METHOD, AND IDENTIFICATION OF REQUIREMENTS.

SUCCESSFUL MANAGEMENT OF QUALITIES REQUIRES COMMITMENT AT ALL LEVELS.

FROM THE TOP EXECUTIVE MUST COME A POLICY INTEGRATING QUALITY AND COMPANY OBJECTIVES. QUALITY OUTPUT SHOULD BE EXPECTED OF ALL EMPLOYEES, INCLUDING MANAGERS. EVERYONE MUST BE MADE RESPONSIBLE FOR THE QUALITY OF HIS WORK.

ESTABLISHING A QUALITY CULTURE IN AN COMPANY (ORGANIZATION) INVOLVES A CHANGE OF ATTITUDE AMONG MANAGERS AND EMPLOYEES.

MANAGING QUALITY INVOLVES A COMPREHENSIVE, PHASED APPROACH THAT TAKES OFF FROM ONE BUILDS ON THE EXISTING CULTURE AND CAPABILITY OF THE COMPANY.

QUALITY IMPROVEMENT DEPENDS ON THE COMMITMENT, SUPPORT PARTICIPATION AND INVOLVEMENT OF TOP MANAGEMENT. TOP MANAGEMENT HAVE TO SHOW THE WAY.

THEY SHOULD IMMERSE THEMSELVES IN QUALITY ACTIVITIES AND PROVIDE WHATEVER IS REQUIRED TO CARRY OUT A SYSTEM FOR MANAGING QUALITY.

ALL MANAGEMENT DECISION MUST REFLECT A COMMITMENT TO QUALITY.

THIS IS ONE OF THE MOST HANDICAP IN OUR COUNTRY TO PROMOTE TOTAL QUALITY CONTROL CONTINUOUSLY.

IT CAN NO LONGER BE DENIED THAT BOTH LOCAL AND INTERNATIONAL MARKETS ARE BECOMING VERY COMPETITIVE.

THE EXPERIENCE HAVE SHOWN THAT FOCUS ON QUALITY LEADS TO HIGHER PRODUCTIVITY AND GIVES THEM THE COMPETITIVE EDGE.

THE NEED TO STRENGTHEN EFFORTS IN PROMOTING QUALITY CONSCIOUSNESS BOTH THE COMPANY LEVEL, OF NATIONALS LEVELS BECOME IN OVERRIDING CONCERN.

THUS, A NATIONAL QUALITY CAMPAIGN SHOULD BE UNDER TAKEN AS A NATIONAL QUALITY MOVEMENT.

OUR CENTRAL GOVERNMENT SHOULD LAUNCH THIS NATIONAL QUALITY CAMPAIGN SUPPORTED BY THE PRIVATE SECTOR.

THIS CAMPAIGN SEEKS NOT ONLY TO UPGRADE THE LEVEL OF CONSCIOUSNESS OF THE INDONESIAN PEOPLE IN TERMS OF QUALITY, BUT ALSO PROVIDE FOR MECHANISME THAT WOULD HELP OUR ENTREPRENEUR AND BUSINESSMAN ON HOW TO IMPROVE THE SERVICE THAT PRODUES AND EFFORT HIGHER PRODUCTIVITY.

WE BELIEF THAT QUALITY IS THE ROAD TO PRODUCTIVITY LEADING TO PROGRESS AND ECONOMIC DEVELOPMENT.

THIS THEREFORE CALLS FOR THE INVOLVEMENT AND COMMITMENT OF ALL THE SECTORS OF SOCIETY QUALITY MUST BE EVERY BODY'S BUSINESS AND RESPONSIBILITY.

PROBLEMS CONCERNING TRAINING OF TQC(TOTAL QUALITY CONTROL) AND
ISO9000 SERIES FOR SMALL AND MEDIUM SIZE BUSINESS

	日本規格協会 (JSA) Japanese Standards Association	日科技連 (JUSE) Union of Japanese Scientists & Engineers	日本生産性本部 (JPC) Japan Productivity Center
Planning and implementation of education and training schemes	<ul style="list-style-type: none"> Education on industrial standardization and QC for mainly domestic companies 	<ul style="list-style-type: none"> Education on QC mainly for domestic companies Headquarters of QC circles Secretariat of the Japanese Society for Quality Control Organizing Deming Prize committee Management for Quality Control monthly committee 	<ul style="list-style-type: none"> Education on management mainly for domestic and overseas companies
(Examples of training courses)	<ul style="list-style-type: none"> Course for QC and standardization promoters who will be in charge of industrial standardization and QC TQC top management course etc 	<ul style="list-style-type: none"> Education on quality control for different levels by and different functions Education on QC circles Education on applied statistics 	<ul style="list-style-type: none"> Management training for different levels Education mainly on productivity (including QC)
Preparation of educational and training materials	<ul style="list-style-type: none"> Some of them are prepared at the lecturers' meeting Some of them are JSA-made educational materials JSA publications 	<ul style="list-style-type: none"> Prepared and edited at the seminar lecturers' committee JUSE publications 	<ul style="list-style-type: none"> Prepared by the lecturers
Introduction of OJT(On the Job Training)	<ul style="list-style-type: none"> Mainly classroom style lectures Enterprise's diagnosis at request Dispatch TQC consultants to the factory preparing application for JIS mark approval 	<ul style="list-style-type: none"> Mainly classroom style lectures QC guidance and enterprise's diagnosis at request 	<ul style="list-style-type: none"> Management consulting at request
Obtaining speakers and lecturers	<ul style="list-style-type: none"> 50% from universities, laboratories, and so on 40% from private companies 10% from JSA staff 	<ul style="list-style-type: none"> 40% from universities, laboratories, and so on 50% from private companies 10% from JUSE staff 	<ul style="list-style-type: none"> 60% from universities, laboratories, and so on 30% from private companies 10% from JPC staff
Financial	<ul style="list-style-type: none"> Mostly participation fees Membership fee of JSA supporting members 	<ul style="list-style-type: none"> Mostly participation fee Membership fee of JUSE supporting members 	<ul style="list-style-type: none"> Participation fees Membership fees of JPC supporting members
Public relations	<ul style="list-style-type: none"> JSA member companies JIS text subscribers Direct mail to the former seminars' participants Advertisement in monthly magazines 	<ul style="list-style-type: none"> Direct mail to the JUSE supporting members Advertisement in monthly magazines 	<ul style="list-style-type: none"> Direct mail to the JPC supporting members Advertisement in the Productivity Newspaper
Problems	<ul style="list-style-type: none"> Schedule arrangement for the lecturers Capacitance of the lecture room JSA is now preparing to educate auditors and internal auditors for ISO9000 series assessment 	<ul style="list-style-type: none"> Schedule arrangement for the lecturers Capacitance of the lecture room 	<ul style="list-style-type: none"> Schedule arrangement for the lecturers

