

資 料

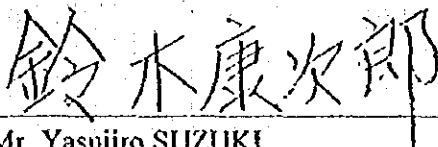
**MINUTES OF DISCUSSIONS
BETWEEN THE JAPANESE EVALUATION TEAM
AND THE AUTHORITIES CONCERNED OF THE
GOVERNMENT OF THE REPUBLIC OF THE PHILIPPINES ON
THE JAPANESE PROJECT-TYPE TECHNICAL COOPERATION
FOR THE INDUSTRIAL STANDARDIZATION AND
ELECTRICAL TESTING PROJECT**

The Japanese Evaluation Team (hereinafter referred to as "the Japanese Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Yasujiro Suzuki, Deputy Director, Technical Cooperation Division, Mining and Industrial Development Cooperation Department, JICA, visited the Republic of the Philippines from February 5 to 22, 1997 for the purpose of evaluating jointly with the Philippine Evaluation Team the achievement of the Japanese technical cooperation for the Industrial Standardization and Electrical Testing Project in the Republic of the Philippines (hereinafter referred to as "the Project") on the basis of the Record of Discussions signed on August 24, 1993 (hereinafter referred to as "the R/D").

After the Joint Evaluation of the Project, the Japanese Team discussed with the authorities concerned of the Republic of the Philippines for the successful implementation of the Project.

As a result of the discussions, both sides mutually agreed upon the matters referred to in the document attached hereto.

Manila, February 21, 1997



Mr. Yasujiro SUZUKI
Leader
Japanese Evaluation Team
Japan International Cooperation Agency
Japan



Mr. Jesus L. MOTOOMULL
Director
Bureau of Product Standards
Department of Trade and Industry
Philippines

ATTACHED DOCUMENT

1. Confirmation of the Joint Evaluation Report

The Joint Coordinating Committee of the Project confirmed the Joint Evaluation Report on the Japanese technical cooperation for the Industrial Standardization and Electrical Testing Project in the Republic of the Philippines which was submitted by the Evaluation Team.

2. Further input to the Project during the rest of the technical cooperation period agreed in the R/D.

2-1 The Japanese side

- 1) To continue the services of Japanese long-term experts in the following fields :
 - a. Chief Advisor (by August 23, 1997)
 - b. Coordinator (by August 23, 1997)
 - c. Electrical Testing (by March 28, 1997)
 - d. Standardization and Certification System (by August 23, 1997)
- 2) To dispatch short-term experts in the field of "Electrical Testing" and "Quality Control".
- 3) To provide the equipment requested by the Philippine side within the limits of the budget.
- 4) To receive the Philippine counterpart personnel concerned with the Project for training in Japan.

2-2 The Philippine side

To provide all the provisions necessary as agreed in the R/D.

3. The Philippine side strongly requested the approval of Phase II Project, that is, "Project Type Technical Cooperation on Industrial Standardization, Testing and Training" which is under request to the Japanese Government by the BPS/DTI through NEDA.



ATTENDANCE (Including the attendance of the Joint Coordinating Committee)

A. The Evaluation Team

1) Japanese Evaluation Team

| | |
|-----------------------------|-------------------------------------|
| Mr. Yasujiro SUZUKI | Leader |
| Mr. Teiji AKIYAMA | Technical Cooperation Policy |
| Mr. Yoshiomi CHIBA | Technical Transfer Planning |
| Mr. Shinichi KANDORI | Evaluation Planning |
| Mr. Shinsuke TSURUTA | Evaluation Analysis |

2) Philippine Evaluation Team

| | |
|-------------------------------|-----------------------------------------------------------------------------------------------------------|
| Mr. Jesus L. MOTOOMULL | Director, Bureau of Product Standards (BPS) |
| Mr. Joselito C. SOLER | Chief, Testing Center, BPS |
| Ms. Aurora dela REA | Director, Office of Operational Planning, DTI |
| Ms. Teodora P. MALANUM | Chief Accounting Specialist, Budget & Finances Bureau B, DBM |
| Mr. Dominador CABATIC | Deputy Director, Metals Industry Research and Development Center (MIRDC), DOST |
| Ms. Aleli F. Lopez-Dee | Chief Economic Development Specialist, Project Monitoring Staff, NEDA |
| Mr. Jimmy B. ONG | BPS Technical Committee member of Wiring Devices |

B. Participants in the Meetings

1) Japanese Experts

| | |
|-------------------------------|---------------------------------------------------|
| Mr. Hiroshi YOSHIMITSU | Chief Adviser |
| Mr. Kazuki ISHIDA | Coordinator |
| Mr. Kenji KUBOTA | Electrical testing |
| Mr. Norio ISHIZAKI | Standardization & Certification System |
| Mr. Tenuo KAWAMURA | Quality Control |

2) JICA Philippine Office

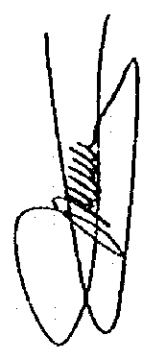
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|----------------------------|------------------------------------------|
| Mr. Hajime NAKAZAWA | Assistant Resident Representative |
|----------------------------|------------------------------------------|



3) Philippine Counterparts

Ms. Cirila S. BOTOR
Ms. Norma C. HERNANDEZ
Ms. Clarissa M. ORACION
Mr. Gerardo P. PANOPIO
Mr. Samson D. PADEN

Assistant Director
Chief, Certification Division
Chief, Standards Development Division
Head, Electrical Testing Section
Standards Development Division



JOINT EVALUATION REPORT

**ON
THE JAPANESE TECHNICAL COOPERATION
FOR
THE INDUSTRIAL STANDARDIZATION
AND
ELECTRICAL TESTING PROJECT
IN THE REPUBLIC OF THE PHILIPPINES**

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

**BUREAU OF PRODUCT STANDARDS (BPS),
DEPARTMENT OF TRADE AND INDUSTRY (DTI)**

February 21, 1997

Bureau of Product Standards (BPS), DTI

Makati City, Republic of the Philippines

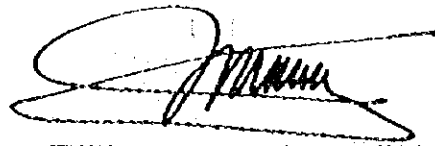
MUTUALLY ATTESTED AND SUBMITTED
TO ALL CONCERNED

FEBRUARY 21, 1997

MAKATI CITY, REPUBLIC OF THE PHILIPPINES



MR. Yasujiro SUZUKI
Leader
Japanese Evaluation Team
Japan International Cooperation Agency
Japan



Mr. Jesus L. MOTOOMULL
Leader
Philippine Evaluation Team
Department of Trade and Industry
Republic of the Philippines

C O N T E N T S

I. INTRODUCTION

1. Evaluation Teams
2. Schedule of Joint Evaluation
3. Members of Evaluation Teams
 - (1) The Japanese Evaluation Team
 - (2) The Philippine Evaluation Team

II. METHODOLOGY OF EVALUATION

1. Components of Evaluation
2. Information for Evaluation

III. BACKGROUND AND SUMMARY OF THE PROJECT



1. Brief Background of the Project
2. Chronological Review of the Project
3. Purpose of the Project
4. Tentative Schedule of Implementation
5. Technical Cooperation Program

IV. RESULTS OF THE EVALUATION

1. Efficiency
2. Effectiveness
3. Impact
4. Relevance
5. Sustainability

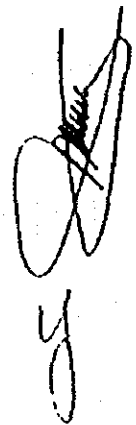
V. CONCLUSION

VI. RECOMMENDATION

L I S T O F A N N E X E S

- Annex 1. Project Design Matrix (PDM)
- Annex 2. Chronological Review of the Project
- Annex 3. Tentative Schedule of Implementation (Plan)
- Annex 4. Technical Cooperation Program (Plan)
- Annex 5. Japanese Experts Dispatched by JICA
- Annex 6. Major Equipment Provided by JICA
- Annex 7. Counterpart Personnel Trained in Japan
- Annex 8. Expenses by the Japanese Side
- Annex 9. Provision of Infrastructure by the Philippine Side
- Annex 10. Organization Structure, BPS and BPSTC
- Annex 11. Allocation of Counterpart Personnel
- Annex 12. List of Counterpart Personnel
- Annex 13. Expenses by the Philippines Side
- Annex 14. Schedule of Implementation and Accomplishment
- Annex 15. Technical Cooperation Program and Accomplishment
- Annex 16. List of Testing Capability and Activities
- Annex 17. List of Seminar / Lecture Activities
- Annex 18. List of Factory Visits
- Annex 19. Number of Testing Accomplishment
- Annex 20. List of PS Standards Harmonized with IEC




I. INTRODUCTION

1. Evaluation Teams

The Japanese Evaluation Team (hereinafter referred to as "the Japanese Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Mr. Yasujiro SUZUKI, visited the Republic of the Philippines from February 5 to February 22 in 1997 for the purpose of evaluating jointly with the Philippine Evaluation Team (hereinafter referred to as "the Philippine Team") headed by Director Jesus L. Motoomull, the achievement of the Japanese technical cooperation for the Industrial Standardization and Electrical Testing Project (hereinafter referred to as "the Project") having been implemented on the basis of the Record of Discussions signed on August 24, 1993 (hereinafter referred to as "the R/D").

The Japanese Team discussed and studied together with the Philippine Team the efficiency, effectiveness, impact, relevance, sustainability and future perspective of the Project.

This Joint Evaluation Report summarizes the findings and observations of both Evaluation Teams.


A handwritten signature in black ink, appearing to be 'Jesus L. Motoomull', is written over a faint, illegible stamp. Below the signature is a vertical line of text, possibly initials or a date, which is also illegible.

2. Schedule of Joint Evaluation

| Date | | Activities on the Evaluation |
|------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| February 1997 | 5 Wed | - Arrival in Manila of a member in charge of evaluation analysis |
| | 6 Thu | - Meetings with the Japanese experts and the counterpart staff at BPS Testing Center |
| | 7 Fri | - Meetings with the Japanese experts and the counterpart staff at BPS Testing Center and analysis of collected data |
| | 8 Sat | - Analysis of the questionnaire survey results |
| | 9 Sun | - Analysis of obtained information |
| | | - Arrival in Manila of a member in charge of evaluation management |
| | 10 Mon | - Meetings with the counterpart staff at BPS headquarters |
| | | - Meetings with the Japanese experts and counterpart staff at BPS Testing Center |
| | 11 Tue | - Meetings with the Japanese experts at BPS Testing Center |
| | | - Meetings with the counterpart staff and Japanese experts at BPS headquarters |
| | 12 Wed | - Summarizing information from the above meetings |
| | | - Collection of documents from BPS headquarters |
| | | - Arrival in Manila of the main body of the Japanese Evaluation Team |
| | | - Courtesy call to the Embassy of Japan and meeting at JICA office |
| | - Joint meeting of concerned members of the Project from JICA Office and BPS | |
| 13 Thu | - Team meeting and a meeting with the Japanese experts at BPS Testing Center | |
| 14 Fri | - Meetings with the Japanese experts at BPS Testing Center | |
| | - Visit to Fuji-Haya Electric Corp. Philippines | |
| 15 Sat | - Summarizing information from the above series of meetings | |
| 16 Sun | - Documentation | |
| 17 Mon | - Visits to Kopez Manufacturing Inc. and Hanabishi Philippines Inc. | |
| | - Meetings with Mr. Motoomull Director of BPS, the counterpart staff and Japanese experts at BPS headquarters | |
| 18 Tue | - Preparation of a draft of the Joint Evaluation Report | |
| | - Discussions with the Japanese experts and counterpart staff on the draft report at BPS Testing Center | |
| 19 Wed | - Discussions for evaluation with the Japanese experts and the counterpart staff at BPS Testing Center | |
| | - Courtesy call to Mr. Ordonez Under-Secretary of DTI | |
| 20 Thu | - Courtesy call to NEDA | |
| | - Discussions between Japanese and Philippine Evaluation Teams | |
| | - Departure of the member in charge of evaluation management | |
| 21 Fri | - Joint Coordinating Committee at BPS headquarters | |
| | - Signing the Joint Evaluation Report and the Minutes of Discussions | |
| | - Report to JICA Office and the Embassy of Japan | |
| | - Reception held by the Japanese Evaluation Team | |
| 22 Sat | - Departure of the main body of the Japanese Evaluation Team | |

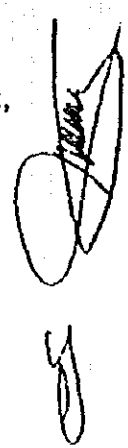
3. Members of Evaluation Teams

(1) The Japanese Evaluation Team

| | |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Mr. Yasujiro Suzuki (Leader) | Deputy Director, Technical Cooperation Division, Mining & Industrial Development Department, JICA |
| Mr. Teiji Akiyama (Technical Cooperation Planning) | Deputy Director, Information Technology & Electrotechnical Standard Division, MITI |
| Mr. Yoshiomi Chiba (Testing / Equipment) | Director, Yokohama Laboratory, Japan Electrical Testing Laboratory |
| Mr. Shinichi Kandori (Evaluation Management) | Staff, Office of Evaluation and Post Project Monitoring JICA |
| Mr. Shinsuke Tsuruta (Evaluation Analysis) | Director, Regional Planning International Co. Ltd. |

(2) The Philippine Evaluation Team

| | |
|------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Mr. Jesus L. Motoomull | Director, Bureau of Product Standards |
| Mr. Joselito C. Soler | Chief, BPS Testing Center |
| Ms. Aurora dela Rea | Director, Office of Operational Planning, DTI |
| Ms. Teodora P. Malanum | Chief Accounting Specialist, Budget & Finances Bureau B, Department of Budget and Management (DBM) |
| Mr. Dominador Cabatic | Deputy Director, Metals Industry Research and Development Center (MIRDC), DOST |
| Ms. Aleli F. Lopez-Dee | Chief Economic Development Specialist, Project Monitoring Staff, National Economic and Development Authority (NEDA) |
| Mr. Jimmy B. Ong | BPS Technical Committee Member of Wiring Devices |



II. METHODOLOGY OF EVALUATION

1. Components of Evaluation

In this evaluation, the emphasis is on five main general components. They represent the most important points to be taken into consideration in connection with decisions on development projects:

- Efficiency
- Effectiveness
- Impact
- Relevance
- Sustainability

Efficiency measures the outputs of the project - qualitative and quantitative - in relation to the total resource input: in other words, how economically the various inputs are converted into outputs.

Effectiveness is a measure of whether the purpose of the project has been achieved, or how likely it is to be achieved. This then is a question of the degree to which the outputs contribute to achieving the intended purpose. It thus also says something about the content of the project and whether it contributes to development in the expected direction.

The impact of the project is both the foreseen and the unforeseen consequences to society: positive and negative. Assessment here must take as its point of departure the goal and purpose of the project, but goes much further than simply ascertaining whether these have been achieved.

Relevance means an overall assessment of whether the project is in accordance with both the overall goal, the donor and recipient policy, as well as with local needs and priorities. This is intended to help to clarify whether the project should be continued, reformulated or terminated.

Sustainability is an overall assessment of the extent to which the positive changes achieved as a result of the project can be expected to last also after the project has been terminated. In many ways this is a question of the relation between the necessary local resources and how recipients view the project.

2. Information for Evaluation

In order to evaluate the past performance of the Project, the following materials were used:

- (1) Record of Discussions (R/D), Tentative Schedule of Implementation (TSI), Technical Cooperation Program (TCP), Annual Work Plans, Minutes of Discussions and other documents agreed on or accepted in the course of implementation of the Project
- (2) The Project Design Matrix (Annex I)
- (3) Data of input to and output from the Project
- (4) Results of a series of interviews

III. BACKGROUND AND SUMMARY OF THE PROJECT

1. Brief Background of the Project

Acting on the request of the Philippine Government, JICA on behalf of the Japanese Government conducted a study on the National Standardization and Industrial Quality Control Improvement Program for the Philippines in March 1989. The objective of the study was to formulate a master plan for the following:

- (1) Promotion of industrial standardization;
- (2) Improvement and extension of quality control to industrial products;
- (3) Improvement, upgrading and strengthening of BPS testing capability required for standards development and product certification.

The Philippine Government submitted a request for grant aid for a project type technical cooperation in April 1991 according to recommendations specified in the master plan prepared by the Japanese study team.

Due to some problems in the request, the Japanese Government suggested that the Philippine request be discussed in the "The 15th Japan-Philippine Annual Consultation" in June 1991.

As a result of this consultation, the Philippine Government resubmitted a request in May 1992 for a project type technical cooperation and the Japanese Government through JICA, dispatched on March 1993 a preliminary study team which checked the contents of the request and signed the minutes of discussions with the Philippine Government.

An implementation team was dispatched to finalize the arrangement for the project. The record of Discussions during their visit was signed on August 24, 1993.

2. Chronological Review of the Project

The chronological review of the Project is as shown in Annex 2.

3. Purpose of the Project

The overall goal and the project purpose were stipulated in the R/D as follows:

(1) Overall Goal

The Overall Goal of the Project is to upgrade qualities of Philippine industrial products, to increase their competitiveness against imports, to acquire their reliability in foreign countries and to contribute to the safety and prosperity of the Philippine people.

(2) Project Purpose

- 1) To transfer appropriate technology related to testing for the certification in electrical fields from the Japanese experts to the Philippine counterpart personnel of the Laboratory which will be established as a division of BPS.

- 2) To transfer appropriate technology with the data from the testing above from the Japanese experts to the Philippine counterpart personnel of BPS so as to enable the latter to improve the standardization, certification and quality control in the Republic of the Philippines.

4. Tentative Schedule of Implementation

The Tentative Schedule of Implementation (TSI) is as shown in Annex 3.

5. Technical Cooperation Program

The Technical Cooperation Program (TCP) is as shown in Annex 4.



IV. RESULTS OF THE EVALUATION

1. Efficiency

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| <p>(1) Scale of cooperation (inputs)</p> | <p><u>Japanese side</u></p> <p>1) Dispatch of Japanese experts (Annex 5) Assignment of one expert on electrical testing was appropriate in view of the scale of BPS Testing Center and contributed to the efficient technical transfer. The activities on standardization/certification and quality control have been conducted sufficiently, although they have not been efficient enough to promote human resources development of BPS staff because the concrete contents of expected technical transfer in each activity were not clearly defined at the planning stage of the project.</p> <p>2) Provision of machinery and equipment (Annex 6) Appropriate machinery and equipment were provided to be applied for 80% of the electrical testing in three fields, but they were not enough to cover all required testing items because of the budgetary constraint.</p> <p>3) Counterpart training in Japan (Annex 7) Most of the staff in the field of electrical testing were trained in Japan and have made good use of the knowledge learned there in the actual testing except for the one who was transferred to another branch of DTI. This has contributed to the efficiency of human resources development through technical transfer. Some counterparts commented that regular group training courses rather than "counterpart training courses" would have been more fruitful in terms of its longer period, more systematic curriculum and opportunity to exchange information among participants.</p> <p>4) Support for local costs (Annex 8) Renovation of Test Room C of the Building III financed by JICA's special funding greatly contributed to the promotion of personnel's working morale and the proper maintenance of equipment.</p> <p><u>Philippine side</u></p> <p>1) Building and facilities (Annex 9) Renovation of building was conducted as planned and served as a basis to yield outputs.</p> <p>2) Allocation of counterpart personnel (Annex 10,11 and 12) At present 41 members of staff, much more than the planned number of 23, of BPS are assigned as counterpart personnel of the Project. This is obviously a great commitment when comparing with the total number of some 80 staff at BPS as a whole. Especially, it is worth noting that 26 staff (including 14 testing staff) are allocated to the BPS Testing Center. This favorable allocation has greatly promoted the achievement of the outputs.</p> <p>3) Local cost financing (Annex 13) Much more budget than the planned has been continuously allocated from the first year of the Project. The Philippine side was successful in securing the budget for outside calibrations and staff training in 1996, and the budget for the purchase of equipment in 1997, which is rarely approved in the present situation. It should be noted that the Philippine side has contributed to the achievement of outputs by making substantial "self effort" to invest totally 0.3 billion yen equivalent to the Project as compared to Japanese inputs of 0.67 billion yen.</p> |
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| <p>(2) Timing of cooperation</p> | <p><u>Japanese side</u></p> <p>1) Dispatch of Japanese experts Three long-term (chief advisor, coordinator and electric testing expert) were dispatched between January and March in 1994, while the cooperation period had been set between Aug. 24, 1993 and Aug. 23, 1997. Although this blank period of 5 months partly impeded the efficiency of project implementation, the efforts of people concerned to catch up should be praised. Short-term experts were dispatched in exact timing to install and adjust the provided equipment, and to give short lectures on operations. These timely dispatches promoted the efficient implementation of the Project.</p> <p>2) Provision of machinery and equipment (Annexes 3 and 14) Most of the machinery and equipment were installed properly. Some shortage and inferiority in the equipment did not hinder substantially the efficiency of technical transfer.</p> <p>3) Counterpart training in Japan Timely training enhanced the efficiency of technical transfer.</p> <p><u>Philippine side</u></p> <p>1) Building and facilities In view of the present situation in the Philippines, it is worth noting that the building were completed as planned. Although there was anxiety that three month delay of the equipment operations caused by the delay of installation of the transformer impeded efficient technical transfer, efficiency was secured by the flexibility of the experts to change the technical transfer program into lectures.</p> <p>2) Allocation of counterpart personnel More personnel than planned were allocated continuously in good timing.</p> <p>3) Local cost financing More amount than planned were invested without any delay.</p> |
| <p>(3) Support system (technical advisory committee, joint coordination committee)</p> | <p>The Japanese Technical Advisory Committee contributed to the efficient implementation of the Project by providing necessary information for the on-site experts, helping selection of the equipment to be provided, preparing training programs in Japan, accepting the trainees and recruiting suitable experts. However, it was necessary to discuss fully the contents of the intended technical transfer and its relation to experts' terms of reference, and to monitor the progress of the project deliberately.</p> |
| <p>(4) Linkage with other cooperation activities</p> | <p>1) Japanese expert on standardization was dispatched between May 1991 and may 1993 based on the result of the master plan formulated by JICA. He played an important role in planning this project.</p> <p>2) The seminar held by JICA/BPS in conjunction with APEC/PFP contributed to the efficiency of the Project in that the seminar reemphasized the importance of this field in the Philippines and enabled exchange of information among ASEAN countries.</p> <p>3) The short-term experts in quality control have been engaged also in ASEAN/TQM program. Although he made supplementary contribution to the Project and contributed to the promotion of private sector, the activity was not well planned in order to achieve originally intended outputs: close coordination with electrical testing and human resources development of counterpart personnel.</p> |

2. Effectiveness

| (1) | Effectiveness | Indicators | Constraints |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <p>Contribution of Activities to Output</p> | <p>1. The BPS Testing Center was established and has been efficiently operated.</p> <p>1-1 Progress of Operations and Management of Testing</p> <p>Registers have been developed to manage the whole testing processes from reception to data storage so that work load can be monitored and targets and plans for testing can be logically formulated. Thus, efficiency of the activities improved. At the initial stage of the project period, a monitoring board was introduced to present progress of test items of many products. With the board, the counterpart staff could easily see and confirm the progress or delay of their tasks and the awareness of the situation increased efficiency of testing.</p> <p>A motto to keep good work environment and conditions was introduced and have been observed. It is one of the factors to contribute to increased efficiency of testing.</p> <p>A competition system of proposals for improvement of the center was established. Awards to the winners activated the drive for better performance.</p> <p>The test data was filed in the computer system by the staff in charge and managed to serve the future use of the center.</p> <p>1-2 Efficient Operations and Management</p> <p>Newly introduced data base of the equipment has enabled to monitor the maintenance, management and calibration. A management file of each equipment also helps association of the name and itself owing to the attached photographs.</p> <p>A working group was organized to maintain equipment. The counterpart staff prepared a maintenance code with their own initiative after months of delay.</p> <p>Periodical inspection according to check lists was introduced as a component of the total maintenance system. The inspection has been carried out by the appointed staff in charge.</p> <p>A working group for calibration was organized. The group is preparing a code for calibration and selecting organizations to calibrate center's equipment and it will take some time to complete these tasks.</p> <p>The counterpart staff were so organized that each test field has a chief and an assistant chief. This system helps complementary relation among them and contributes to sustainable development of the technical cooperation.</p> <p>The BPS Testing Center has written its laboratory quality manual in accordance to the requirement of ISO/IEC Guide 25.</p> | <p>Newly introduced or improved systems or groups :</p> <ul style="list-style-type: none"> - "Keep Clean and in Order" Movement - Test monitoring system - Equipment management system - Management system of equipment operation manuals - Maintenance working group - Calibration working group - Proposal competition - BPSTC Laboratory Quality Manual | <p>Due to revisions or introduction of some standards or guidelines, not all the provided equipment was fully utilized.</p> |

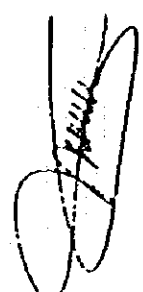



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| | <p>2. The counterpart staff were capacitated for equipment operation, maintenance and management of calibration.</p> <p>2-1 Development of equipment manuals By putting in right places operation manuals by equipment manufacturers, the provided equipment has been properly and efficiently utilized with clear understanding on operation so that the equipment is maintained in generally good conditions.</p> <p>2-2 Procurement of spare-parts Most spare-parts need to be procured from Japan from which the equipment was provided. The supplier of each equipment is known, so channels to procure the spare-parts from the suppliers should be established during the project period.</p> <p>2-3 Operation rate of equipment The equipment was provided and installed in three phases according to the schedule causing no major setbacks in the center's operation. A small share in the provided equipment was not appropriate for the current situation of the Philippines and 10% in number of the major equipment was not utilized so far. Since the unutilization is attributed to the revisions of standards after the procurement was made, it is fair to judge the operation rate is high enough.</p> | <p>Overall operation rate of major equipment (Annex 6)</p> <p>Constantly used : 70%</p> <p>Occasionally used : 20%</p> <p>Not used so far : 10%</p> | <p>No major constraints</p> |
| | <p>3. The counterpart staff have been capacitated in the three electrical testing fields. (Annex 15)</p> <p>3-1 Preparation of manuals and textbooks for technology transfer Training on basic testing technology and orientations for new staff were conducted starting with very basic subjects. A series of 11 textbooks including basic ones served for effectiveness of technology transfer. Installation of equipment and technology transfer by short term experts were accompanied by preparation of operation manuals and ad hoc manuals on testing procedure and check points. To understand difficult operation, both long term experts and the counterpart staff had lectures and prepared manuals. Efforts for the four manuals focusing on difficult subjects are highly appreciated considering that they were prepared with time constraints due to daily routine. However, further preparation of manuals and maintenance of equipment in future are not fully assured and need clarification.</p> <p>3-2 Testing performance Overall testing performance was estimated at 35 % at the start of the project and the percentage jumped to the present figure of 79%. Considering limited availability of the equipment, the current high score indicates high level of utilization of the equipment and proper performance of the tests. It also proves acquired capability of the counterpart staff. The currently conducted test items include most of the safety test items. Therefore, it is considered that unavailability of remaining test items does not cause</p> | <p>Textbooks prepared for counterpart training : 11 types</p> <p>Manuals prepared for testing : 4 types</p> <p>Test performance (Annex 16)</p> <p>Before Project : 35% of 16 products</p> <p>September 1994 : 41% of 16 products</p> <p>June 1995 : 71% of 19 products</p> <p>January 1997 : 79% of 20 products</p> | <p>No major constraints</p> |

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|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| | <p>serious problems.</p> <p>3-3 Tests for Imported Commodity Clearance (ICC) Marks Testing for the ICC marks was not included in the originally planned scope of the project because clearance of imported commodities is within the jurisdiction of Department of Commerce. However, BPS had been dealing with the tests for ICC and the Testing Center was obliged to conduct the task. Imported commodities account for a high share of some 60% in all the testing activities of the Center. If it concentrated on local products, it would have greater contribution to improvement of domestic industries. However, the ICC tests contribute to protection of domestic consumers and to improvement of the capability of the Center's staff and efficient utilization of the equipment. Although it is highly appreciated at present, how to deal with tests for ICC marks in future is an issue to be discussed based on the domestic situation.</p> <p>3-4 Counterpart training in Japan Counterpart staff submit reports after training in Japan and also hold staff seminars. Those are beneficial for the trainees to review the input as well as for other staff and the input can be shared for improvement of the center's capability.</p> | | |
| | <p>4. The PNS standard system is being revised.</p> <p>Advice on strategic and technical aspects of the PNS system was given to technical committees to study PNS standards and contribution was made to revision of the standards.</p> <p>However, the revision does not fully reflect the test data accumulated in the Center.</p> <p>Promotion activities for awareness of importance of industrial standardization and certification and also of the necessity for a long term plan for standardization in the Philippines through seminars on electromagnetic compatibility, access to the Japanese market in the field of electrical appliances and utilization of the international certificate system. It is appreciated that as the result of these activities a working group was established with agreement of the director of BPS for development of the long term plan and the draft has been elaborated.</p> <p>Toward participation in IEC, national level consensus was reached and preparation work is being done. As such, the PNS system is in a process to international alignment.</p> | <p>Fields of Technical Committees for Standardization attended by a Japanese expert</p> <ul style="list-style-type: none"> - lamps, etc. - wires/cables - wiring devices - electric heaters | <p>No major constraints</p> |