PROBLEMS CONCERNING TRAINING OF TQC(TOTAL QUALITY CONTROL) AND
ISO9000 SERIES FOR SMALL AND MEDIUM SIZE BUSINESS

	国際協力事業団 (J I C A) Japan International Cooperation Agency (Executive body Concerning Industrial Standardization and QC is JSA)	海外技術者研修協会 (A O T S) The Association for Overseas Technical Scholarship
Planning and implementation of education and training schemes (Example of training courses)	Education on industrial standardization and QC for the staff or leading position staff of standards bodies or standards related organization in developing countries <ul style="list-style-type: none"> ・Implementation of total quality control and standardiz- ation activities II. ・Senior seminar on industrial standardization and quali- ty control. ・Group training course in certification system. 	Education on particular technologies and management techniques for foreign companies <ul style="list-style-type: none"> ・Receiving foreign trainees on private bases ・Dispatching lecturers and experts to developing countries ・Overseas correspondence education on management techniques ・Training experts <ul style="list-style-type: none"> ・Top management seminar ・QC training course
Preparation of educational and training material	<ul style="list-style-type: none"> ・Prepared by the lecturers 	<ul style="list-style-type: none"> ・Prepared by lecturers
Introduction of OJT	<ul style="list-style-type: none"> ・Mostly classroom style lectures ・Visiting factories 	<ul style="list-style-type: none"> ・In the case of receiving trainees, OJT is carried out at the Japanese host company (Mainly particular technologies) ・In the case of dispatching lecturers and experts, OJT is carried out at the requesting company
Obtaining speakers and lecturers	<ul style="list-style-type: none"> ・60% from universities, laboratories, and so on ・40% from private companies 	<ul style="list-style-type: none"> (In the case of management technique course) ・80-90% from universities, laboratories, and so on ・10-20% from private companies (0% from AOTS staff)
Financial	<ul style="list-style-type: none"> ・100% Japanese government grant 	<ul style="list-style-type: none"> ・75% Japanese government subsidy ・25% benefiting overseas companies
Public relations	General information distributed to developing countries	<ul style="list-style-type: none"> ・Establishing overseas offices ・Introducing alumni association system ・Advertisement in monthly magazines
Problems	<ul style="list-style-type: none"> ・Schedule arrangement for lecturers. 	<ul style="list-style-type: none"> ・Arrangement for lecturers and experts ・To grasp precise needs of foreign companies ・Lack of standard educational materials ・Methodology to introduce management techniques to developing countries

**SEMINAR ON ACHIEVING COMPETITIVE
QUALITY THROUGH STANDARDIZATION
AND IMPLEMENTING QUALITY SYSTEM**

JAKARTA, INDONESIA

26 - 28 JANUARY, 1993

**QUALITY SCHEMES IN SUPPORT OF
MALAYSIA'S INDUSTRIALIZATION
PROGRAMME**

**A. AZIZ MAT
MALAYSIA**

QUALITY SCHEMES IN SUPPORT OF MALAYSIA'S INDUSTRIALIZATION PROGRAMME

Malaysia, like any other developing economies, has to depend on external trade for a sustained economic growth. We have recognized the need for industrialization and the Malaysian manufacturers play a crucial role in meeting this need.

Export has and will continue to play a key role in achieving growth and profitability for many Malaysian manufacturers. With a domestic market, slightly less than 18 million, that is relatively small, our manufacturers need export markets to achieve economies of scale.

GOVERNMENT EFFORT

The drive towards better quality products and services cannot be expected to achieve the desired results without some positive initiative by the government in this direction.

The government has, in the last few years, embarked on various programmes aimed at instilling quality awareness and the evolution of quality culture in the public sector.

These efforts by the government have had the effect of enhancing quality awareness in all sectors of Malaysian life. The introduction of A Working Culture based on Excellence is a case in point. It culminates in the presentation of awards by the Prime Minister of Malaysia to winners in three categories namely the Public Sector, the Private Sector and the Social Services Sector.

The Ministry of Trade and Industry of Malaysia also presents an award for quality under three categories namely Product Excellence, Hotel Service and Quality Management.

The third highly prestigious award is offered by the Standards and Industrial Research Institute of Malaysia (SIRIM) to companies in the manufacturing sector. The Award for Manufacturing Excellence is given to companies in recognition of the strides they have made in the field of Quality Management.

A major effort to promote quality in the small and medium scale industries (SMI) sector was initiated more than four years ago. The SMIs which form the backbone of the manufacturing sector, frequently lack the finances and the technical know-how necessary to initiate

effective quality systems. This is being done through the Industrial Technical Assistance Fund or ITAF, which is really a grant that is given to SMIs to improve their product or process quality. SIRIM has been entrusted the responsibility to manage two of the four programmes under the ITAF scheme, namely the product and design development programme and the productivity and quality improvement programme.

The need for quality is very often market driven. It is quite clear that this is where the push has to come from. Many of the SMIs are suppliers to larger companies. With many of the larger companies operating ISO 9000 quality systems, one would expect them to impose similar requirements on their suppliers. This should produce a cascading effect for registration on the part of suppliers to major companies.

The government has also helped by directing all its agencies to procure only goods carrying the quality mark. Manufacturers, who fails to give due emphasis to quality will stand to lose in the long run.

SIRIM's mission is "To upgrade the technological capability of local industries so as to gain competitive edge in the domestic and international markets. It forms the basis of our strategy in steering the local industry towards the path of quality to attain world-wide competitiveness.

INDUSTRIES CONTRIBUTION

The local industries realised that their involvement in the standardization process has the direct advantage to protect their interests. In the National Standards development, we have adopted the consensus method to ensure that all interested parties, directly or indirectly affected by the standards, are given an opportunity to have a say in their development. The timeliness of standards published is of prime importance. In an attempt to hasten the process, SIRIM is increasing office automation and decentralizing some of its standards writing functions from SIRIM to identified bodies with the necessary infrastructures and facilities.

PARTICIPATION IN THE INTERNATIONAL STANDARDIZATION

In the Standards preparation process, foreign or international standards generally form the basis of Malaysian Standards with or without adaptations. By harmonizing Malaysian Standards with international

standards, we are actually aligning our standards to those of the countries which have also adopted the international standards.

In order that international standards reflect on our requirements, Malaysia have to be a more active player in the international standardization community. SIRIM has been playing an active and contributing role in the 6 ISO Technical Committees. SIRIM is also an active member of International Electrotechnical Commission (IEC) and Codex Alimentarius Commission.

In the region SIRIM is also actively involved in the ASEAN-EEC Industrial Standards and Quality Assurance Programme (ISQAP).

THIRD PARTY QUALITY ASSURANCE

There are several certification schemes currently operated by SIRIM.

(a) Product Certification

Third party product certification has been carried out by SIRIM for a long time. Products certified by SIRIM bear the Quality Mark the familiar "Top" mark.

(b) Registration of Quality Management System

Since 1987 SIRIM has been involved in the registration of Quality Systems based on the ISO 9001 and 9002 standards. As in the product certification, this registration scheme is increasingly popular among the local industries.