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| | <p>5. Capacitation of counterpart staff to guide and advise private firms for quality control has not been satisfactorily achieved.</p> <p>Only limited technology was transferred to capacitate BPS staff to be instructors of quality control. However, substantial contributions were made to understanding of importance of quality control by private firms through a number of seminars (Annex 17) and factory visits and especially to model firms through intensive on-the-spot consultation.</p> | <p>Seminars for quality control : 43 seminars (Annex 17)</p> <p>Factory visits for quality control : 38 factories 145 visits (Annex 18)</p> | <p>Ambiguous assignment of counterpart staff and lack of their available time due to daily routine were the major constraint to the technology transfer.</p> |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|

| (2) Contribution of Output to Project Purpose | Effectiveness | Indicators | Constraints |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The testing service of the Center has been improved as indicated by three-fold increase in annual number of tests during the project period, general reduction of test periods, and steps made for aligning PNS with the international standards (IEC).</p> | | <p>1. Increase of annual number of tests (Annex 19)</p> | <p>No major constraints</p> |
| | | <p>A total of 22,975 items were tested in 1996, that is almost three times the 1994 figure of 7,897.</p> <p>2. Reduction of test periods from application for the PS mark to obtaining the certification</p> <p>The untested stock including some staying over one year was cleared within three months.</p> <p>According to the questionnaire survey to firms, some replied with appreciation of the reduction of test periods but there are also others who regard the periods still too long. It is, therefore, necessary to reduce further the periods.</p> | <p>No major constraints</p> |
| | | <p>3. Progress toward aligning PNS with the international standards (IEC) (Annex 20)</p> <p>Among electrical fields, 4 standards were revised in 1995 and 10 in 1996 to comply with IEC.</p> <p>Preparation to join IEC started with establishment of a national committee.</p> | <p>Large gaps among technical levels of private firms hinder swift steps toward compliance with the international standards.</p> <p>Financial burden of the membership of IEC is the major constraint.</p> |




3. Impact

(Institutional, Technical, Economic, Socio-cultural and Environmental Impact)

| | Positive Impact | Negative Impact |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Impact foreseen at the planning stage | <p>1. Direct impact</p> <p>The testing service of the Center is evaluated to have been improved as originally expected in consideration of the three-fold increase in annual number of tests during the project period, general reduction of test periods, steps made for aligning PNS with the international standards (IEC).</p> <p>2. Indirect impact</p> <p>Improvement of test performance from 35% to 79% indicates that safety of the tested products is assured. It is expected that the improvement contributes to safety of the consumers.</p> | <p>Although volume of exhaust gas from some test equipment was minimal, duct facilities were installed to make sure the better testing environment.</p> |
| Impact not foreseen at the planning stage | <p>1. The equipment registration and management system worked out by the project was highly appreciated by the JICA Office for its usefulness and introduced to other projects in the Philippines.</p> <p>2. The internet home page for disclosure and publicity of the project information triggered opening of BPS's home page and activated its public relations.</p> | <p>No major negative impact</p> |

4. Relevance

| | |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) Relevance of the Super Goal and the Overall Goal | <p>The overall goal complies with the industrial development policy of the government to focus on strengthening competitiveness of the manufacturing sector. The super goal is relevant in that awareness for protection of consumers is raised.</p> |
| (2) Relevance of the Project Purpose | <p>Before the implementation of the project, a majority of the test items were not actually tested due to the lack of necessary equipment. In other words, inability to test resulted in exclusion of the test items. Therefore, safety levels of electrical products were considerably low and improvement was badly needed by consumers. Many fires were attributed to short circuits.</p> <p>On the other hand, the Center could not manage tests timely and had large stock of untested products before the project and so private firms badly needed improvement of the testing service.</p> <p>From the above view points, the project purpose was judged to be relevant to the situation of the Philippines.</p> |
| (3) Inter-relation among Super Goal, Overall Goal, Project Purpose, Output, Activities and Input | <p>Scope of work and contents of technology transfer of the experts for standardization, certification and quality control were not specified well at the initial stage of the project so that their linkage with electrical testing was also not detailed. A short term expert was dispatched in expectation of clarifying this point. However, it was not relevant to expect that the point could be clearly defined in such a short time. It is appreciated that the experts made their work plans in coordination with BPS staff and carried out the plans.</p> <p>It is not relevant that the project period was set on the day of signing the R/D without due consideration of the time for procurement of the equipment, although there was an institutional constraint.</p> |

5. Sustainability

| | Prospect for sustainability |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) Institutional sustainability | <p>It is projected that political support will be obtained in view of the continuous increase of budget allocation to the Project which has been backed by the government policy to strengthen competitive power of Philippine industrial products, one of the pillars of Ramos Administration's PHILIPPINES 2000.</p> <p>Although BPS Testing Center improved rapidly its operations management system, it is observed that this success is attributed to small number of competent staff. It is strongly expected for the successor of the present chief of the center, who will retiring soon, to manage the testing center efficiently and effectively.</p> <p>It should be emphasized that institutional sustainability of the Center requires strengthened institutional and budgetary status of the Center as a permanent division under DTI.</p> |
| (2) Financial sustainability | <p>The Philippine side is requesting the same amount of budget allocation in 1998 to the Center after the completion of the project. In the light of the emphasis placed on this filed by the Philippine authorities, the financial aspect is expected to be sustainable. The newly approved budget for the equipment purchase in 1997, which is rarely approved in the present situation, endorses the priority put on the BPS Testing Center. The budget for the construction of BPS new building was approved in 1997 with a certain condition.</p> <p>Income from testing fees is expected to increase and from 1998 budget it seems that BPS is allowed to use about 20% of the total income for a maintenance use.</p> <p>Therefore, financial sustainability is generally ensured, although not fully, by the self effort of the Philippine side.</p> |
| (3) Technical sustainability | <p>Most spare parts for the provided equipment are not available in the Philippines. In order to avoid impediment to the daily testing work, it is important to establish the procurement system by the end of the cooperation period. Moreover, importance should be put to strengthen the calibration system for the future technical needs.</p> <p>Apart from these points, it is judged that transferred technology become established among counterpart personnel. The extension of technical coverage is needed in order to cope with increasing testing items arising from local needs.</p> |

V. CONCLUSION

In general, the project had its input in an efficient way and achieved most of the expected output, although minor problems at the planning stage were identified. Regarding the project purpose, the testing service level of the BPS Center has been improved as expected. It is concluded that the project has been successful.

VI. RECOMMENDATION

It is foreseen that optional testing services at the Center upon requests of the firms and follow-up services such as on-the-spot advice for quality improvement of disqualified products will increase importance in order to support improving product quality of private firms. The overall goal and super goal will be expected to be achieved by strengthening such service functions. It is therefore recommended to amplify the functions of the Center and to actively promote technical services in the region.

PROJECT DESIGN MATRIX (PDM) OF THE INDUSTRIAL STANDARDIZATION AND ELECTRICAL TESTING PROJECT IN THE PHILIPPINES

Project Period : August 24 1993 - August 23 1997
 Preparation of PDM : Draft by the Project Team and revision by Technical Cooperation Div., Mining and Industrial Development Cooperation Dept., JICA
 Japanese Side Implementation Organization : JICA
 Philippine Side Implementation Organization : Bureau of Product Standards (BPS), Department of Trade and Industry
 Target Area : The Whole Republic
 Target Groups : Bureau of Product Standards (BPS), private firms of electric appliances and related products in the Philippines and the Philippine nationals

| Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Super Goal Contribution is made to safety and prosperity of the Philippine nationals.</p> | | | |
| <p>Overall Goal Quality of industrial products of the Philippines is improved, their competitiveness to imported products is acquired and confidence of other countries on the products is established.</p> | <ol style="list-style-type: none"> 1. Accidents caused by inferior electric appliances and parts made in the Philippines are reduced. 2. The share of domestic products against imports is increased. 3. Export of electric appliances and parts is increased. | <ol style="list-style-type: none"> 1. Surveys by related departments, newspapers, etc (including complaints) 2. Market surveys (Ratio of domestic products to imports and hold of the standard conformity marks) 3. Reports, etc. of the department in charge and the statistics bureau | <ol style="list-style-type: none"> 1. Social security and economic stability of the Philippines are maintained. 2. Government's incentive measures for firms planning to improve product quality are implemented. 3. Current policies with emphasis on establishing overall electric sector and ensuring safety are continued. 4. Cooperative relation with departments and organizations concerned are kept to obtain and utilize statistical data. |
| <p>Project Purpose Electrical testing services of BPS Testing Center is improved based on standardization activities.</p> | <ol style="list-style-type: none"> 1. Annual number of tests at the Center is increased. 2. Periods from application to acquisition of PS marks are reduced. 3. Conformity to the international standards (IEC) is improved. | <ol style="list-style-type: none"> 1. Test record and reports of the Center and other various reports 2. Annual reports of BPS | <ol style="list-style-type: none"> 1. Electric supply is stable. 2. The Center has budgetary support from the national government. 3. A long term lease contract of the project site is available. 4. Priority on products with PS marks is placed in the government procurement. 5. Procurement routes of parts for exchange and repair of the equipment are established. 6. Private firms make their own efforts for quality improvement. |




| Narrative Summary | Objectively Verifiable Indicators | Means of Verification | Important Assumptions |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Output</p> <p>1. The Electrical Testing Center of BPS is established and efficiently operated.</p> <p>2. Equipment both provided by JICA and procured by the Philippine side is operated, maintained, repaired and calibrated.</p> <p>3. Staff members are produced who are capable of PNS standard tests of lamps and related appliances, wiring devices, wiring and cables in the field of electrical testing.</p> <p>4. Institutional reform of the PNS is carried out.</p> <p>5. Technical guidance and advice to private firms for quality control are possible.</p> | <p>1-1 Management registers and test data are well kept.</p> <p>1-2 Manuals to manage personnel, equipment, data, etc. of the Center are developed.</p> <p>2-1 Number and contents of developed manuals are satisfactory.</p> <p>2-2 Procurement routes of spare parts are established.</p> <p>2-3 Operation ratios of the equipment are kept high.</p> <p>3-1 Number and contents of texts for counterpart training are satisfactory.</p> <p>3-2 Test performance ratios to the required items are increased.</p> <p>3-3 Number of items and contents of optional tests required by firms and standard development tests implemented in addition to the standard conformity tests are satisfactory.</p> <p>3-4 Results of counterpart training are satisfactory.</p> <p>4-1 Number of PNS newly set, revised and abolished in the electric field is satisfactory.</p> <p>4-2 Increase rates of factories certified with PS marks of electric products are high.</p> <p>4-3 Improvement of PNS reflects the test data.</p> <p>5-1 Number and contents of conducted technical guidance and advice are satisfactory.</p> | <p>1-1 Survey of maintenance situation of management registers</p> <p>1-2 Survey of management situation of the Electrical Testing Center (internal reports, etc.)</p> <p>1-3 ISO/IEC Guide 25</p> <p>2-1 Survey of availability of various manuals (test manuals for each PNS, manuals for each common test item, manuals for operation, inspection and maintenance of equipment, check sheets, etc)</p> <p>3-1 Quarterly reports of long term experts and work reports of short term experts</p> <p>3-2 Reports on counterpart training</p> <p>4-1 Survey of number of factories certified with PS Marks</p> <p>4-2 Annual reports of BPS/DTI</p> <p>5-1 Survey of achieved technical guidance (number and contents)</p> | <p>1. The counterpart staff continue working for the Center.</p> <p>2. Telecommunication and transport means such as cars are available for daily activities.</p> <p>3. Domestic industrial communities support and cooperate with the Center.</p> <p>4. Coordination and cooperation with other testing organizations are maintained.</p> |




| Activities | Input | Japanese Side | Philippine Side |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1-1 Internal codes for operation of the Center (management of personnel, equipment, data, etc) are established.</p> <p>1-2 The codes are put in practice.</p> <p>1-3 The codes are revised.</p> | <p>- Dispatch of experts (long term)</p> <p>Chief adviser</p> <p>Electrical testing</p> <p>Standardization/certification and quality control (short term)</p> <p>Equipment installation, Electrical testing, Quality control, Standardization, EMC, IEC/EE/CB, etc</p> <p>Total : 21 experts</p> | <p>- Budget allocation (Unit : thousand Peso)</p> <p>'94 : 29,403*</p> <p>'95 : 12,372</p> <p>'96 : 8,110</p> <p>'97 : 13,156</p> <p>Total: 63,041</p> <p>*including 12,995 thousand Pesos for the renovation work</p> | <p>1. The Philippine counterpart staff continue working for the Center.</p> <p>2. Electric supply is stable.</p> <p>3. The project site is available for a long time.</p> <p>4. Frequent requests for tests from private firms are assured.</p> |
| <p>2-1 Necessary equipment is procured and installed.</p> <p>2-2 Manuals for operation, maintenance, calibration, etc of the equipment are prepared.</p> <p>2-3 An implementation plan for operation, maintenance, calibration, etc of the equipment is prepared.</p> <p>2-4 The equipment is operated, maintained and calibrated.</p> <p>2-5 Results of operation, maintenance, calibration, etc of the equipment are evaluated.</p> <p>2-6 The manuals and methods for operation, maintenance, calibration, etc are improved based on the evaluation.</p> | <p>- Receiving trainees</p> <p>'93 : 1 member</p> <p>'94 : 3 members</p> <p>'95 : 4 members</p> <p>'96 : 4 members</p> <p>'97 : 4 members</p> | <p>- Assignment of staff (manager, testing staff, standardization staff, administration staff, etc)</p> <p>'94 : 30 members</p> <p>'95 : 46 members</p> <p>'96 : 43 members</p> <p>'97 : 41 members</p> | <p>Preconditions</p> <p>1. There is sufficient demand of the nationals for safety of electric products made in the Philippines.</p> <p>2. Project site (building) is available.</p> |
| <p>3-1 A training plan for PNS conformity tests is prepared.</p> <p>3-2 Test manuals are prepared.</p> <p>3-3 Training for PNS conformity tests is conducted.</p> <p>3-4 Results of the training for PNS conformity tests are evaluated.</p> <p>3-5 The manuals and training methods are improved based on the evaluation.</p> | <p>- Provision of equipment</p> <p>Testing equipment of lamps, wiring devices, wires and cables, etc</p> <p>(Unit : thousand Yen)</p> <p>'93:154,057</p> <p>'94: 58,684</p> <p>'95: 83,054</p> <p>'96: 23,770</p> <p>'97: 9,643 (Plan)</p> <p>Total:329,208</p> | <p>- Project site and building</p> <p>Remodeling of facilities for the project in MIRDC compound</p> | <p>1. There is sufficient demand of the nationals for safety of electric products made in the Philippines.</p> <p>2. Project site (building) is available.</p> |
| <p>4-1 Test data are accumulated.</p> <p>4-2 The current PNS Mark system is evaluated.</p> <p>4-3 Technical committees for revision of existing PNS and introduction of new PNS are established.</p> | <p>- Total expenses of Japanese Side:</p> <p>670,625 thousand Yen</p> | <p>- Total expenses of Philippine Side :</p> <p>63,041 thousand Pesos (around 280,000 thousand Yen)</p> | <p>1. The Philippine counterpart staff continue working for the Center.</p> <p>2. Electric supply is stable.</p> <p>3. The project site is available for a long time.</p> <p>4. Frequent requests for tests from private firms are assured.</p> |
| <p>5-1 Situation and needs of private firms are surveyed.</p> <p>5-2 Technical guidance for sample firms is demonstrated mainly by Japanese experts.</p> <p>5-3 Technical guidance manuals are prepared.</p> <p>5-4 Training for technical guidance and advice is conducted.</p> <p>5-5 Seminars for industrial standardization and quality control are held.</p> | <p>- Total expenses of Japanese Side:</p> <p>670,625 thousand Yen</p> | <p>- Total expenses of Philippine Side :</p> <p>63,041 thousand Pesos (around 280,000 thousand Yen)</p> | <p>1. The Philippine counterpart staff continue working for the Center.</p> <p>2. Electric supply is stable.</p> <p>3. The project site is available for a long time.</p> <p>4. Frequent requests for tests from private firms are assured.</p> |