(c) Laboratory Accreditation Scheme

The laboratory accreditation scheme carried out by SIRIM is based on internationally recognised systems as exemplified in the relevant ISO/IEC Guides on accreditation. This scheme is locally named as Skim Akreditasi Makmal Malaysia or SAMM.

(d) Measurement and Calibration

Measurement and calibration are the foundations of quality in that they form the very basis of standards. In recognising this SIRIM is making continuous efforts at improving the technical competence of its measurement services.

(e) Assistance for Exporters

In today's world of complex trade regulations it is vital for manufacturers who want to export their products to have access to important information that can assist them. The Standards Information Unit in SIRIM provides all the necessary assistance to acquire information required by the exporters.

INTERNATIONAL RECOGNITION

Currently, there is clear evidence that Malaysia has obtained such high level of credibility of her quality assessors, inspectors and the schemes. Certification organizations of many developed countries have appointed SIRIM as their inspection agents for the purpose of their certification to meet the import requirements.

CONCLUSION

The Government's efforts to upgrade the quality of the Malaysian goods and services has come not with very positive results. More and more local industries, besides their awareness for quality, has made a tremendous move for concrete evidence of quality assurance through certification in the quality schemes offered by SIRIM.

The third party assurance and certification systems together with the credibility of the quality systems joined with the production capabilities through quality management will provide Malaysian products and services the best chance to be accepted by foreign markets.

QUALITY EDUCATION AND TRAINING

Gian Singh, National Productivity Corporation, Malaysia

Malaysia has set its objective of achieving industrialised nation status by the year 2020. However, the nation realises that there are many obstacles to attaining this goal. The population is small, therefore to enjoy scale economies, the organisations must export. Of course, it is also possible to manufacture small batches of products - but this may not assist in the attainment of the industrialised nation goal.

The nation realises that it is highly dependent on import of technology and foreign investment - which is still more than 50% of the total investment. The government is currently developing strategies to stimulate more local investment than investment from overseas with the hope that in the near future, the share of domestic investment will be higher.

The nation also realises that in the near future, it will be faced with a labour shortage - thus it has to scale down labour-intensive industries. This means that to attain its goal, investment will tend to be capital intensive, and the labour input will decrease. In such a state, where labour would be expensive, it is necessary therefore that the productivity of labour is increased.

But productivity is linked to Quality. Therefore labour skills would need to be increased; and as capital-intensive industry places complex requirements on labour skills, training and education in skills would be needed.

Besides augmenting technological skills, the country would have to address the issue of quality at low cost. To attain the developed nation goal, it is necessary to be a high-quality, low-cost manufacturer. Quality by itself may not help, especially if the concern is export.

To assist in the upgrading of existing skills and the acquisition of new skills, the government has given a boost to training and education for industry with the establishment of

1. Double Deduction Incentive where all training provided by certain governmental institutions qualifies for this incentive. At the moment, this incentive is limited in the sense that the education and training provided by the private sector does not qualify. However, the possibility of accreditation of training programmes by specialised institutes might help in obtaining this double deduction incentive.

2. The establishment of a skills fund, where industry must contribute 1% of labour salaries to this fund. At the moment, no guidelines for operation of this fund exists, although the fund was launched on 1st January, 1993. It is hoped that in the near future the operating guidelines could be available.

Realising the need for adequately trained workforce, most organisations - medium and large - have substantial budgets for training. The small industry cannot afford this luxury, and it is hoped that the establishment of the skills development fund would provide this industry with the funds needed for it to acquire new skills. Those who can afford are establishing management training centres manned by people who do not do the training nor really understand the organisational business.

Malaysia has become a haven for training. Many small organisations exist and many foreign associate firms provide training. Those organisations with training departments are able to help themselves. Those without training facilities rely on external suppliers of training programmes. One important factor must be realised - Malaysian organisations do not have a strategic or structured approach to training. Most make use of training on a piece-meal basis. Someone identifies a training programme and informs the personnel department of his need. The personnel department sources the training, the training is done (often by the cheapest consultant), and the job is regarded as complete. Often the training programme does not meet the real needs of the organisation.

For some reason, organisations reject the idea of a structured and strategic approach to training and education. Apparently training is often regarded as a way of getting away from the routine work activities. There are of course a number of companies who have developed a strategic approach to training, but they are all part of multi-national corporations.

I believe the first public training programme in quality was conducted in 1968. At that time, the industrial growth programme was not there, and most organisations were suffering from the quality-ignorance disease. Malaysia owes much to the electronics industry for its quality awakening. The 1968 programme was conducted by a foreign expert from ILO. In the initial stages of industrialisation most governments do put up defence for localisation.

The first locally delivered programme in QC was in 1971, which later expanded and developed into a fully-operational SQC programme. This programme covered a period of 5 days. I must confess here that long-term

programmes covering more than 5 days are not popular with industry. They would prefer a 2-day programme packing the content of the 5-day programme. The SQC programme was partially successful - Malaysians in general do not like statistics.

The Quality bloom began in the early 1980s. The first Quality Improvement programme was organised in Penang called "The Penang Experience" - a sharing of experiences among companies. The quality experts were from the Penang-based electronics industry. The electronics industry focussed its attention on quality as the only way of competing effectively. In 1979, attempts were made in the first TQC-type quality promotion - the fruits however came in 1983.

The impetus to QCC was given by Ichiro Miyauchi, who trained the first batch of QCC personnel to serve as the multipliers. After this period, Malaysia saw a growth in training, especially in QCCs spreading to many organisations - private, public and governmental agencies. The focus on QCC remained until 1988, when Malaysian organisations discovered TQC. Today organisations are in search for the proverbial 'pot of gold' - through QCC or TQC activities. Few are trying to integrate the two movements. Even less know of the linkages of QCC and TQC.

In the 1990s, we have been flooded with the ISO 9000 mania, and the European deadline of Jan. 1, 1993. Consultants have created some disturbances in Quality by making attempts to peddle what they did best. Organisations are becoming confused with the Quality jungle - QCC, TQC, TQM, ISO 9000 etc. etc.

Broadly speaking, we can split Quality education into the following five groups:

1. Quality Assurance
2. QC Circle
3. TQC or TQM (we prefer to call it TQM)
4. ISO 9000 Series of Standards
5. Quality Improvements - Exotic Tools e.g. DOE, QFD etc.

There is an abundance of trainers in these fields. Many of our Quality experts do not have an industrial background. One belief is that if you can train, then you can become a quality consultant overnight by reading some notes on QCC. Many QCC experts have little understanding of Quality - they are really HRD experts.