CHRONOLOGICAL REVIEW OF THE PROJECT

| Year | Month | ITEM |
|------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1989 | March | The Government of Philippine requested to the Government of Japan for conducted a study on the National Standardization and Industrial Quality Control Improvement Program for the Philippines. |
| | March | Dispatched of the Development Study Team. |
| 1990 | January | The Government of Philippine was to formulate a master plan. |
| 1991 | April | The Philippine Government submitted a request for grant aid and for a project type technical cooperation. |
| | June | The Japanese Government suggested that the Philippine request be discussed in the "The 15th Japan-Philippine Annual Consultation". |
| 1992 | May | As a result of this consultation, the Philippine Government resubmitted a request for a project type technical cooperation and the Japanese Government through JICA. |
| 1993 | March | Dispatch of the preliminary survey team which checked the content of the request and signed the minutes of discussions with the Philippines Government. |
| | August | Dispatch of the Implementation Survey Team and sign of the Record of Discussion (R/D) for Technical Cooperation. |
| 1994 | January | Dispatch of the First Batch of the Long-term Expert. |
| | February | Training of the First Batch of the Filipino Counterparts Personnel in Japan |
| | May | The Expert Team and the Counterpart Personnel moved to the Project Site in the Bicutan BPS Testing Center. |
| | July | Exchange Technical program between BPS project and ISTTC Project. |
| | September | Dispatch of the Consultation Team. |
| 1995 | March | Renovation of Testing Room C. |
| | July | Dispatch of the Technical Guidance Team. |
| | July | Grand Opening Ceremony of the BPS Testing Center in Bicutan. |
| 1996 | March | Dispatch of Consultation Team of the Project Cooperation Program in ASEAN |
| | July | Seminar on The Project Cooperation Program in ASEAN. |
| 1997 | February | Dispatch of the Evaluation Team |

TENTATIVE SCHEDULE OF IMPLEMENTATION

| Calendar Year | 92 | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | | | |
|----------------------------------------------------------------------|------|------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|----|--|
| Japanese Fiscal Year | 1992 | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | | | |
| | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | |
| Term of Technical Cooperation Japanese Side | | | | | | | | | | | | | | | | | | | | | | | |
| I. Dispatch of Survey Team | | | | | | | | | | | | | | | | | | | | | | | |
| (1) Preliminary | = | | | | | | | | | | | | | | | | | | | | | | |
| (2) Experts Survey | | = | | | | | | | | | | | | | | | | | | | | | |
| (3) Implementation | | | = | | | | | | | | | | | | | | | | | | | | |
| (4) Consultation | | | | | | | = | | | | | | | | | | | | | | | | |
| (5) Technical Guidance | | | | | | | | | | | = | | | | | | | | | | | | |
| (6) Evaluation | | | | | | | | | | | | | | | | | | | | | | = | |
| II. Dispatch of Long-term Experts | | | | | | | | | | | | | | | | | | | | | | | |
| (1) Chief Advisor | | | | | | | | | | | | | | | | | | | | | | | |
| (2) Coordinator | | | | | | | | | | | | | | | | | | | | | | | |
| (3) Standardization, Certification and QC | | | | | | | | | | | | | | | | | | | | | | | |
| (4) Electrical Testing | | | | | | | | | | | | | | | | | | | | | | | |
| III. Dispatch of Short-term Experts | | | | | | | | | | | | | | | | | | | | | | | |
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| IV. Training of Philippine Counterpart Personnel in Japan | | | | | | | | | | | | | | | | | | | | | | | |
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| V. Provision of Machinery and Equipment | | | | | | | | | | | | | | | | | | | | | | | |
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| The Philippine Side | | | | | | | | | | | | | | | | | | | | | | | |
| I. Land, Buildings and Facilities | | | | | | | | | | | | | | | | | | | | | | | |
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| II. Procurement of Machinery and Equipment | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| III. Allocation of Philippine Counterpart Personnel and Staff | | | | | | | | | | | | | | | | | | | | | | | |
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| IV. Budgetary Allocation | | | | | | | | | | | | | | | | | | | | | | | |
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TECHNICAL COOPERATION PROGRAM FOR THE PROJECT

| Calendar Year | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|
| | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV |
| Japanese Fiscal Year | | | | | | | | | | | | | | | | | | | | |
| Term of the Project | _____ | | | | | | | | | | | | | | | | | | | |
| 1. Standardization, Certification and Quality Control | _____ | | | | | | | | | | | | | | | | | | | |
| ① Technical consultation and guidance to : | _____ | | | | | | | | | | | | | | | | | | | |
| 1) Development of Standards | _____ | | | | | | | | | | | | | | | | | | | |
| 2) Certification | _____ | | | | | | | | | | | | | | | | | | | |
| 3) Quality Control | _____ | | | | | | | | | | | | | | | | | | | |
| 2. Electrical Testing | _____ | | | | | | | | | | | | | | | | | | | |
| ① Operation of testing equipment, on the job training through testing services and technical consultation and guidance to the facilities for certification and testing in the fields of : | _____ | | | | | | | | | | | | | | | | | | | |
| 1) Lamps | _____ | | | | | | | | | | | | | | | | | | | |
| • and related appliances | _____ | | | | | | | | | | | | | | | | | | | |
| 2) Electric wiring devices | _____ | | | | | | | | | | | | | | | | | | | |
| 3) Wires and cables | _____ | | | | | | | | | | | | | | | | | | | |
| ② Testing Management | _____ | | | | | | | | | | | | | | | | | | | |

JAPANESE EXPERTS DISPATCHED BY JICA

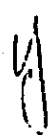
I. Long-Term Experts

- | | | |
|---------------------------------------|--------------------|------------------------------|
| 1. Chief Advisor | Hiroshi YOSHIMITSU | Feb.13,1994 - Aug. 23, 1997 |
| 2. Coordinator | Kazuki ISHIDA | Jan. 15,1994 - Aug. 23, 1997 |
| 3. Electrical Testing | Kenji KUBOTA | Mar.29,1994 - Mar.28, 1997 |
| 4. Standardization & Certification | Norio ISHIZAKI | Aug. 21,1995 - Aug.23, 1997 |

II. Short-Term Experts

- | | | |
|-----------------------------|--|------------------------------|
| 1. Installation & Operation | | |
| Ouichi KIUCHI | | May. 30,1994 - Jun. 8, 1994 |
| Shinichi KARASAWA | | May. 30,1994 - Jun. 8, 1994 |
| Tsuyoshi OOMORI | | May. 30,1994 - Jun.10,1994 |
| Hisao KONDO | | May. 30,1994 - Jun.10,1994 |
| Yoshiomi CHIBA | | May 30,1994 - Jun.10,1994 |
| Shiokichi SHIRAISHI | | Dec.10, 1994 - Dec.17,1994 |
| Hirokazu SAKAMOTO | | Jul. 12, 1995 - Jul. 22,1995 |
| Yoshioharu NAGAO | | Jul. 12, 1995 - Jul. 22,1995 |
| Kasuo INISHI | | Jul. 12, 1995 - Jul. 22,1995 |
| 2. Electrical Testing | | |
| Ouichi KIUCHI | | Feb.06,1995 - Feb. 18,1995 |
| Hiroshi MATSUKI | | Feb.15,1995 - Mar.30,1995 |
| Jun HAYASHI | | Jan. 08,1996 - Jan. 20,1996 |

| | |
|--------------------------------------------|-------------------------------|
| 3. Standardization | |
| Eisuke MASADA | Jul. 23, 1996 - Jul. 25, 1996 |
| Masamitsu TOKUDO | Jul. 23, 1996 - Jul. 25, 1996 |
| 4. E.M.C. (Electro Magnetic Compatibility) | |
| Eiji SAKASHITA | Jul. 23, 1996 - Jul. 27, 1996 |
| Toru OOBAYASHI | May. 08, 1996 - May 14, 1996 |
| 5. IECEE/CB Scheme | |
| Yoshiomi CHIBA | Dec. 15, 1996 - Dec. 24, 1996 |
| 6. Quality Control | |
| Mitsuharu SHIMADA | Feb. 15, 1995 - Mar. 30, 1995 |
| Mitsuharu SHIMADA | Jun. 01, 1995 - Aug. 31, 1995 |
| Mitsuharu SHIMADA | Dec. 10, 1995 - Jun. 09, 1996 |
| Teruo KAWAMURA | Aug. 08, 1996 - Feb. 20, 1997 |

MAJOR EQUIPMENT PROVIDED BY JICA

As of Jan. 1997

| Code No. | Item | Description | Qty | Level of Utilization | | |
|-----------------------------|--------------------------------------|-------------|-------------------|----------------------|------------------|---------------------------|
| | | | | Cons tantly | Occasio nally | Not used |
| Electrical Equipment | | | | | | |
| EE 001 | F/L Testing Circuit Unit | Toshiba | 1 set | ○ | | |
| EE 002 | F/L Starting Test Unit | Toshiba | 1 set | | ○ | |
| EE 003 | F/L Photometric Test Unit | Toshiba | Dark box 1 set | ○ | | |
| EE 004 | Endurance Test Unit | Toshiba | 1 set | ○ | | |
| EE 005 | I/D Testing Circuit Unit | Toshiba | 1 set | ○ | | |
| EE 006 | I/D Lamp Cap Temperature Rise Test | | 1 set | ○ | | |
| EE 007 | Endurance Test Unit | Toshiba | 1 set | ○ | | |
| EE 008 | Starter F/L Testing Circuit Unit | | 1 set | ○ | | |
| EE 009 | Starter F/L Endurance Test Unit | | 1 set | ○ | | |
| EE 010 | Ballast Temperature Rise Test Unit | TEC | 1 set | ○ | | |
| EE 011 | Ballast Electric Characteristic | TEC | 1 set | ○ | | |
| EE 012 | Ballast Endurance Test Unit | TEC | 1 set | | | ○*1 |
| EE 012 Acs | Incubator | Tabai | PHV-120 | 1 set | ○ | only Incubator is used |
| EE 013 | Arc Tracking Test Apparatus | Hitachi | HAT-5001 | 1 set | ○ | |
| EE 014 | Ball Pressure Test Apparatus | EXEL | T-10.02 | 1 set | ○ | |
| EE 015 | Glow Wire Test Apparatus | Hitachi | HAT-214 | 1 set | ○ | |
| EE 016 | Hot Mandrel Test Apparatus | PTL | T-01.15 | 1 set | | ○*1 |
| EE 017 | Needle Flame Test Apparatus | PTL | T-21.28 | 1 set | ○ | |
| EE 018 | Accelerated Aging Tester | Yasuda | (JIS K-301) | 1 set | | ○*1,4 |
| EE 019 | Sparking Tester | Yasuda | YST-1 | 1 set | | ○*1,3 |
| EE 020 | Volt Endurance Tester | Yasuda | YSF-5 | 1 set | ○ | |
| EE 021 | Geer Aging Universal Tester | Yasuda | | 1 set | ○ | |
| EE 022 | Parallel Plate Plastmeter | Yasuda | 185-3 | 1set | ○ | |
| EE 023 | Electric Wire Flammability Tester | Yasuda | No. 252 | 2 sets | ○ | one set is used |
| EE 024 | 360° Turn bending Flexibility Tester | | No. 224 | 1 set | ○ | |
| EE 025 | Test Tube Aging Tester | Yasuda | No. 122 | 1 set | | ○ |
| EE 026 | Penduram Impact Test Apparatus | | F40.15 | 1 set | ○ | |
| EE 027 | Tumbling Barrel | PTL | F06.15 | 1 set | ○ | |

| Code No. | Item | Description | Qty | Level of Utilization | | |
|--------------------------|------------------------------------------|-------------|-------|----------------------|--------------|----------|
| | | | | Constantly | Occasionally | Not used |
| EE 028 | Bending Test Apparatus PTL | F46.25 | 1 set | ○ | | |
| EE 029 | Performance Test Equipment Current Fuse | Mukai Giken | 1 set | ○ | | |
| EE 030 | Temperature Test Equipment /Current Fuse | Mukai Giken | 1 set | ○ | | |
| EE 031 | Snap Switch receptacle Testing Equipment | Mukai Giken | 1 set | ○ | | |
| EE 032 | Constant Temperature Chamber Calibration | Mukai Giken | 1 set | ○ | | |
| EE 033 | Endurance Test Equip for Circuit Breaker | Mukai Giken | 1 set | | ○ | |
| EE 034 | Endurance Test Equip for Knife Switch | Mukai Giken | 1 set | | ○ | |
| EE 035 | Tungsten Filament Lamp Test Equip for CB | Mukai Giken | 1 set | | | ○*2 |
| EE 036 | Temperature Test Equip. Circuit Breaker | Mukai Giken | 1 set | ○ | | |
| EI 001 | Thermal Recorder YEW | uR-1800 | 3sets | ○ | | |
| EI 002 | Wheatstone Bridge YEW | 2755-97 | 2sets | ○ | | |
| EI 003 | Digital Multitester YEW | 7533-01 | 4sets | ○ | | |
| EI 004 | Clampmeter YEW | 2343-04 | 3sets | ○ | | |
| EI 005 | Insulation Resistance Meter YEW | 3213-23 | 3sets | ○ | | |
| EI 006 | Dielectric Strength Tester Kikusui5051 | 1.5/5kV | 2sets | ○ | | |
| EI 007 | Dielectric Strength Tester Kikusui5050 | 2.5/5kV | 2sets | ○ | | |
| EI 008 | Universal Leakage Current Tester YEW | 3226-10 | 2sets | | ○ | |
| EI 009 | Earth Continuity Tester CLAR | A-2-17-u802 | 1 set | | | ○*1 |
| EI 010 | Dielectric Strength Tester | TOS-5101 | 1 set | ○ | | |
| EI 011 | Precision Double Bridge YEW | 2752 | 1 set | ○ | | |
| EI 012 | Electric Galvanometer YEW | 2709 | 1 set | ○ | | |
| EI 013 | Ultra High Insulating Resister | R8340A | 1 set | ○ | | |
| EI 014 | AC Voltage / Current Standard YEW | 2558-01 | 1 set | | ○ | |
| EI 015 | DC Calibration Device YEW | 2560-44 | 1 set | | ○ | |
| General Equipment | | | | | | |
| GE 001 | Temperature / Humidity Chamber Tabai | PR-3ST | 1 set | | ○ | |
| GE 002 | Temperature Chamber Tabai | PH-300 | 1 set | | ○ | |
| GE 003 | Temperature Chamber Tabai | PH-100 | 1 set | ○ | | |
| GE 004 | Dust Chamber | | 1 set | | | ○*4 |
| GE 005 | Profile Projector Nikon | 301-943E | 1 set | ○ | | |
| GE 006 | Extensometer Potentiometer type | PE-500 | 1 set | | ○ | |
| GI 001 | Venire Caliper Set MITUTOYO | 500-151 | 6sets | ○ | | |
| GI 002 | Outside Micrometer Set MITUTOYO | 293-949 | 2sets | ○ | | |
| GI 003 | Inside Micrometer Set MITUTOYO | 345-511 | 2sets | | ○ | |

| Code No. | Item | Description | Qty | Level of Utilization | | |
|-----------------------------|------------------------------|----------------------|-------|----------------------|--------------|----------|
| | | | | Constantly | Occasionally | Not used |
| GI 004 | Inside Micrometer Set | MITUTOYO 345-512 | 2sets | | ○ | |
| GI 005 | Steel Long Tape Set | YAMAYO | 7sets | ○ | | |
| GI 010 | Thickness Gauge Set | 184-303 | 2sets | | ○ | |
| GI 011 | Toolmakers Microscope | MITUTOYO TF-510F | 1 set | ○ | | |
| GI 012 | Degimatic Indicator Set | MITUTOYO | 1 set | ○ | | |
| GI 013 | Hygrothermograph | | 1 set | ○ | | |
| GI 014 | Infrared Thermometer | MINOLTA TR-630 | 1 set | | | ○*4 |
| GI 015 | Torque Driver Set | Tohniti | 3sets | ○ | | |
| GI 018 | Spring Balance | OHBA 200N | 1 set | | ○ | |
| GI 019 | Tension Gauge Set | Teclock PP-705-1000 | 1 set | | ○ | |
| GI 022 | Steel Scale | YAMAYO 15 cm | 8 pcs | ○ | | |
| GI 030 | Delta Scope | No. 569 | 1 set | | ○ | |
| GI 031 | Gauge Block Set | MITUTOYO BM3-10M-0 | 1 set | | ○ | |
| GI 032 | Standard Weight Set | JIS 1st class | 1 set | | ○ | |
| GI 033 | Standard Thermometer | Ando Keiki 8 pcs/set | 2sets | | ○ | |
| GI 045 | Loop Type calibration Device | Maekawa | 2sets | | | ○*3 |
| GI 045 | Thermohygrograph | ST-100V | 4sets | ○ | | |
| Chemical Equipment | | | | | | |
| KE 001 | Metal Analyzer | Shimadzu UV-VIS | 1 set | | | ○*5 |
| Mechanical Equipment | | | | | | |
| ME 001 | Tensile Testing Machine | Shimadzu AGS-5kND | 1 set | ○ | | |
| ME 002 | Universal Testing Machine | Shimadzu AG-20kNE | 1 set | ○ | | |
| ME 003 | Pressure Test Apparatus | 20mm | 1 set | | ○ | |
| ME 004 | Lathe Machine | TL-3200 | 1 set | | | ○*3,4 |