Although ISO 9000 addresses Quality Management Systems - which are not really the same as quality assurance systems - I feel that there is a lack in the country on training opportunities in QA Systems and in Quality Improvement, using the exotic tools of DOE and QFD. But these programmes are not popular. I remember chairing a programme on QFD by Dr. Akao - everybody rated the programme as good, but I do not think many understood Dr. Akao. Dr. Kouzo Koura also came to Malaysia in 1991, and conducted a programme on Policy Management (Hoshin Kanri). Those who could understand their Japanese-English probably profited from these programmes.

Malaysians can now also obtain academic qualification in Quality from the Sheffield University, United Kingdom, and become Certified Quality Engineers by participating in training opportunities provided by the Institute of Quality Control Malaysia. The Certified Quality Engineer programme is from the American Society for Quality Control.

Despite this broad spectrum of programmes available, organisations are unable to use them effectively. Firstly, the programmes conducted are usually canned programmes - with a little bit of adjustment by the consultant, based not on company needs but most likely on his experience of the last programme. Furthermore, after the programme, there is nobody in the organisation to oversee the application of training. After awhile, few remember the training content.

I believe that one of the requirements of Quality education missing in Malaysia is the specialised Quality-oriented training. Generally, training and education in QCC and TQM is available - be it in the manufacturing or service industry. What we are probably lacking in most is specialised areas of technique training such as FMEA, FTA, Quality Engineering, and Quality Process Engineering. Large organisations do in fact possess this Quality technology - but in small industry it is not possible. Small industry can neither spare the investment nor the body available to attend and use the training. Even in ISO 9000 standards, we find that small companies do not have a management personnel to lead the implementation.

It is my conviction that organisations must annually map out their training needs based on the Business Plan, that training be focussed on the attainment of business goals and not be regarded as a few days away from the job. Organisations should be willing to undertake programme development to meet the special needs of the company.

I would like to end this presentation by sharing with you some information on our Quality programmes. Usually, I try to study the organisation and

tailor the programme to the organisation's needs - but this is not possible in general public programmes.

1. QUALITY AWARENESS

A one-day programme on Quality and its role. This programme can be run for three levels - Top Management, Middle Management and Line Management and Operatives. Each level needs a different focus, and as you move to lower levels, the programme becomes more practical.

2. QCC Circles: Four levels

QC Circle for Top Management

QC Circle for Facilitators

QC Circle for Leaders

QC Tools for Workers

3. TQM

TQM for Top Management (Concepts and Hoshin Planning)

TQM for Executives

TQM - the 7 Management Tools

4. QUALITY SYSTEMS

Quality Assurance

ISO 9000 Implementation

ISO 9000 Procedures Writing

(Both for Manufacturing and Service Industry)

5. QUALITY TECHNIQUES ORIENTED

SQC (SPC plus Sampling Plans)

Statistical Process Control (IPQC)

QFD - and overview

Design of Experiments (DOE)

Kaizen - IE Approach to Improvement

Thank you.

EDUCATION AND TRAINING PROGRAMME ON
STANDARDIZATION AND QUALITY MANAGEMENT
IN THE PHILIPPINES

(Presented by Director Renato V. Navarrete, Bureau of Product Standards, Philippines, at the UNIDO and MITI, Japan seminar on "Achieving Competitive Quality Through Standardization and Implementing Quality System", Jakarta, Indonesia, 26-28 January 1993).

The recent year was another successful one for BPS. It successfully set up its Quality System Certification Scheme to ISO 9000 and won its bid for the Philippines to be a member of the prestigious ISO Council. With the setting up of the scheme and the benefits of having stronger participation in international standardization work, BPS services more than ever are more sought after by industry. These achievements were the offshoot of aggressive promotions BPS has built over the recent years.

BPS; Introduction

BPS was created in 1964 as a Bureau under the Department of Trade and Industry. It is the national standards body in the Philippines. Its main task is to provide services that increase industrial productivity and raise the quality of locally manufactured products so that Philippine industries become more competitive in both the domestic and foreign markets.

The Bureau develops standards, certifies product quality and quality system to ISO 9000. It conducts trainings on quality management, accredits qualified testing laboratories, and operates quality system assessors and consultants registration. It provides cooperative efforts and participates actively in both regional and international standardization and quality assurance programs.

To provide guides to industries in producing quality products and to consumers in evaluating product quality, BPS has established nearly 1,400 national standards, 300 of which are adopted from international and foreign standards. Adopted standards are utilized to enable more Philippine industries to simultaneously satisfy both local and foreign buyers. To promote consumers interest, 54 of these national standards are mandatory. Mandatory standards cover those products that affect life, health and safety. At present, BPS standards development is more directed towards international standardization. BPS is actively participating with the ISO activities as P or O member to 40 ISO Technical Committees.

Product certification is extended to many industries. The needs of industry for product certification is increasing both in numbers and product coverage. To date, 919 PS quality mark licenses have been issued to 522 companies covering 103 product groups.

Implementation of mandatory standards has been stepped up, particularly for construction materials and electrical products. Those imported products found to comply with mandatory standards are issued Import Commodity Clearance.

Non-Certified products under mandatory standards are being monitored nationwide. Establishments and importers that are found not complying with mandatory standards are subject to appropriate legal actions.

To expand testing capability, BPS has accredited 27 qualified testing laboratories, both private and government entities.

Quality System Certification is the latest service BPS offered to industry. BPS issues Certificate of Approval to companies whose quality systems meet ISO 9000 standards. Our certification scheme is consistent with EN 45 012 - "General Criteria for Certification Bodies Operating Quality System Certification", ISO EC Guide 48 - "Guidelines for Third party Assessment and Registration of a Supplier's Quality System" and ISO 10011 - Part 1 and Part 2 - "Guidelines for Auditing Quality System (Auditing and Qualification Criteria for Quality System Auditors)". To date, four companies have been registered by BPS under its ISO 9000 Quality System Certification scheme, while 11 are now ready for assessment. Moreover, 20 others are under evaluation

EDUCATION AND TRAINING

Promotion of standardization and quality management is an important undertaking of BPS under its educational and training programs. As the Philippine economy integrates itself with the global economic system and in the midst of an open economy, standards must be seen by them not as a regulatory tool but more as technical guidelines for competitiveness. Product certification is a must to strengthen domestic and export marketability of Philippine products. The institutionalization of quality management is a must for them to continuously upgrade their quality, efficiency and productivity. This is a priority area where BPS is building its resources for training and promotions programs.

.1.

To widen the impact of training and promotions programs, BPS has entered into memorandums of agreement with industry sectors and professional groups for them to undertake not only standards development for their sector but also product-specific quality improvement seminars, especially for small and medium industries. These sectors are on paints, toys, furniture and wood products, metal working, electrical, processed foods, and gifts and housewares, among others. A total of 467 seminars have been conducted on quality, technology improvement programs, standards and metrication in the past five years. About 27,000 participants have benefitted from these.

To promote the benefits of the use of standards, BPS provides technical publications to its target clients, such as newsletters, lists of PS Quality mark licensees, a Registry of Quality System certified companies, standards catalogue, brochures, posters, and product quality guides. Press releases are issued about significant BPS activities. Radio and TV programs also feature BPS programs.