[Note]

The major equipment evaluated in the table is classified into equipment (EE) and instrument (EI). Accessories, devices or meters are not included. Reasons for "not used" are as follows :

- * 1 : The test is required in the standard but the project team was informed after the procurement that it was exempted by the PS mark guideline.
- * 2 : The project team was not informed of the change in the standard to exclude the test.
- * 3 : The equipment is not used so far and requires additional accessories.
- * 4 : The equipment has not been used but will be used.
- * 5 : Due to budgetary limitation, the selected type of equipment is a low cost substitute to the optimum one and inconvenient.

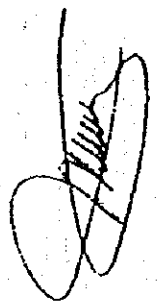
COUNTERPART PERSONNEL TRAINED IN JAPAN

| | | |
|---------------------------------|----------------------------------------------|------------------------------|
| 1. Mr. Gerardo P. PANOPIO | Electrical Laboratory Operation & Testing | Feb.14,1994 - Mar.12,1994 |
| 2. Mr. Victorino C. ABEJERO | Electrical Testing (Wire & Cables) | Jul. 28,1994 - Sep.02,1994 |
| 3. Mr. Isagani C. ERNA | Certification System | Jan. 12, 1995 - Feb.11,1995 |
| 4. Mr. Genaro C. ORIS III | Electrical Testing (Wiring Devices) | Jan. 29, 1995 - Feb.28,1995 |
| 5. Mr. Gerardo P. PANOPIO | Quality Control | Jul. 30, 1995 - Aug. 29,1995 |
| 6. Mr. Antonio D. PANARA | Electrical Material | Nov.05,1995 - Dec.02,1995 |
| 7. Mr. Eusebio M.B. URBANO | Electrical Testing (Ballast) | Nov.05,1995 - Dec.02,1995 |
| 8. Mr. Ramil R. JURADO | Electric Testing (Wiring Devices) | Mar.17,1996 - Apr.13,1996 |
| 9. Ms. Helen P. SUBRADIL | Quality Control | Jun.20,1996 - Sep. 01,1996 |
| 10. Mr. Fernando P. GARRIDO III | Electric Testing (Luminaires) | Aug.25,1996 - Sep.21,1996 |
| 11. Mr. Ariel R. GARCIA | Electrical Testing (Wiring Devices) | Oct.20,1996 - Nov.16,1996 |
| 12. Mr. Gerardo P. MAGLALANG | Certification System | Jan.16,1997 - Mar.14,1997 |

EXPENSES BY THE JAPANESE SIDE

(Unit: Thousand Yen)

| Fiscal Year (FY) Item | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | TOTAL |
|------------------------------------------|-------|---------|---------|---------|---------|--------|---------|
| DISPATCH OF SURVEY | 2,039 | 12,748 | 2,669 | 2,475 | 6,534 | 0 | 26,463 |
| DISPATCH OF EXPERT | 0 | 17,751 | 54,147 | 66,340 | 88,229 | 32,878 | 259,345 |
| ACCEPTANCE OF C/P TRAINING | 0 | 0 | 1,070 | 1,157 | 1,576 | 936 | 4,739 |
| PROVISION OF MACHINERY & EQUIPMENT | 0 | 154,057 | 58,684 | 83,054 | 23,770 | 9,643 | 329,208 |
| PROVISION OF HAND- CARRY EQUIPMENT | 0 | 732 | 3,825 | 1,891 | 4,605 | 0 | 11,053 |
| LOCAL BUDGET | 0 | 1,760 | 17,148 | 6,279 | 10,053 | 4,577 | 39,817 |
| TOTAL | 2,039 | 187,048 | 137,543 | 161,194 | 134,767 | 48,034 | 670,625 |



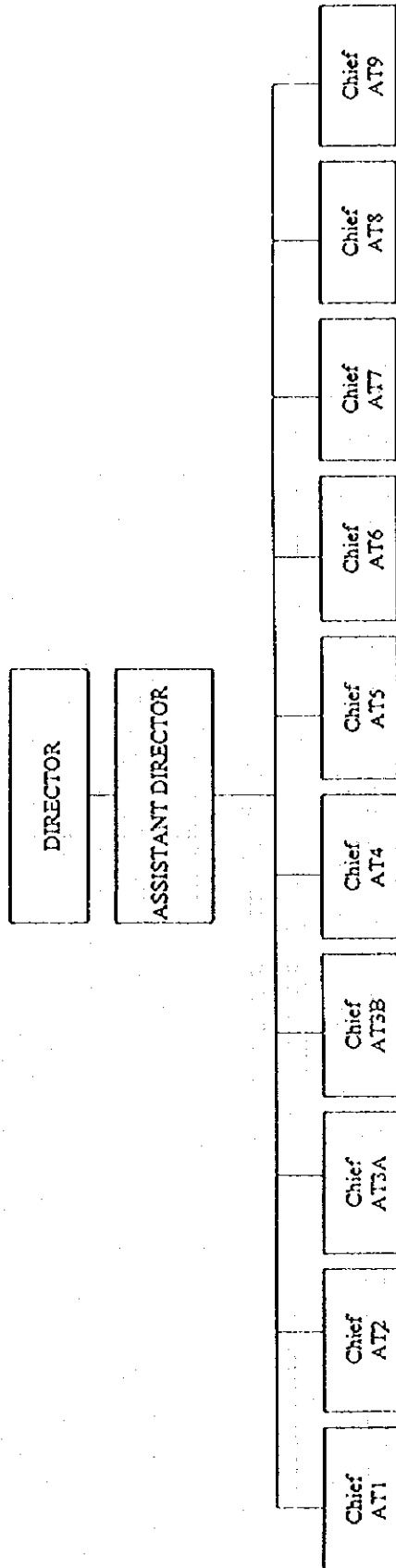

PROVISION OF INFRASTRUCTURE BY THE PHILIPPINE SIDE

| Equipment (FY 1993 - FY 1996) | Unit Price | Quantity | Total Price |
|-------------------------------------|------------|------------------|---------------------|
| Office Table | 3,787.50 | 7 | 26,512.50 |
| Manager's Table | 3,939.00 | 2 | 7,878.00 |
| Clerical Table | 2,424.00 | 2 | 4,848.00 |
| Computer Table | 2,544.78 | 12 | 30,537.36 |
| Office Chair | 3,545.10 | 10 | 35,451.00 |
| Laboratory Chair | 2,481.57 | 12 | 29,778.84 |
| Computer Chair | 2,757.30 | 12 | 33,087.60 |
| Conference Chair | 2,324.01 | 40 | 92,960.40 |
| Visitor's Chair | 2,717.91 | 4 | 10,871.64 |
| Steel Filing Cabinet | 2,926.98 | 11 | 32,196.78 |
| Cellular Phone | 7,181.00 | 3 | 21,543.00 |
| Wooden Cabinet | 6,559.75 | 3 | 19,679.25 |
| Chemical Cabinet | 4,848.00 | 1 | 4,848.00 |
| Library Table | 1,090.80 | 6 | 6,544.80 |
| Bookshelves, Single | 2,680.84 | 10 | 26,808.40 |
| Bookshelves, Double | 5,036.62 | 2 | 10,073.24 |
| Testing Table | 8,989.00 | 8 | 71,912.00 |
| Side Table | 5,514.00 | 7 | 38,598.00 |
| Conference Table | 2,070.50 | 8 | 16,564.00 |
| Sala Set | 12,928.00 | 1 | 12,928.00 |
| Sound system | 9,376.84 | 1 | 9,376.84 |
| Airconditioner, 2HP | 24,600.00 | 13 | 319,800.00 |
| Airconditioner, 2.5HP | 28,750.00 | 4 | 115,000.00 |
| Airconditioner, 2.0HP Split Type | 52,302.50 | 2 | 104,605.00 |
| Typewriter, Electric | 38,500.00 | 1 | 38,500.00 |
| Shelving System | 4,194.66 | 30 | 125,839.80 |
| Uninterruptible Power Supply, 600VA | 10,112.50 | 8 | 80,900.00 |
| Video Camera | 52,000.00 | 1 | 52,000.00 |
| Carrying Case for Camera | 4,800.00 | 1 | 4,800.00 |
| Scanner | 25,725.00 | 1 | 25,725.00 |
| Overhead Projector | 36,821.00 | 1 | 36,821.00 |
| OHP Screen | 4,426.50 | 1 | 4,426.50 |
| Water Dispenser | 12,000.00 | 2 | 24,000.00 |
| Water Container | 5,400.00 | 3 | 16,200.00 |
| Whiteboard | 1,500.00 | 6 | 9,000.00 |
| Transformer | 360,000.00 | 1 | 360,000.00 |
| Generator | 430,000.00 | 1 | 430,000.00 |
| Auto Transfer Switch, 400a | 78,000.00 | 1 | 78,000.00 |
| Auto Transfer Switch, 100a | 36,000.00 | 1 | 36,000.00 |
| Radio Transceiver | 36,000.00 | 5 | 180,000.00 |
| Mobile Radio Transceiver | 32,000.00 | 2 | 64,000.00 |
| Color Inkjet Printer | 21,500.00 | 1 | 21,500.00 |
| Wide Carriage Printer | 18,000.00 | 1 | 18,000.00 |
| Dot matrix Printer | 6,000.00 | 5 | 30,000.00 |
| Fumehood | 69,352.36 | 1 | 69,352.36 |
| Motor Blower | 21,150.00 | 1 | 21,150.00 |
| Ductworks | 7,959.38 | 1 | 7,959.38 |
| Cellular Phone | 13,950.00 | 1 | 13,950.00 |
| Data Interface | 5,690.00 | 1 | 5,690.00 |
| CAD Station Computer | 158,500.00 | 1 | 158,500.00 |
| Network Card | 7,500.00 | 2 | 15,000.00 |
| Computer System | 72,000.00 | 2 | 144,000.00 |
| File server Computer | 210,500.00 | 1 | 210,500.00 |
| Network card | 15,500.00 | 1 | 15,500.00 |
| | | SUB TOTAL | 3,379,716.69 |

| Equipment | Unit Price | Quantity | Total Price |
|-------------------------|---------------|----------|---------------|
| Novell Netware | 81,500.00 | 1 | 81,500.00 |
| Computer Set w/ CD ROM | 54,000.00 | 4 | 216,000.00 |
| Network Card | 7,500.00 | 4 | 30,000.00 |
| Telephone Set | 10,411.50 | 1 | 10,411.50 |
| Storage Cabinet | 3,300.00 | 4 | 13,200.00 |
| Steel Lockers | 4,260.00 | 4 | 17,040.00 |
| Office PARTition System | 460,000.00 | 1 | 460,000.00 |
| Renovation of Building | 10,000,000.00 | 1 | 10,000,000.00 |
| | | TOTAL | 14,207,868.19 |

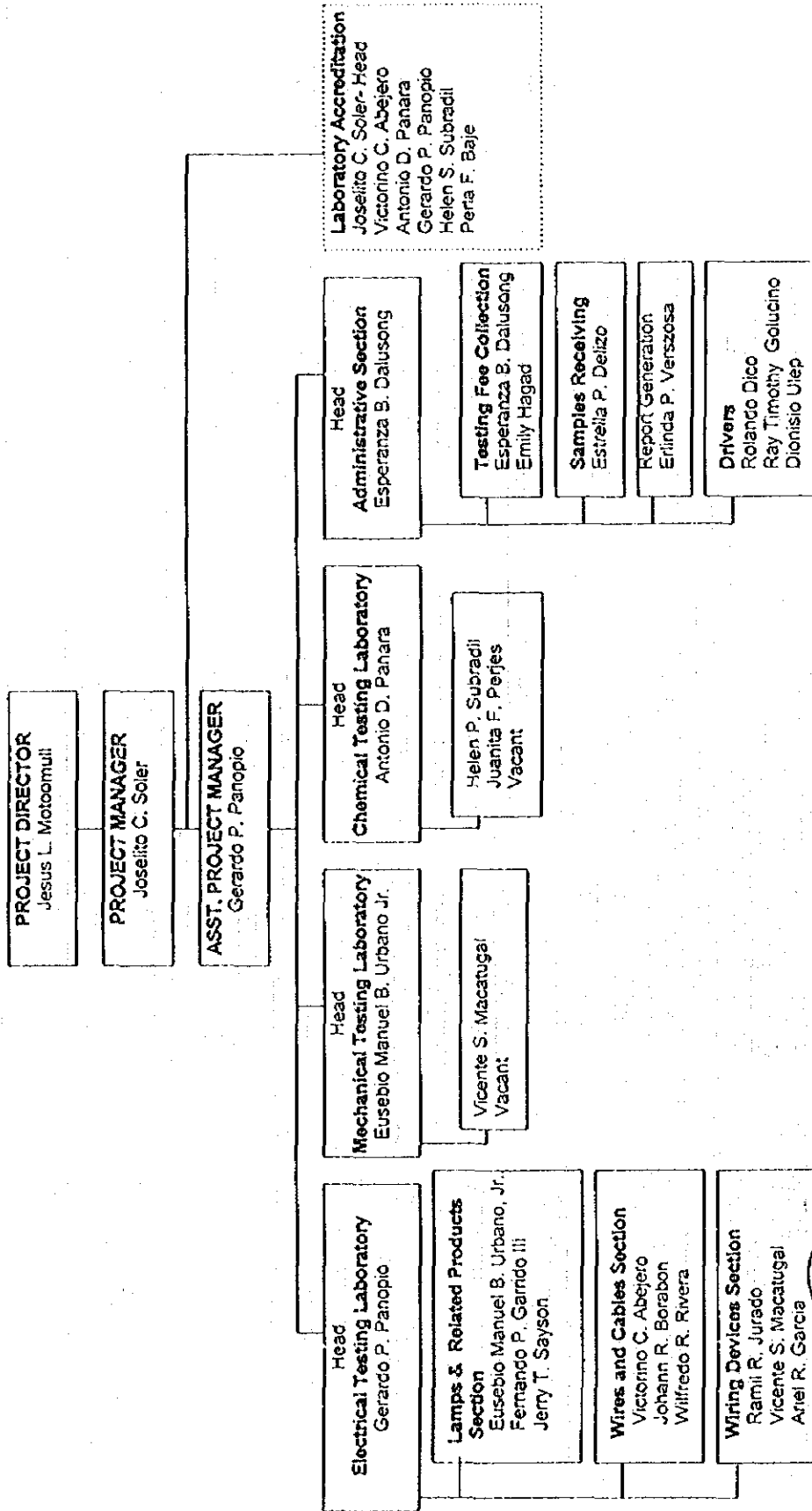
| Equipment (FY 1997: Plan) | Unit Price | Quantity | Total Price |
|------------------------------------------------------------------------|--------------|----------|--------------|
| Fourier Transform Infrared Spectrophotometer with complete accessories | 1,100,000.00 | 1 | 1,100,000.00 |
| Atomic Absorption Spectrophotometer | 1,000,000.00 | 1 | 1,000,000.00 |
| Gas Chromatograph w/ accessories | 600,000.00 | 1 | 600,000.00 |
| Orsat Apparatus | 60,000.00 | 1 | 60,000.00 |
| Laboratory Ovens | 80,000.00 | 2 | 160,000.00 |
| Analytical Balance (100 kg) | 40,000.00 | 1 | 40,000.00 |
| pH Meters (w/ probes) | 30,000.00 | 2 | 60,000.00 |
| Muffle Furnace | 80,000.00 | 1 | 80,000.00 |
| Ultrasonic Cleaner | 30,000.00 | 1 | 30,000.00 |
| Sieves | 10,000.00 | 5 | 50,000.00 |
| Sieve Shaker | 30,000.00 | 1 | 30,000.00 |
| Acrylic Dessicator | 20,000.00 | 2 | 40,000.00 |
| Autoclave | 40,000.00 | 1 | 40,000.00 |
| Magnetic Stirrer | 10,000.00 | 1 | 10,000.00 |
| Ultrasonic Cleaners | 25,000.00 | 2 | 50,000.00 |
| Hydrometer (1 set) | 10,000.00 | 1 | 10,000.00 |
| Toxic Gas Detector | 28,000.00 | 1 | 28,000.00 |
| Computer System | 60,000.00 | 3 | 180,000.00 |
| Analog to Digital Boards for Computers | 15,000.00 | 5 | 75,000.00 |
| GP-IB Interface Cards for PC | 10,000.00 | 5 | 50,000.00 |
| Time Lapse Recorder for CCTV System | 40,000.00 | 1 | 40,000.00 |
| Fire Extinguishers | 5,000.00 | 10 | 50,000.00 |
| Split Type Air conditioner | 60,000.00 | 1 | 60,000.00 |
| Accessories for Universal Testing Machine | 50,000.00 | 2 | 100,000.00 |
| Fluorescent Lamp Aging Test Rack | 50,000.00 | 1 | 50,000.00 |
| Fire Alarm System | 50,000.00 | 1 | 50,000.00 |
| Power Tools | 5,000.00 | 1 | 5,000.00 |
| Programmable Logic Controllers | 15,000.00 | 1 | 15,000.00 |
| Pneumatic Equipment for Electrical Testing | 30,000.00 | 1 | 30,000.00 |
| | | TOTAL | 4,093,000.00 |

BPS ORGANIZATIONAL CHART



- | | | | |
|------|-----------------------------------------------------|-----|-------------------------------------------------------------------|
| AT11 | Standards Development, Metrication and Personnel | AT5 | Training on ISO9000 and related Activities, Scholarship Committee |
| AT2 | Information SERVICES ON Standards, Library, WTO/TBT | AT6 | Production Services, Promotions and Media Relations |
| AT3A | Product Certification | AT7 | Budget and other Staff Services |
| AT3B | Quality System Certification (Maintenance Scheme) | AT8 | Special Projects (APECACCSSQ, etc) |
| AT4 | Testing and Laboratory Accreditation | AT9 | ISO Matters and BPS Quality System Document Control |

BPS TESTING CENTER ORGANIZATION CHART



[Handwritten signature]

ALLOCATION OF COUNTERPART PERSONNEL

| Project Staff (Actual) (Agreed in R/D) | Calendar Year | | | |
|------------------------------------------------------------|---------------|------|------|------|
| | 1994 | 1995 | 1996 | 1997 |
| Project Director | 1 | 1 | 1 | 1 |
| | (1) | (1) | (1) | (1) |
| Project Manager | 1 | 1 | 1 | 1 |
| | (1) | (1) | (1) | (1) |
| Administrative Staff | 8 | 11 | 8 | 6 |
| | (2) | (2) | (2) | (2) |
| Testing Staff | 12 | 14 | 14 | 14 |
| | (8) | (8) | (12) | (12) |
| Standardization, Certification System & Quality Control | 3 | 14 | 14 | 14 |
| | (3) | (3) | (3) | (3) |
| Cleaning Staff, Other Services | 5 | 5 | 5 | 5 |
| | (4) | (4) | (4) | (4) |
| TOTAL Staff | 30 | 46 | 43 | 41 |
| | (19) | (19) | (23) | (23) |

LIST OF COUNTERPART PERSONNEL

I. Management & Project Operation

1) Project Director

Director. Renato V. NAVARRETE
 Director. Jesus L. MOTOOMULL

Former Director of BPS
 Director of BPS

(Aug. 24, 1993 - Oct. 31, 1995)
 (Nov. 01, 1995 - at present)

2) Project Manager

Mr. Joselito C. SOLER

Chief of Testing Laboratory & AT4

(Aug. 24, 1993 - at present)

II. Electrical Testing

Mr. Gerardo P. PANOPIO
 Mr. Antonio D. PANARA
 Mr. Eusebio Manuel B. URBANO Jr.
 Mr. Vicente S. MACATUGAL
 Mr. Victorino C. ABEJERO
 Mr. Jerry T. SAYSON
 Mr. Genero C. ORIS III
 Mr. Ranil R. JURADO

Head of Electrical Testing Section
 Head of Chemical Testing Section
 Head Physical Testing Section
 Engineer
 Engineer
 Engineer
 Engineer
 Engineer

(Aug. 24, 1993 - at present)
 (Aug. 24, 1993 - at present)
 (Aug. 24, 1993 - at present)
 (Aug. 24, 1993 - at present)
 (Aug. 24, 1993 - at present)
 (Aug. 24, 1993 - at present)
 (Aug. 24, 1993 - Oct. 31, 1995)
 (Oct. 03, 1994 - at present)



| | | |
|-----------------------------|----------|---------------------------------|
| Mr. Fernando P. GARRIDO III | Engineer | (Oct. 09,1994 - at present) |
| Mr. Ariel R. GARCIA | Engineer | (Mar. 17,1995 - at present) |
| Mr. Joahann R. BORABON | Engineer | (May. 08,1995 - at present) |
| Ms. Anna Heien N. ESTRELLA | Engineer | (May. 18,1995 - Apr. 30,1996) |
| Ms. Helen P. SUBRADIL | Engineer | (Aug. 16,1995 - at present) |
| Ms. Estrella P. DELIZO | Engineer | (Aug. 16,1995 - at present) |
| Ms. Maria Juanita F. PERJES | Engineer | (Nov. 02,1995 - at present) |
| Mr. Wilfredo R. RIVERA | Engineer | (Apr.01,1996 - at present) |

III. Standardization & Certification

| | | |
|-------------------------|-----------------------------------------|----------------------------------|
| Ms. Norma C. HERNANDEZ | Chief of Product Certification Division | (Aug. 21,1995 - at present) |
| Ms. Clarissa M. ORACION | Chief Standards Development Division | (Aug. 21,1995 - at present) |
| Ms. Perla F. BAJE | Standard Officer | (Aug. 21,1995 - at present) |
| Mr. Samson D. PADEN | Standard Officer | (Aug. 24,1993 - at present) |
| Mr. Isagani C. ERNA | Standard Officer | (Aug. 24,1993 - at present) |
| Ms. Lei May M. VALLARTA | Standard Officer | (Aug. 24,1993 - July. 30,1996) |

IV. Quality Control

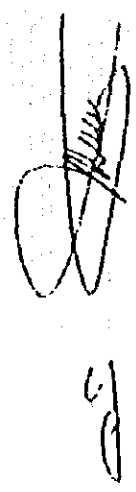
| | | |
|-------------------------|------------------|-------------------------------------------------------------------|
| Mr. Isagani C. ERNA | Standard Officer | (Aug. 24,1993 - at present) |
| Mr. Orlando P. MANDILAG | Standard Officer | (June.01,1995 - Aug. 31,1995 : Dec. 01,1995 - June. 09,1996) |
| Ms. Anne Daisy T. OMILA | Standard Officer | (June.01,1995 - Aug. 31,1995 : Dec. 01,1995 - June. 09,1996) |




| | | |
|-----------------------------|------------------|-------------------------------------------------------------------|
| Ms. Natalia I. CUSI | Standard Officer | (June.01,1995 - Aug. 31,1995 : Dec. 01,1995 - June. 09,1996) |
| Ms. Eimelinda P. ANDRES | Engineer | (June.01,1995 - Aug. 31,1995 : Dec. 01,1995 - Dec. 31,1995) |
| Ms. Estrella P. DELIZO | Engineer | (Aug. 16,1995 - at present) |
| Ms. Helen P. SUBRADIL | Engineer | (Aug. 16,1995 - at present) |
| Ms. Maria Juanita F. PERJES | Engineer | (Nov. 02,1995 - at present) |
| Ms. Carmencita B. MAGNO | Standard Officer | (Aug. 08,1996 - Feb. 20,1997) |

V. Administration

| | | |
|-----------------------------|---------|---------------------------------|
| Ms. Esperanza B. DALUSONG | Officer | (Aug. 24,1993 - at present) |
| Mr. Herminio M. CONSTANTINO | Officer | (Aug. 24,1993 - Nov.30,1996) |
| Ms. Erlinda P. VERZOSA | Officer | (Aug. 24,1993 - at present) |
| Ms. Rosario C. M. ROLDAN | Officer | (Aug. 24,1993 - Dec. 31,1995) |
| Mr. George B. ROQUE | Clerk | (Aug. 24,1993 - Dec. 31,1995) |
| Mr. Carlito R. HOMOROC | Driver | (Aug. 24,1993 - Dec. 31,1995) |
| Mr. Edgardo B. RAMOS | Driver | (Aug. 24,1993 - Dec. 31,1995) |
| Mr. Ray Timothy GOLUCINO | Driver | (Oct. 09,1994 - at present) |
| Ms. Mary Ann V. PAYNO | Officer | (Mar. 27,1995 - Dec. 01,1996) |
| Ms. Emily N. HAGAD | Officer | (Feb. 15,1995 - at present) |
| Mr. Dionicio D. ULEP | Driver | (Mar. 22,1995 - at present) |
| Mr. Ronalodo C. DICO | Driver | (Jan. 01,1996 - at present) |



EXPENSES BY THE PHILIPPINE SIDE

(Unit : Thousand Pesos)

| Fiscal Year (FY) | 1994 | 1995 | 1996 | 1997 | TOTAL |
|-------------------------------------------|----------|----------|---------|---------|----------|
| PERSONAL SERVICE | 617 | 1,730 | 1,730 | 1,087 | 5,164 |
| TRAVEL EXPENSES | 95 | 682 | 682 | 900 | 2,359 |
| COMMUNICATION | 96 | 135 | 135 | 150 | 516 |
| REPAIR & MAINT OF GOV'T. FACILITIES | 264 | 750 | 750 | 518 | 2,282 |
| TRANSPORTATION | 0 | 100 | 100 | 100 | 300 |
| SUPPLIES & MATERIALS | 355 | 660 | 660 | 660 | 2,335 |
| RENT EXPENSES | 720 | 250 | 250 | 1,000 | 2,220 |
| UTILITIES | 876 | 340 | 340 | 961 | 2,517 |
| TRAINING | 0 | 150 | 150 | 150 | 450 |
| OTHERS | 450 | 2,575 | 2,575 | 3,537 | 9,137 |
| EQUIPMENT, BUILDING & STRUCTURE | 13,860 | 0 | 0 | 4,093 | 17,953 |
| TAX FOR EQUIPMENT | 12,070 | 5,000 | 738 | 0 | 17,808 |
| TOTAL | | | | | |
| (Actual) | 17,333 | 7,372 | 7,372 | 13,156 | 45,233 |
| (Including TAX) | 29,403 | 12,372 | 8,110 | 13,156 | 63,041 |
| [Agreed Plan in R/D] | [21,260] | [11,600] | [9,581] | [4,271] | [46,712] |

SCHEDULE OF IMPLEMENTATION AND ACCOMPLISHMENT

| Calendar Year Fiscal Year | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | |
|------------------------------|-------|----|---|----|------|----|---|----|------|----|---|----|------|----|---|----|------|--|
| | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | | |
| Term of the Project | R/D | | | | | | | | | | | | | | | | | |
| 1. Phase | ----- | | | | | | | | | | | | | | | | | |
| A). Preparation | ----- | | | | | | | | | | | | | | | | | |
| B). Implementation | ----- | | | | | | | | | | | | | | | | | |
| # Basic Establishment | ----- | | | | | | | | | | | | | | | | | |
| # Development | ----- | | | | | | | | | | | | | | | | | |
| # Completion | ----- | | | | | | | | | | | | | | | | | |
| 2. Philippine Side | ----- | | | | | | | | | | | | | | | | | |
| A) Submission of Aofom | ----- | | | | | | | | | | | | | | | | | |
| B) Staff Assignment | ----- | | | | | | | | | | | | | | | | | |
| # Administrative | ----- | | | | | | | | | | | | | | | | | |
| Counterparts | ----- | | | | | | | | | | | | | | | | | |
| # Administration | ----- | | | | | | | | | | | | | | | | | |
| Personnel | ----- | | | | | | | | | | | | | | | | | |
| # Counterparts for | ----- | | | | | | | | | | | | | | | | | |
| Other Japanese | ----- | | | | | | | | | | | | | | | | | |
| Experts | ----- | | | | | | | | | | | | | | | | | |
| C) Preparation for | ----- | | | | | | | | | | | | | | | | | |
| BPS Testing Center | ----- | | | | | | | | | | | | | | | | | |
| 3. Japanese Side | ----- | | | | | | | | | | | | | | | | | |
| A) Dispatch of Mission | ----- | | | | | | | | | | | | | | | | | |
| Implementation | ----- | | | | | | | | | | | | | | | | | |
| Survey Team | ----- | | | | | | | | | | | | | | | | | |
| Consultation Team | ----- | | | | | | | | | | | | | | | | | |
| Technical Guidance Team | ----- | | | | | | | | | | | | | | | | | |
| Survey Team for Project | ----- | | | | | | | | | | | | | | | | | |
| Cooperation Promotion | ----- | | | | | | | | | | | | | | | | | |
| Program in ASEAN | ----- | | | | | | | | | | | | | | | | | |
| Evaluation | ----- | | | | | | | | | | | | | | | | | |
| Team | ----- | | | | | | | | | | | | | | | | | |