To support our exporters and local manufacturers in their quality improvement effort, we are maintaining a library and data base of national, foreign and international standards and technical literature of other countries.

To instill quality consciousness among our people, we provide lectures in communities, colleges, universities and conduct sectoral dialogues nationwide.

For consumers to better appreciate quality products, BPS conducts and organizes exhibitions featuring various BPS services and showcasing PS certified products. Over the past five years, 131 exhibitions have been held nationwide.

To broaden their knowledge on standardization as a means to achieve quality, we have continuing specialized training subjects based on target clients. Introduction to standardization; product quality and safety; technology improvement; and product quality certification. These are some of training subjects we have continuously undertaken.

At present, quality management and ISO 9000 also form a greater part of our education and training activities. Training seminars have been organized. Some of these seminars were held in-house at companies with a large number of participants. Other seminars include presentations by ISO 9000 certified companies about their successful experiences. Participants come from companies that are learning to apply ISO 9000 and subsequently achieved certification. To date, 1 800 quality practitioners from 400 companies have benefited from our seminar. Awareness seminars are undertaken regularly. Advanced courses on setting up and documenting quality systems and lead assessors training courses are now conducted for our own BPS staff, industry personnel and consultants in quality.

TRAINING SUBJECTS

Teaching standardization has been the main subject of our education and training programs. We have introduced standardization to all sectors of our economy.

NETWORKING

We have accomplished much of our promotions and training projects because of networking with other institutions. These include trade associations, professional groups, and government agencies. These institutions help BPS initiate and conduct trainings for their industry sectors. These sectors cover garments, processed food, furniture and wood based products, toys, electrical and construction materials.

We are an active member of the national quality campaigns of the Philippine Productivity Movement (PPM) and the Philippine Society for Quality Control (PSQC). We participate in their annual congresses on quality. We regularly send representatives to attend annual conventions of professional associations, such as the Institute of Electrical Engineers, Philippine Society of Mechanical Engineers, Philippine Institute of Chemical Engineers and others. Our participants also act as resource persons in these conventions on the subject of quality and standardization.

INTERNATIONAL COOPERATION AND ASSISTANCE

Our internal staff and representatives from industry have been recipients of full or partial scholarship trainings offered by several institutions under their international cooperation programmes. These institutions are the United Nations Industrial Development Organization (UNIDO), Japan International Cooperation Agency (JICA), International Organization for Standardization (ISO), ASEAN-EC Industrial Standards and Quality Assurance Programme (ISQAP), and the Swedish International Development Agency (SIDA), to name a few.

NEEDS

Our accomplishments in promotions work have exceeded our targets. However, what we have done is not enough as compared to the magnitude and range of training and promotion needs we have identified. We need continuing information on new technology.

We also need as training materials product-specific publications in implementing quality assurance schemes. We need to partially subsidize training cost of SMEs especially where private consultants, who charge high fees, are trainers. We have to centralize our training programs under a Quality Management Institute: this will serve as a one-stop shop for training in quality. We need to set up information facilities for faster access of information by industry associations. To provide a stronger incentive to enterprises with good quality assurance schemes, we need to expand an existing national quality award. This is run by the Philippine Society for Quality Control and the Philippine Productivity Movement with the cooperation of BPS. The Outstanding Quality Company of the Year has been administered for the past five years.

The foregoing needs will be addressed by us in order to add greater momentum to our national educational/training programmes that support our industries' and exporters' efforts to become competitive in the open market driven economy.

In this seminar, we hope to find ways and means that will help answer these needs.

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Introduction

Quality is a competitive necessity in today's highly competitive business environment. Companies in Singapore are aware of this and are very concerned about building quality into their products and services. The Singapore government is concerned about the quality of Singapore's workforce and has created a Skills Development Fund Scheme to help fund the costs of training of lower level staff by companies.

The Skills Development Fund pays for 30 to 70 % of training fees. The Scheme has encouraged companies to send their staff for training in quality and productivity improvement.

Quality Training Programmes

There are many quality training programmes available in Singapore. These programmes can be categorised as follow:

1. Total Quality Management
2. Quality Tools and Techniques
3. ISO 9000

Total Quality Management

Total Quality Management training programmes are offered in one-off type of seminars. Most of the time, a local consultancy and training firm would bring in an expert from overseas to conduct a 2 to 3-day seminar. For example, Philip Crosby himself and consultants from the Juran Institute have presented seminars on quality management in Singapore. Japanese TQC authorities such as Dr Noriaki

Kano, Masaaki Imai, etc. have also presented seminars in Singapore.

The Singapore Institute of Standards and Industrial Research (SISIR) organised a Global Quality Congress in June 1992. In this Congress, a number of eminent consultants and practitioners of TQM presented papers. Louis Schultz, the Chief Executive Officer of Process Management International, a US based consultancy firm specialising in TQM based on the teachings of Dr W. Edwards Deming; and Dr Blanton Godfrey, the Chairman and CEO of the Juran Institute; and practitioners from Japanese companies Sony, Fuji-Xerox were some of the speakers at the Congress.

Although there is no lack of seminars and talks on Total Quality Management being presented in Singapore, most of the audience are not CEOs or senior management personnel. Most of these seminars/talks are attended by the quality managers and quality professionals. Because of this, the top management of Singapore companies, especially those of small and medium-sized enterprises, have so far not demonstrated sufficient understanding of the concepts and practice of Total Quality Management.

There is therefore a need for more seminars on Total Quality Management to be organised and to be promoted to the top management personnel. It is felt that top management personnel must understand Total Quality Management themselves if they were to lead and manage quality in their organisations.

Novo Quality Services (NQS) , a wholly-owned subsidiary of the

SISIR, is planning a series of seminars and talks on Total Quality Management aimed at top management personnel in 1993 and 1994. NQS aims to invite Japanese, American and European quality gurus to Singapore for these talks and seminars. It is hoped that the Japanese Standards Association can help to recommend and arrange some Japanese speakers.

Most of seminars presented in Singapore have so far covered only the philosophy aspects of Total Quality Management. There is a lack of seminars that teaches the participants how to translate the philosophy into practical skills and knowledge that the managers, professionals, and workers can apply in their workplace. Towards this end, NQS will be launching a series of practical level Total Quality Management courses in collaboration with Process Management International. The courses cover the following topics:

- Process Improvement Techniques for Management
- Seven Management and Planning Tools
- Techniques for Quality Improvement (Service/Administration)
- Total Quality : A Framework for Action
- Techniques for Quality Improvement (Manufacturing)

Quality Tools and Techniques

There are many companies offering these training courses in Singapore. Some organisations that organize these courses include:

1. Novo Quality Services

2. National Productivity Board
3. Enterprise Promotion Centres
4. Individual consultants

The titles of the courses they offer include:

Quality Awareness for Workers

Statistical Process Control

Skills and Techniques in Quality Inspection and Control

etc.