[Remark] : Schedule, ----- : Accomplishment

| Calendar Year | 1995 | | | | 1996 | | | | 1997 | | | | |
|-------------------------------------------------------------------|-------------|-----|----|---|------|-----|----|---|------|-----|----|---|----|
| | Fiscal Year | III | IV | I | II | III | IV | I | II | III | IV | I | II |
| Term of the Project | | | | | | | | | | | | | |
| B). Dispatch of Experts # Long-term Experts @ Chief Advisor | | | | | | | | | | | | | |
| @ Coordinator | | | | | | | | | | | | | |
| @ Electrical Testing | | | | | | | | | | | | | |
| @ Standardization & Certification | | | | | | | | | | | | | |
| # Short-term Experts @ Installation & Operation | | | | | | | | | | | | | |
| @ Electrical Testing | | | | | | | | | | | | | |
| @ Quality Control | | | | | | | | | | | | | |
| @ Standardization | | | | | | | | | | | | | |
| C). Philippine Counterpart Training in Japan | | | | | | | | | | | | | |
| D). Provision of Supplementary Equipment | | | | | | | | | | | | | |

[Remark] = - - - - - Schedule, : Accomplishment

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TECHNICAL COOPERATION PROGRAM AND ACCOMPLISHMENT

| Calendar Year | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | |
|---------------------------------------------|-------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|--|
| | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | |
| | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | |
| Term of the Project | | | | | | | | | | | | | | | | | | | | |
| I. Testing and Inspection Techniques | | | | | | | | | | | | | | | | | | | | |
| (1) Preparation of Text Book | | | | | | | | | | | | | | | | | | | | |
| (2) Equipment Installation | | | | | | | | | | | | | | | | | | | | |
| (3) Preparation of manual | | | | | | | | | | | | | | | | | | | | |
| (4) Equipment Maintenance | | | | | | | | | | | | | | | | | | | | |
| 1. LUMINARIES GROUP | | | | | | | | | | | | | | | | | | | | |
| 1) PNS 02 (Fluorescent Lamps) | | | | | | | | | | | | | | | | | | | | |
| 2) PNS 12 (Ballastes for Fluorescent Lamps) | | | | | | | | | | | | | | | | | | | | |
| 3) PNS 38 (Incandescent Lamps) | | | | | | | | | | | | | | | | | | | | |
| 4) PNS 42 (Lampholders & Starterholders) | | | | | | | | | | | | | | | | | | | | |

Original Plan Accomplished Present Plan ←→

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| Calendar Year | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | |
|---------------------------------------------------|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|
| | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | |
| | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV |
| 5) PNS 45 (Starters for Fluorescent Lamps) | | | | | | | | | | | | | | | | | | | | |
| 6) PNS 74 (Fluorescent Lighting Fixtures) | | | | | | | | | | | | | | | | | | | | |
| 7) PNS 80 (Edison Screw Lampholders) | | | | | | | | | | | | | | | | | | | | |
| 8) PNS 189 (Lighting Sets/ Miniature Lamps) | | | | | | | | | | | | | | | | | | | | |
| 9) PNS 603 (Self-Ballasted Lamps) | | | | | | | | | | | | | | | | | | | | |
| 2. WIRE AND CABLE GROUP | | | | | | | | | | | | | | | | | | | | |
| 1) PNS 35 (Wire & Cables) | | | | | | | | | | | | | | | | | | | | |
| 2) PNS 165 (PVC Cabales & Cords) | | | | | | | | | | | | | | | | | | | | |
| 2. WIRE AND CABLE GROUP | | | | | | | | | | | | | | | | | | | | |
| 1) PNS 13 (Electrical Cartridge Fuses) | | | | | | | | | | | | | | | | | | | | |
| 2) PNS 14 (uPVC Electrical Conduit) | | | | | | | | | | | | | | | | | | | | |

(PNS 189 is not tested in BPS Testing Center.)

Original Plan Accomplished Present Plan

Miller

| Calendar Year Japanese Fiscal Year | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | |
|------------------------------------------------------------------------------------------|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|
| | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV |
| 3) PNS 56 (Fuseholders) | | | | | | | | | | | | | | | | | | | | |
| 4) PNS 57 (Snap Switches) | | | | | | | | | | | | | | | | | | | | |
| 5) PNS 79 (PVC Tapes for Insulation) | | | | | | | | | | | | | | | | | | | | |
| 6) PNS 117 (Enclosed Switches) | | | | | | | | | | | | | | | | | | | | |
| 7) PNS 118 (Knife Switches) | | | | | | | | | | | | | | | | | | | | |
| 8) PNS 119 (Metallic Cabinet & Boxes) | | | | | | | | | | | | | | | | | | | | |
| 9) PNS 519 (Circuit Breakers) | | | | | | | | | | | | | | | | | | | | |
| 10) PNS 559 (Plugs & Receptacles) | | | | | | | | | | | | | | | | | | | | |
| 4. ELECTRICAL APPLIANCES | | | | | | | | | | | | | | | | | | | | |
| 1) PNS 254 (Electric Iron) | | | | | | | | | | | | | | | | | | | | |
| 2) PNS 255 (Electric Rice Cooker and Rice Warmer) | | | | | | | | | | | | | | | | | | | | |
| 3) PNS 1258 (Cooking Ranges, Cooking Tables, Ovens and Similar Appliances) | | | | | | | | | | | | | | | | | | | | |

(No Original Plan)

Original Plan Accomplished Present Plan →

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| Calendar Year | 1993 | | | | 1994 | | | | 1995 | | | | 1996 | | | | 1997 | | | |
|--------------------------------------------------------------------|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|
| | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV | I | II | III | IV |
| Japanese Fiscal Year | | | | | | | | | | | | | | | | | | | | |
| 5. Laboratory Management | | | | | | | | | | | | | | | | | | | | |
| 1) Quality Control | | | | | | | | | | | | | | | | | | | | |
| 2) Maintenance & Calibration | | | | | | | | | | | | | | | | | | | | |
| II. Standardization & Certification System | | | | | | | | | | | | | | | | | | | | |
| 1) Long Term Plan for Standardization of the Philippines | | | | | | | | | | | | | | | | | | | | |
| 2) The Guidance for Foreign Specific Inspection Body (FSIB) of JIS | | | | | | | | | | | | | | | | | | | | |
| 3) Promotion of participating IEC | | | | | | | | | | | | | | | | | | | | |
| 4) Promotion of participating EMC | | | | | | | | | | | | | | | | | | | | |
| 5) The Plan of Technical transfer for Short-term expert | | | | | | | | | | | | | | | | | | | | |
| 6) Advice in Technical committee of Standardization | | | | | | | | | | | | | | | | | | | | |
| III. Quality Control | | | | | | | | | | | | | | | | | | | | |
| 1) QC Lecture for C/P's | | | | | | | | | | | | | | | | | | | | |
| 2) In-plant Training | | | | | | | | | | | | | | | | | | | | |
| 3) Seminar for company | | | | | | | | | | | | | | | | | | | | |

Original Plan Accomplished Present Plan ←

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LIST OF TESTING CAPABILITY AND ACTIVITIES

| PNS Standard | | Before the Project | As of Sep.1994 | As of Jun. 1995 | As of Jan. 1997 |
|--------------------------------------------|--------------------------------------------------------|--------------------|----------------|-----------------|-----------------|
| LAMP & RELATES APPLIANCES GROUP | | | | | |
| 1 | PNS 02 Fluorescent Lamps | 0 | 0 | 93 | 93 |
| 2 | PNS 38 Incandescent Lamps | 0 | 0 | 83 | 83 |
| 3 | PNS 12 Ballasts for Fluorescent Lamps | 21 | 29 | 97 | 97 |
| 4 | PNS 42 Lampholders & Starterholders | 25 | 31 | 59 | 72 |
| 5 | PNS 45 Starters for Fluorescent Lamps | 27 | 42 | 77 | 85 |
| 6 | PNS 74 Fluorescent Lighting Fixtures | 0 | 0 | 0 | 92 |
| 7 | PNS 80 Edison Screw Lampholders | 16 | 20 | 50 | 63 |
| 8 | PNS 189 Lighting Sets Miniature Lamps | 0 | 0 | 0 | 0 |
| 9 | PNS 603 Self-ballasted Lamps | 0 | 0 | 72 | 78 |
| WIRES AND CABLES GROUP | | | | | |
| 10 | PNS 35 Wires & Cables | 33 | 33 | 78 | 93 |
| 11 | PNS 163 PVC Cables & Cords | 23 | 38 | 77 | 81 |
| WIRING DEVICES GROUP | | | | | |
| 12 | PNS 13 Electrical Cartridge Fuses | 50 | 50 | 83 | 83 |
| 13 | PNS 14 uPVC Electrical Conduit | 65 | 75 | 75 | 75 |
| 14 | PNS 56 Fuseholders | 56 | 56 | 56 | 81 |
| 15 | PNS 57 Snap Switches | 29 | 29 | 71 | 81 |
| 16 | PNS 79 PVC Tapes for Insulation | 30 | 56 | 61 | 67 |
| 17 | PNS 117 Enclosed Switches | 50 | 50 | 50 | 75 |
| 18 | PNS 118 Knife Switches | 63 | 63 | 88 | 88 |
| 19 | PNS 119 Metallic Cabinet & Boxes | 14 | 14 | 29 | 29 |
| 20 | PNS 519 Circuit Breakers | 17 | 17 | 83 | 83 |
| 21 | PNS 559 Plugs & Receptacles | 41 | 50 | 68 | 86 |
| | Average of Testing Capability (Number of standards) | 35 (16) | 41 (16) | 71 (19) | 79 (20) |

LIST OF SEMINAR / LECTURE ACTIVITIES (1) [Standardization & Certification System]

| NO. | MAIN THEME | DAYS | LOCATION | ATTENDANCE | LECTURER |
|-----|-------------------------------------------------------------------------------------------------|------|-----------------|-------------|----------------------------------------------------------------------------------------------------------------|
| 1 | * Electromagnetic compatibility (EMC) | 1 | Manila | 150 persons | Prof. Masada (Tokyo Univ.) Prof. Tokuda (Kyushu Inst' of Technology) Mr. Sakashita (HITACHI) |
| 2 | * How to Access to the Japanese Market in the Field of Electrical Appliances | 1 | DTI | 50 persons | Mr. Ohbayashi (JET) |
| 3 | * Utilization of Industrial Certification System for Electrical Appliances (IECEE/CB Scheme) | 1 | BPS Head Office | 15 persons | Mr. Ohbayashi (JET) |
| 4 | * International Electrotechnical Commission (IEC) | 1 | Manila | 40 persons | Dr. Tougei (JSA) Mr. Suenaga (EIAJ) Mr. Hiratsuka (FUJITSU) Mr. Takeuchi (SONY) |



LIST OF SEMINAR / LECTURE ACTIVITIES (2) [Quality Control]

| NO. | MAIN THEME | DAYS | LOCATION | ATTENDANCE | LECTURER |
|-----|--------------------------------------------------------------------------|------|--------------------|------------|-------------|
| 1 | * Introduction of TQM and TPM * Introduction of Statistic Application | 1 | BPS Head Office | 15 persons | Mr. Shimada |
| 2 | * QC-7, Pareto Diagram * Exercise at Requests | 1 | BPS Head Office | 20 persons | Mr. Shimada |
| 3 | * QC-7, Cause and Effect Diagram * Exercise at Requests | 1 | BPS Head Office | 18 persons | Mr. Shimada |
| 4 | * QC-7, Histograms | 1 | BPS Head Office | 18 persons | Mr. Shimada |
| 5 | * QC-7, Scatter Diagram * Exercise at Requests | 1 | BPS Head Office | 18 persons | Mr. Shimada |
| 6 | * QC-7, Control Chart * QC-7, Case Study of Process Analysis | 1 | BPS Head Office | 16 persons | Mr. Shimada |
| 7 | * Additivity of Variances * Introduction of Statistical Inference | 1 | BPS Head Office | 18 persons | Mr. Shimada |
| 8 | * QC Story * Exercise at Requests | 1 | BPS Head Office | 21 persons | Mr. Saumada |
| 9 | * Introduction of SQC Intensive course | 1 | BPS Testing Center | 12 persons | Mr. Shimada |
| 10 | * Histogram | 1 | BPS Testing Center | 12 persons | Mr. Shimada |
| 11 | * Others of QC-7 | 1 | BPS Testing Center | 12 persons | Mr. Shimada |
| 12 | * Statistical Inference | 1 | BPS Testing Center | 12 persons | Mr. Shimada |
| 13 | * SOC-1, Data Treatment and Check Sheet | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 14 | * SOC-1, Graphs and Stratification | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 15 | * Successful TQM | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 16 | * Successful TQM | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 17 | * Quality Control | 1 | BPS Head Office | 35 persons | Mr. Shimada |

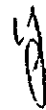
| NO. | MAIN THEME | DAYS | LOCATION | ATTENDANCE | LECTURER |
|-----|-----------------------------------------------------------------------------------|------|--------------------------------|------------|-------------|
| 18 | * Control & Improve * QC Story * QC Problem solving | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 19 | * Quantification * Histogram | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 20 | * QC 7 Tools * Pareto Diagram * Cause & Effect Diagram * Scatter Diagram | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 21 | * Statistical Inference | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 22 | * Sampling Inspection | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 23 | * Control Chart | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 24 | * In-House Standard Reliability | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 25 | * Quality Assurance | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 26 | * Instrumentation Policy Management | 1 | BPS Head Office | 35 persons | Mr. Shimada |
| 27 | * Quantification * Histogram | 1 | Regional 3, DTI CLQPM | 30 persons | Mr. Shimada |
| 28 | * QC Story * Pareto Diagram * Cause & Effect Diagram | 1 | Regional Office3, DTI CLQPM | 30 persons | Mr. Shimada |
| 29 | * Quantification * Histogram | 1 | Regional Office10, DTI PSC | 30 persons | Mr. Shimada |
| 30 | * QC Story * Pareto Diagram * Cause & Effect Diagram | 1 | Regional Office10, DTI PSC | 30 persons | Mr. Shimada |
| 31 | * Quantification * Histogram | 1 | Regional Office10, DTI NSC | 30 persons | Mr. Shimada |
| 32 | * QC Story | 1 | Regional Office10, DTI | 30 persons | Mr. Shimada |

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| NO. | MAIN THEME | DAYS | LOCATION | ATTENDANCE | LECTURER |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------|------------|--------------|
| 33 | * Statistical Process Control | 1 | Regional Office 7, DTI PQPM (Cebu) SMC | 70 persons | Mr. Shimada |
| 34 | * Statistical Process Control * Discussion | 1 | Regional Office 7, DTI PQPM (Cebu) | 70 persons | Mr. Shimada |
| 35 | * TQM and TPM Activities * Quality Control | 1 | Regional Office 5, DTI TIH Tropical Tours | 30 persons | Mr. Shimada |
| 36 | * QC Story * Graphs * Policy Management | 1 | Regional Office 5, DTI TIH Tropical Tours | 30 persons | Mr. Shimada |
| 37 | * Maintenance | 1 | Regional Office 5, DTI TIH Tropical Tours | 30 persons | Mr. Shimada |
| 38 | * Maintenance * Typical Techniques Policy Management Cross-Functional Management Small Group Activity * QC Process Chart * Statistics | 3 | Regional Office 6, DTI | 40 persons | Mr. Shimada |
| 39 | * Statistics * QC Process Chart * Maintenance * Typical Techniques Policy Management Cross-Functional Management Small Group Activity | 3 | Regional Office 10, DTI | 40 persons | Mr. Shimada |
| 40 | * QC 7-Tools * TQM Activities | 2 | Regional Office 7, DTI | 30 persons | Mr. Kawamura |



| NO. | MAIN THEME | DAYS | LOCATION | ATTENDANCE | LECTURER |
|-----|---------------------------------|------|-------------------------|------------|--------------|
| 41 | * QC 7-Tools * TQM Activinés | 2 | Regional Office 7, DTI | 29 persons | Mr. Kawamura |
| 42 | * QC 7-Tools * TQM Activinés | 5 | Regional Office 10, DTI | 30 persons | Mr. Kawamura |
| 43 | * QC 7-Tools * TQM Activinés | 3 | Regional Office 11, DTI | 30 persons | Mr. Kawamura |

LIST OF FACTORY VISITS

[Mr. Mitsuharu SHIMADA]

| NO | FACTORY NAME | PRODUCT | TIME | CONTENTS |
|----|------------------------------------------|-----------------------------|------|--------------------------------------------------------------------------------------------------------------------|
| 1 | Associated Wire Corp. | Wire Harnesses | 7 | 1) Maintenance 2) QC Process Chart 3) SQC Case Study 4) Process Control |
| 2 | Columbis Wire and Cables Corp. | Wire and Cables | 5 | 1) 5S 2) Maintenance 3) QC Process Chart 4) SQC(Primary) |
| 3 | Tiongson Industries | Tin Plate Can | 4 | 1) Maintenance 2) QC Process Chart 3) SQC(Primary) |
| 4 | Atlanta Industries | PVC Pipe, Fittings, Bags | 5 | 1) 5S 2) Maintenance 3) QC Process Chart 4) SQC(Primary) |
| 5 | Hanabishi Phils, Inc. | Home Appliances | 5 | 1) Maintenance 2) QC Process Chart 3) SQC Case Study 4) Process Control |
| 6 | Eversolid Industries Manufacturing Corp. | Gas and Electric Appliances | 4 | 1) 5S 2) Maintenance 3) QC Process Chart 4) SQC(Primary) |
| 7 | Neltex Development Co. | PVC Pipes and Fittings | 4 | 1) 5S 2) Maintenance 3) QC Process Chart 4) SQC(Primary) |
| 8 | YKK Zipper Philippines, Inc. | Zippers | 4 | 1) Maintenance 2) QC Process Chart 3) SQC(Primary) |
| 9 | Fuji-Haya Electric | Relays, Switchgears | 3 | 1) Maintenance 2) QC Process Chart 3) Visual Cont. 4) SQC 5) New QC 7 |
| 10 | First Gem Philippines | Wire Harness | 1 | 1) Maintenance 2) QC Process Chart |
| 11 | Superior Air Product Phils. | Oxygen Gas | 1 | 1) QC Process Chart |
| 12 | Foremost Mill | Wheat | 1 | 1) QC Process Chart |
| 13 | BRCI, Co. | Tomato Paste | 1 | 1) SQC 2) QC Process Chart 3) Policy Management 4) Cross-Function Management 5) Small Group Activities |

| NO | FACTORY NAME | PRODUCT | TIME | CONTENTS |
|----|-------------------------------|--------------------|------|--------------------------------------------------------------------------------------------------------------------|
| 14 | Mac-Feed | Corn Powder | 1 | 1) SQC 2) QC Process Chart 3) Policy Management 4) Cross-Function Management 5) Small Group Activities |
| 15 | American Wire and Cable Corp. | Wire and Cables | 1 | 1) Maintenance |
| 16 | Marion Wire | Wire and Cables | 2 | 1) Maintenance 2) QC Process Chart |
| 17 | Genwire Manufacturing | Wire and Cables | 2 | 1) Maintenance 2) QC Process Chart 3) Visual Cont. |
| 18 | Cindy's | Fast-food Products | 2 | 1) Maintenance 2) QC Process Chart 3) Visual Cont. |
| 19 | International Wiring Systems | Wiring Products | 1 | 1) Maintenance |
| 20 | Philippine Sinter Co. | Metal Products | 1 | 1) Maintenance 1) 5S |
| 21 | National Steel Corp. | Steel Mill | 1 | 1) Maintenance |
| 22 | Raphael Legacy Designs | Furniture | 1 | 1) Maintenance |
| 23 | Precision Machinist | Steel Product | 1 | 1) Maintenance |
| 24 | SGS Paper | Paper Product | 1 | 1) Maintenance |
| 25 | Lsarog Pulp | Paper Product | 1 | 1) Maintenance |

[Mr. Teruo KAWAMURA]

| NO | FACTORY NAME | PRODUCT | TIME | CONTENTS |
|----|---------------------------|---------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Tiongson Industries, Inc. | Tin Plate Can | 30 | 1) TQM, TPM Activities 2) 5S 3) Explanation of outline of ISO 9000 4) Documentation 5) How to make the QA manual 6) How to the construction of Quality system in each section 7) The part of CEO 8) The part of Manager 9) Standardization 10) Process Control 11) Measurement Control 12) Small group activities 13) Discussion and the method of solution about problems in the company 14) How to make the Check sheet |

| NO. | FACTORY NAME | PRODUCT | TIME | CONTENTS |
|-----|------------------------------------------|--------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | The First Gem Philippines Electric Corp. | Wire Harness | 22 | <p>15) About the inside inspection</p> <p>1) TQM, TPM Activities 2) 5S 3) Explanation of outline of ISO 9000 4) Documentation 5) How to make the QA manual 6) How to the construction of Quality system in each section 7) The part of CEO 8) The part of Manager 9) Standardization 10) Process Control 11) Measurement Control 12) Small group activities 13) Discussion and the method of solution about problems in the company 14) How to make the Check sheet 15) About the inside inspection</p> |
| 3 | YKK Zipper Philippines, Inc. | Zippers | 4 | <p>1) TQM Activities 2) TPM Activities 3) 5S 4) Explanation of ISO 9000 5) Documentation 6) What is Problems ? 7) Method of solution of problems 8) QC Tool 9) Maintenance system 10) Management of Standards 11) Small group activities 12) Discussion and the method of solution about problems in the company 14) How to make the Check sheet</p> |
| 4 | Unibox Packaging Corp. | Boxes | 3 | <p>1) TQM Activities 2) TPM Activities 3) 5S 4) Explanation of ISO 9000</p> |

| NO | FACTORY NAME | PRODUCT | TIME | CONTENTS |
|----|------------------------------------------|-----------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | 1) TQM, TPM Activities 2) 5S 3) Explanation of outline of ISO 9000 4) Documentation 5) What is Problems ? 6) Method of solution of problems 7) QC Tool 8) Maintenance system 9) Management of Standards 10) Small group activities 11) Discussion and the method of solution about problems in the company 12) How to make the Check sheet 13) How to make the QA manual 14) How to the construction of Quality system in each section 15) Small group activities 16) Discussion and the method of solution about problems in the company 17) How to make the Check sheet |
| 5 | Associated Wire Corp. of the Philippines | Wire and Cables | 5 | 1) TQM, TPM Activities 2) 5S 3) Explanation of outline of ISO 9000 4) Documentation 5) What is Problems ? 6) Method of solution of problems 7) QC Tool 8) Maintenance system 9) Management of Standards 10) Small group activities 11) Discussion and the method of solution about problems in the company 12) How to make the Check sheet |

| NO. | FACTORY NAME | PRODUCT | TIME | CONTENTS |
|-----|------------------------------|------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | 13) How to make the QA manual 14) How to the construction of Quality system in each section 15) Small group activities 16) Discussion and the method of solution about problems in the company 17) How to make the Check sheet |
| 6 | Arco Metal Products Co. Inc. | Foundry products | 3 | 1) TQM, TPM Activities 2) 5S 3) Explanation of QC story 4) How to make the Flow chart 5) What is Problems ? 6) Method of solution of problems 7) QC Tool 8) Maintenance system 9) Management of Standards 10) Small group activities 11) Discussion and the method of solution about problems in the company 12) How to make the Check sheet 13) How to make the Job Description Sheet 14) How to the construction of Quality system in each section 15) Small group activities 16) Discussion and the method of solution about problems in the company 17) How to make the Check sheet |




| NO. | FACTORY NAME | PRODUCT | TIME | CONTENTS |
|-----|----------------------------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7 | Twin Aces Industries, Inc. | | 3 | 1) TQM, TPM Activities 2) 5S 3) Explanation of QC story 4) How to make the Flow chart 5) What is Problems ? 6) Method of solution of problems 7) QC Tool 8) Maintenance system 9) Management of Standards 10) Small group activities 11) Discussion and the method of solution about problems in the company 12) How to make the Check sheet 13) How to make the Job Description Sheet 14) How to the construction of Quality system in each section 15) Small group activities 16) Discussion and the method of solution about problems in the company 17) How to make the Check sheet |
| 8 | Plastic City Corp. | Plastics | 3 | 1) TQM, TPM Activities 2) 5S 3) Explanation of QC story 4) How to make the Flow chart 5) What is Problems ? 6) Method of solution of problems 7) QC Tool 8) Maintenance system 9) Management of Standards 10) Small group activities 11) Discussion and the method of solution about problems in the company |



| NO. | FACTORY NAME | PRODUCT | TIME | CONTENTS |
|-----|-----------------------------------|-------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9 | Hanabishi Philippines | Home Appliances | 3 | 1) TQM, TPM Activities 2) 5S 3) Explanation of QC story 4) How to make the Flow chart 5) What is Problems ? 6) Method of solution of problems 7) QC Tool 8) Maintenance system 9) Management of Standards 10) Small group activities 11) Discussion and the method of solution about problems in the company |
| 10 | Selecta | Ice cream product | 1 | 1) QC and Quality Implement |
| 11 | Philippine Electric Corp. | Ballast | 1 | 1) Quality system 2) Outline of TQM and TPM |
| 12 | Intergral Chemical Corp. | Food additive | 1 | 1) Quality system 2) TPM activities |
| 13 | Philcor | Home Appliances | 2 | 1) Quality system 2) TPM activities 3) TQM activities |
| 14 | Sanitary Ware Manufacturing | Sanitary product | 1 | 1) Outline of TQM and TPM |
| 15 | Moldex Products Inc. | PPC pipe | 1 | 1) 5S |
| 16 | Power Synthetic Rubber Mfg. Corp. | Rubber product | 1 | 1) 5S |
| 17 | SGS Philippines | Consulting | 1 | 1) Laboratory Management |




NUMBER OF TESTING ACCOMPLISHMENT

Accomplishment of testing is also an important index of the Project. BPSTC computes many kinds of accomplishment by monthly. Among them, 1. Company served and 2. Test conducted are proper indicator to evaluate.

1. COMPANY SERVED

Table - 1 COMPANY SERVED

| ITEM | 1994 | 1995 | 1996 |
|------------------------------|------|------|------|
| 1. Lamp & related appliances | 64 | 116 | 131 |
| 2. Wires & cables | 19 | 53 | 59 |
| 3. Wiring devices | 142 | 197 | 172 |
| Electrical test TOTAL | 225 | 366 | 362 |
| Increment (%) | - | 63% | -1% |

2. TEST CONDUCTED

Table - 2 TEST CONDUCTED

| ITEM | 1994 | 1995 | 1996 |
|------------------------------|-------|--------|--------|
| 1. Lamp & related appliances | 5,094 | 6,010 | 10,408 |
| 2. Wires & cables | 919 | 2,826 | 3,783 |
| 3. Wiring devices | 1,884 | 9,284 | 8,784 |
| Electrical test TOTAL | 7,897 | 18,120 | 22,975 |
| Increment (%) | - | 129 % | 27 % |

**LIST OF PS STANDARDS HARMONIZED WITH IEC
DEVELOPED IN 1995 & 1996**

| PNS NO. | TITLE | REFERENCE |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| TC1 - ELECTRIC WIRES AND CABLES | | |
| 1. DPNS* 1487-1-1: 1996 | Test Methods for Insulating and Sheathing Materials of Electric Cables Section 1: Measurement | IEC 811-1-1: 1993 |
| 2. DPNS* 1487-1-2: 1996 | Section 2: Thermal Aging Methods | IEC 811-1-2: 1993 |
| TC 4 - LAMPS & RELATED EQUIPMENT | | |
| 1. PNS 12-1: 1996 | Fluorescent Lamp Ballast-General and Safety Requirements | IEC 920: 1990 |
| 2. PNS 12-2: 1996 | Fluorescent Lamp Ballast-Performance Requirements | IEC 921: 1998 |
| 3. PNS 38-1: 1995 | Safety Specification for Incandescent Lamps Part 1: Tungsten Filament Lamps for Domestic and Similar Lighting Purposes | IEC 432-1: 1993 |
| 4. PNS 38-2: 1995 | Tungsten Filament Lamps for Domestic and Similar General Lighting Purposes - Performance Requirement | IEC 64: 1993 |
| 5. PNS 1328:1996 | Luminaires - General Requirements and Tests | IEC 598 - 1: 1992 |
| TC 10 - WIRING DEVICES | | |
| 1. DPNS* 1486-1: 1996 | Plugs and Sockets Outlets for Household and Similar Purpose | IEC 884-1: 1994 |
| 2. DPNS* 1485-1: 1996 | Switches for Household and Similar Fixed Electrical Installation | IEC 669-1: 1993 |
| TC 23 - HEATING AND COOKING APPLIANCES | | |
| 1. PNS 225: 1990 DPNS 225:1996 | Electric Rice Cooker and Rice Warmers for Household Use - Safety Requirements | JIS C 9212:1988 revised to IEC 335-2-15: 1995 |
| 2. PNS 263: 1991 DPNS 263: 1996 | Electric Water Heaters - Specifications | UL 499:1982 revised to IEC 335-2-35: 1991 |
| 3. PNS 272: 1991 DPNS 272: 1996 | Electric Toasters | IEC 335-2-9: 1993 |
| 4. PNS 1292: 1995 | Microwave Oven - Safety Requirements | IEC 335-2-25: 1993 |
| TC 30 - HOUSEHOLD APPLIANCES | | |
| 1. PNS 219-1: 1995 | Household Refrigerators, Food Freezers and Ice Makers - Safety Requirements | IEC 335-2-24: 1992 |

Note: DPNS* is a Draft PNS

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