ISO 9000

Three to four consultancy firms offer training courses on ISO 9000. The types of courses normally include the following:

Documentation and Implementation of Quality System

A Practical Approach to Developing a ISO 9000 Quality System

Internal Quality Auditing Training

Assessor/Lead Assessor Training

NQS, for example, offers all these training courses. The courses are well attended.

Furthermore, SISIR, as the national Certification Authority, has institutionalised a training programme for its ISO 9000 quality system auditors. A paper titled, "SISIR's Training Programme for Quality Management System Assessor/Lead Assessor", is attached in the Appendix.

Recommendations

It is recommended that Japan helps companies in Singapore and the region upgrade their quality systems and practices. This can be achieved by despatching Japanese experts both at the management philosophy level and the practical working level, to conduct talks and workshops to promote and training organisational personnel on quality improvements.

SISIR'S TRAINING PROGRAMME FOR QUALITY MANAGEMENT
SYSTEM ASSESSOR/LEAD ASSESSOR

SISIR operates the SISIR Certification Mark (SM) Scheme for product certification, Good Manufacturing Practice (GMP) Scheme and the SISIR ISO9000 Certification Scheme for Quality Systems certification. SISIR ensures that her auditors are capable and proficient in order to maintain impartiality as well as to offer a certification service that is credible and respectable to the local and overseas market of users and buyers.

SISIR recruits Quality Auditors based on their qualification, i.e. Degree/Diploma in a Technical Discipline and relevant audit experience. The auditors are then put through a structural training programme to ensure their proficiency in two critical areas, i.e. :-

- a) Knowledge of the certifying standard,
- b) Auditing techniques.

SISIR has pegged herself to the qualification system of Lead Assessor/Assessor operated by the Institute of Quality Assurance (IQA) in UK. The training programme will also provide the framework for auditors to obtain registration with IQA as Lead Assessor/Assessor of Quality Management System.

All new officers will be required to go through the entire training programme. For certain officers with relevant audit experience, the period of audit observation may be shortened but they will still go through the necessary aspects of the training programme.

The training begins with understanding the certifying standards whereby new assessor is given a period for self-studying and to sit for the tests at the end of the period. This is to ascertain new assessor fully understand the certifying standards. Arrangement will also be made for new assessor to attend courses such as Interpretation and Documentation of a Quality System and Assessor/Lead Assessor Training Course.

New assessor is required to participate as an observer in audits, to familiarise himself with the conduct of an audit and to acquire auditing techniques from the more experienced assessors. The number of observations required will depend on his experience in quality assurance and it ranges from 3 to 5. Only when the assessor has successfully completed the required number of observations and attended the Assessor/Lead Assessor Training Course, he is a qualified assessor and is allowed to participate in audits as an Assessor under the supervision of the Lead Assessor. When an Assessor has completed the required number of audits (about 10) as an Assessor, he is then allowed to lead the audit team. The first time an Assessor lead an audit team, he will be assessed jointly by Manager (Certification) and another Registered Lead Assessor. Only if he has proven his capability in leading an audit team then he is a qualified Lead Assessor.

Besides conducting audits, all assessors/lead assessors are required to conduct routine surveillance on certified companies. Only qualified assessors/lead assessors are allowed to conduct the surveillance.

In order to ensure that assessors perform their tasks professionally and in order to ensure consistency on the interpretation of the requirements for certification, calibration will be conducted on all assessors. All lead assessors will be calibrated once a year by another lead assessor and Manager (Certification). All assessors will also be calibrated yearly by a lead assessor.

SISIR will arrange for her assessors to be registered with IOA (UK) as Assessor/Lead Assessor at appropriate time when they have met the requirements for registration.

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1997/01/01/01/01

STANDARDIZATION AND QUALITY CONTROL IN THAILAND

1. INTRODUCTION

Thailand is one of ASEAN countries which may be said to have a very rapid industrial growth. The importance of standardization as a means to promote and support industrial development is realized by the government and was the reason why the Standards Act was drawn up 25 years ago in 1968. However, today, standardization in Thailand is considered still among the very young

Standardization activities in Thailand include the following:

- (1) Standards development
- (2) Product certification
- (3) Quality management system certification (ISO 9000)
- (4) Laboratory accreditation
- (5) Testing
- (6) Standardization promotion (including training)

2. IMPLEMENTATION OF QUALITY CONTROL

Implementation of quality control by the government is undertaken by incorporating it as a requirement in product certification, quality system management certification and laboratory accreditation. Parties involved in these activities are from both the public and private sectors, which can be summarized as follows:

ACTIVITY	PARTIES INVOLVED	SECTOR	QC REQUIREMENT
Product certification	(1) Certification body	Public	/
	(2) Manufacturers	Private	/
Quality management system certification	(1) Certification body	Public	/
	(2) Manufacturers / suppliers / service organizations	Private / public	/
Laboratory accreditation	(1) Accreditation body	Public	/
	(2) Testing laboratories	Public / private	/

Apart from QC implementation by the government through certification and accreditation, quality control has been adopted widely by the industries. Only the results differ which are dependent on the correctness and effectiveness of use. The need for training and education on QC is still very high in Thailand.

3. NEED FOR TRAINING IN QUALITY CONTROL

As mentioned in 2 above, QC became an important requirement for certain standardization activities. The need to train personnel concerned, whether in the public or private sector, is evident. A summary of current trainings organized is shown below:

Training	Organizer	Attendant	Remarks
Standardization	Public	Public / private	
QC in general	Private / public	Private / public	
ISO 9000 (introduction)	Private / public	Private / public	
Internal audit (ISO 9000)	Private / public	Private / public	IQA course
Lead assessor (ISO 9000)	Private / public	Private / public	IQA course

4. TRAINING POLICY REGARDING QUALITY CONTROL IN THAILAND

From 3 above, it can be seen that training on standardization is led by the government. Quality control training where it concerns ISO 9000 in particular has the support of the government but is handled by the private sector. However, it is the policy to limit the government authority to the certifying and accrediting functions only. Other training or consultancy functions are left to the private sector who may come under the form of federation, association or consultant companies.

In the case of Thailand, its industry covers wide and numerous arrays of fields, with more than 80,000 factories, mostly of medium and small scales. Since the medium and small factories comprise the larger percentage, it is necessary that they be encouraged to use QC to full advantage so that in return the country will have a secure and strong founding for its industry. Therefore, SME has become an important target of QC promotion towards nation-wide adoption of QC. And Thailand must develop its own training programmes that suitably and effectively serve its needs

5. REGIONAL COOPERATION

As is known, the ASEAN Free Trade Area or AFTA has been established by ASEAN. To support AFTA, the ASEAN Consultative Committee on Standard and Quality (ASCCQ) has been set up, under which are embraced QC training programmed and other QC related activities.

EDUCATION AND TRAINING PROGRAM FOR STANDARDIZATION AND QUALITY MANAGEMENT IN THAILAND: PRIVATE ORGANIZATION

PRAYOON SHIOWATTANA

GENERAL MANAGER

Technological Promotion Association (Thai-Japan)

1. In Thailand, there are two major private organizations that have been playing an important role in education and training on standardization and quality management. The first one is Technological Promotion Association(Thai-Japan), a not-for-profit organization supported partly by the Japanese government through MITI(Ministry of International Trade and Industry). The second one is the QC Promotion Association which was established in 1985 as the QC Headquarters of Thailand and was later changed in to the Association in 1991. Recently another organization, the Federation of Thai Industries, has been also very active, particularly in the education and training in ISO-9000.
2. As for the training and seminar in this QC area in the last ten years, figure 1 shows past record (and estimation for the 1992 budget year which will end March) of the Technological Promotion Association (Thai-Japan). Beside such training, the Association also has helped to organize QCC Convention which later was changed into QC Prize Contest. The record of which is shown in figure 2.
3. As for details of the courses and their contents, this is shown in figure 4 and figure 5. Courses are prepared in the way that they can cater needs of a wide range of human resource in Thai industrial sector, covering beginner, QCC facilitator, supervisor, middle and top management and specialist.
4. Starting from the end of 1991, interest in ISO-9000 has been greatly heightened, thanks to the industrious and continual promotion effort of the Thailand Industrial Standard Institute. However, due to lack of qualified lead assessor, only a small number of manufacturing firms could be able to apply in order to get ISO-9000 certificate.
5. Planning of training courses has been organized mainly through subcommittee system. Well-known experts in QCC and active facilitators from industrial sector are invited to join in the committee to advise on actual need of the industry and also to help draft appropriate curriculum.
6. Full utilization of foreign experts, including Japanese, has been made. As the TPA has been active in this training and education activity for two decades with her firm not-for-profit stand therefore support and cooperation from all sectors, including foreign MNCs, have been very encouraging. Japanese experts dispatched to the country on

the technical aid also came to give lectures. Due to such good cooperation, we can have a very good composition of lecturers, covering manufacturing, service, university, state enterprise and government sectors. In most case, conceptual and theoretical part of the training would be covered by university professors. Practical experiences would be a responsibility of private sector.

6. Preparation of material in the early stage, twenty years ago, had relied mainly on text and material provided by Japanese lecturers. Some of them included the famous Dr. Ishikawa, Dr. Kano, Dr. Kume, Dr. Miyauchi etc. These texts had to be translated from the Japanese manuscript with the help from Thais graduated from Japanese universities. Later, we began to gain our own experiences and therefore some basic materials were later prepared by Thai lecturers based on Thai own experiences. As for advance topic such as Total Quality Management, or Management by Policy etc. we still have to rely on foreign, especially Japanese, material.

7. Recently we see some changing trend of need from our customers. Firstly, request for in-house training has been increasing. This is because such training can help turn out a large number of employees and secondly because it can be more tailored made to the firms' specific need. The second trend is growing request for on-the-job training and consulting service.

8. Though training need has grown up very fast, for small and medium scale enterprises it is still a burden for them to pay full cost of training. In our organization, the fee is normally charged at about 80% of cost with the rest being compensated by support from MITI. Such kind of subsidies has, to some extent, to continue for some years. On top of that, in the case of inviting foreign experts all the cost could not be levied to the audiences.

9. What Japan can do to help support such activities? I would like to propose some ideas:

1. To support in terms of preparation of training material covering from training text, curriculum development, VDO and other training kit. This would help a lot to lighten burden of developing all these ourselves.
2. To support lecturers or speakers by having them give a traveling lecture in the region on topics with common interest to countries in the region.
3. To devise a scheme wherein experts could be dispatched for a longer period so that they can be able to guide a few "model companies". Such guidance will include doing in-house on-the-job training and giving consultancy service. Such "model companies" will later be used as training ground on TQC and Standardization for other local firms.
4. To help in education and training of ISO-9000. Particularly in systematic approach in order to apply for ISO-9000.

FIGURE 1. NUMBER OF COURSES AND PARTICIPANTS DURING THE LAST TEN YEARS.

year	number of courses	number of participants
1983	15	1,308
1984	15	1,663
1985	22	2,412
1986	23	1,703
1987	24	2,456
1988	31	2,547
1989	33	2,112
1990	40	2,292
1991	47	2,760
1992*	59	2,245

* is an estimation for 1992

FIGURE 2. QC CIRCLE SYMPOSIUM DURING THE LAST TEN YEARS

year	events	day(s)	participants (/day)
'83	1st QC Circle Convention	3	600
'84	2nd QC Circle Convention	3	750
'85	3rd QC Circle Convention	4	800
'87	4th QC Circle Convention	5	600
'88	5th QC Circle Convention	1	500
'89	1st QC Prize	1	1,000
'90	2nd QC Prize	1	250
'91	3rd QC Prize	1	200
'92	4th QC Prize	1	200

FIGURE 3. MAJOR TRAINING AND SEMINAR COURSES RELATED WITH QUALITY CONTROL ORGANIZED BY THE ASSOCIATION

course	contents	participants
1. BASIC QC CIRCLE (4 DAYS)	-basic QC Circle concepts / effective meeting / teamwork / brainstorming techniques / QC 7 tools / presentation techniques / case study	basic introductory course
2. SUGGESTION SYSTEM	- participative management overview / to be creative / basic ideas of suggestion system / application to QCC activities	General audience and QCC member
3. 5-S APPLICATION IN QCC ACTIVITIES	- basic concepts of 5-S / basic concepts of QCC / 'how to' in applying 5-S into QCC activities / case study	General audience and QCC member
4. QC TECHNIQUES (2 DAYS)	- introduction to 7 tools / practices with check sheet, Pareto diagram, cause and effect diagram, scatter diagram, histogram, control chart and radar chart / case study	QCC member and supervisor
5. QC PROBLEM SOLVING TECHNIQUES (2 DAYS)	- what is QCC problems / how to identify QCC main cause / analysis and collecting data / case study	QCC member and QCC leader
6. TECHNIQUES IN QCC MOTIVATION (2 DAYS)	- basic ideas in QCC motivation / motivation theory / 'how to' of staff motivation in QCC activities / case study	QCC leader and supervisor
7. QC CLINIC (2 DAYS)	- QCC activities evaluation / QC facilitators / roles of QC facilitators / case study	QCC leader and supervisor
8. QCC PROMOTION TECHNIQUES (1 DAY)	- failure and success of QCC activities / QCC promotion techniques / motivation techniques / case study	QCC leader and supervisor

9. SPC WORKSHOP FOR SUPERVISOR (4 DAYS)	- principles and concepts of QA and SPC / SPC techniques and utilization / brainstorming techniques / basic statistical tools	Technicians, engineers and scientists
10. ACCEPTANCE SAMPLING TECHNIQUES (3 DAYS)	- basic concept of sampling techniques and inspection / acceptance sampling by variables MIL-STD 414, PPM-sampling, continuous sampling / acceptance sampling management / practice	Technician, engineer and scientist
11. DESIGN OF EXPERIMENTS (DOE) (7 DAYS)	- basic principles of DOE / roles of DOE in product and process design / simple comparative experiments / completely randomized design / Plackett-Burman design	Engineer and scientist
12. PROCESS CAPABILITY STUDY	- basic concepts of SPC / process capability / statistical concept / repeatability and reproducibility / metrology and SPC	Engineer and scientist
13. CONTROL CHART AND APPLICATIONS	- basic concept of control chart / probability distribution / X-R chart, P chart, C chart, μ chart / how to read control chart / practice	Technician, engineer and scientist
14. PROFIT MAKING THROUGH QUALITY	- what is TQC / profitability and TQC / administrative systems for TQC promotion / profit making through quality	Middle and top management

QUESTIONNAIRE FOR THE SEMINAR ON ACHIEVING COMPETITIVE QUALITY
THROUGH STANDARDIZATION AND IMPLEMENTING QUALITY SYSTEM

In order to improve the next seminars on standardization, we would like to have your opinions and suggestions about this seminar.

Please fill the questionnaire and return it to our staff before 1.00 p.m. 28th January 1993 (before Lunch)

Thank you for your cooperation.

Details of informer

- Government and State Enterprises
- Private Sectors
- Tiles and Sanitary Appliances
- Textiles
- Electric Cables and Conductors
- Paints and Chemical Products
- Iron, Steel and Metal Products
- Foods
- Plastics and Non-Ferrous Materials
- Concrete and Construction Materials
- Medical Equipments and Cosmetics
- Mechanics and Vehicles
- Electric Appliances
- Others (Specify)

Background knowledge in standardization and quality control

a. much b. some c. none

Please tick / and fill your suggestion a each item

Content of the Seminar

- 1. Degree of satisfaction of the topics included in this seminar
 - a. much b. fair c. not satisfied

- 2. Degree of interest in the following topics

	much	fair	little
1) What are the Bases for the Companywide Quality Control (CWQC)	a	b	c
2) Application of CWQC to the Company Management	a	b	c
3) JNISO Presentation	a	b	c
4) Approach for Improvement of Manufacturing Quality	a	b	c
5) Q.C. in Small and Medium Scale Industry	a	b	c
6) Significance of the activities to obtain registration based on ISO 9002	a	b	c
7) What is needed for enterprise seeking registration to ISO 9000 Series	a	b	c
8) Country Report Presentation on Education and Training Programme for Standardization and Quality Management	a	b	c
9) Panel Discussion on Education and Training Programme for Standardization and Quality Management	a	b	c

- 3. Degree of sufficiency and relevancy of the document distributed in this seminar
 - a. much b. fair c. not satisfied

- 4. comprehensibility of the distributed documents
 - a. much b. fair c. not satisfied

comment

.....

Lecturers :

- 5. Ability in presentation (such as explanation, sequence etc. (in general)).
 - a. much b. fair c. not satisfied

- 6. Ability in answering the question (in general).
 - a. much b. fair c. not satisfied

comment

.....

Interpreters :

- 7. Fluency in interpreting

	much	fair	little
Japanese - English	a	b	c
English - Japanese	a	b	c

8. Ability in interpreting

	much	fair	little
Japanese - English	a	b	c
English - Japanese	a	b	c

Comments

Arrangement :

9. Degree of satisfaction on the following items.

	a. much	b. fair	c. little
- Period of seminar (3 days)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Venue (e.g., seminar room, hotel)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Number of participants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Atmosphere (e.g., light, noise)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Audio visual aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Reception and Orientation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Hotel service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Advance information about the seminar.

- a. sufficient
- b. insufficient

11. Your source of information about the organization of the seminar

- invitation by DSN
- Mass media
- Individuals
- Others (specify)

Comments

DETAILS OF INFORMATION ABOUT PARTICIPANT**SEMINAR MITI-UNIDO-JSA-DSN
JAKARTA, 26-28 JANUARI 1993**Government and State Enterprises Total respondent Private Sectors Total participant Tiles and Sanitary Appliances Plastics & Non-Ferrous Materials Textiles Concrete & Construction Materials Electric Cables and Conductors Medical Equipments and Cosmetics Paints and Chemical Products Mechanics and Vehicles Iron, Steel and Metal Products Electric Appliances Foods Others (Specify) **Background knowledge in standardization and quality control**a. much c. none b. some d. blank CONTENT OF THE SEMINAR**1. Degree of satisfaction of the topics included in this seminar**a. much c. not satisfied b. fair d. blank **2. Degree of interest in the following topics**

1) What are the Bases for the Companywide Quality Control (CWQC)

a.much b.fair c.little d.blank

2) Application of CWQC to the Company Management

3) UNIDO Presentation

4) Approach for Improvement of Manufacturing Quality

5) Q.C. in Small and Medium Scale Industry

6) Significance of the activities to obtain registration based on ISO 9002	30	28	4	10
7) What is needed for enterprise seeking registration to ISO 9000 Series	21	32	5	14
8) Country Report Presentation on Education and Training Programme for Standardization and Quality Management	12	30	3	27
9) Panel Discussion on Education and Training Programme for Standardization and Quality Management	27	21	3	21

3. Degree of sufficiency and relevancy of the document distributed in this seminar

a. much	17	c. not satisfied	
b. fair	35	d. blank	20

4. comprehensibility of the distributed documents

a. much	12	c. not satisfied	
b. fair	35	d. blank	25

comment

Lecturers :

5. Ability in presentation such as explanation, sequence etc. (in general).

a. much	17	c. not satisfied	5
b. fair	35	d. blank	15

6. Ability in answering the question (in general).

a. much	17	c. not satisfied	2
b. fair	32	d. blank	21

comment

Interpreters :

7. Fluency in interpreting

	a.much	b.fair	c.little	D.blank
Japanese - English	28	21		23
English - Japanese	11	10		51

8. Ability in interpreting

	a.much	b.fair	c.little	D.blank
Japanese - English	26	12		34
English - Japanese	10	12	1	49

Comments

Arrangement :

9. Degree of satisfaction on the following items.

	a.much	b.fair	c.little	d.blank
- Period of seminar (3 days)	15	35	11	11
- Venue (e.g., seminar room, hotel)	30	25	1	16
- Number of participants	25	23		24
- Atmosphere (e.g., light, noise)	24	23	1	24
- Audio visual aids	27	25	4	16
- Reception and orientation	22	24		26
- Hotel service	27	26	1	18

10. Advance information about the seminar.

a. sufficient	40
b. in sufficient	10
c. blank	22

11. Your source of information about the organization of the seminar

- invitation by DSN	36
- Mass media	3
- Individuals	2
- Others (specify)	7
- Blank	24

Comments