

INTEGRATED RESEARCH AND TRAINING CENTER

PROGRESS REPORT

AUGUST 1983

AUTOMOTIVE LABORATORY

PROGRESS REPORT

Automotive Laboratory

1.0 Activities.

1.1 Inventory.

An inventory of resources (Equipment, Apparatus and Devices) had been conducted in January, 1988. The findings are shown in the table below.

Equipment/Model	Remarks
A. Instruction Models	
1. Glass motor. Four-cylinder, 110 v, mounted in woodgrain base.	Used by eng'g students
2. Two-stroke engine with all engine parts, carburetor and ignition; dc.	"
3. Four-stroke engine with all engine parts, valve gear, ignition and carburetor.	"
4. Four-stroke diesel engine with all engine parts and detailed fuel injection system.	"
5. Transmission. Permits gear changing; Has single plate clutch operated by pedal.	"
6. Steering. Complete with steering wheel, worm gear assembly, linkage, brake drums, brake shoes, etc.	"
7. Rear Axle	"
8. Wrecked Motor. Exposed Replicas.	"
9. Planetary Gear	"
10. Ignition System	"
11. Hydraulic Brake	"
12. Disc Brake	"
13. Hydraulic Dual Braking Eye.	"

Equipment/Model	Remarks
14. Diesel Fuel Injection Pump	"
15. Gasoline Engine. The cut-away engine is supplied complete with transmission and all standard accessories and auxiliaries req'd for.	"
A. Equipment.	
1. Engine Research and Test Bed	Have not been used since June, 1982.

1.2 Study of the User's Manual.

1.3 Trainors' Training.

1.3.1 Mathematics.

The training was conducted by Prof. Matulac. He stressed,

- a. Methods of Teaching;
- b. The Important Mathematics Tools in Teaching Engineering Sciences.

1.3.2 Applied Mechanics (Dynamics)

This is still going on, and is handled by Prof. Y. Maeda. The lectures have already covered solutions to problems on,

- a. Kinematics of Rectilinear Motion
- b. Systems of Forces in Equilibrium
- c. Complex Functions
- d. Vibratory Motion

1.3.2 Computer.

This is still going on, and is conducted by Prof. Y. Maeda. The participants are taught how to prepare short and simple programs.

1.4 Preparation of the Model of the Training Package.

MODEL OF THE TRAINING PACKAGE IN INTERNAL
COMBUSTION ENGINES FOR ADVANCED
ENGINEERING STUDENTS

1.0 Course Description.

This is a 25-hour course on the parts and operation of the internal combustion engines (petrol and diesel). The course includes a detailed study of the changes in the values of the engine variables with the change in operation point. The training will be accomplished through short lectures, demonstrations and experiments.

2.0 Objectives.

At the end of the training the students should be able to,

- 2.1 Recognize the parts of both petrol and diesel engines;
- 2.2 Understand the operation of the above parts;
- 2.3 Determine the efficiency and power output of the engine from measurements taken from actual engine runs;
- 2.4 Relate the factors affecting engine performance with both efficiency and power output;
- 2.5 Make an engine map.

3.0 Contents.

1. Petrol Engines.....15 Hours
 - A. Four-Stroke Engine.....12 Hours
 1. Parts
 - a. Fuel Preparation
 - b. Combustion
 - c. Exhaust
 - d. Peripherals
 2. Operation
 3. Computation of Efficiency
 - a. Indicated Thermal Efficiency
 - b. Brake Thermal Efficiency
 - c. Mechanical Efficiency

4. Computation of Power Output
 - a. Indicated Power Output
 - b. Brake Power Output
5. Variation of Power and Efficiency
 - a. With Speed
 - b. With Mixture Strength
6. Engine Map

B. Two-Stroke Engine

1. Parts
 - a. Fuel Preparation
 - b. Combustion
 - c. Exhaust
 - d. Peripherals
2. Operation
3. Computation of Efficiency
4. Computation of Power Output
5. Variation of Power and Efficiency with
 - a. Speed
 - b. Mixture Strength

II. Diesel Engines.....10 Hours

A. Four-Stroke Engine

1. Parts
 - a. Fuel Injection
 - b. Combustion
 - c. Exhaust
 - d. Peripherals
2. Operation
3. Computation of Power Output and Efficiency
 - a. Governed Range
 - b. Ungoverned Range

TECHNOLOGICAL UNIVERSITY OF THE PHILIPPINES
Ayala Blvd. Metro Manila

INTEGRATED RESEARCH AND TRAINING CENTER
General Appropriations
January - December, 1983

P/P/A

(1.2.2) I.R.T.C. ----- ₱ 1,275,000.00

(2.2.1) Acquisition of
Equipment ----- 442,000.00

GRAND TOTAL ----- ₱ 1,717,000.00

TECHNOLOGICAL UNIVERSITY OF THE PHILIPPINES
M a n i l a
Integrated Research and Training Center

Funding Requirements
1983

Proposed Positions

Salaries and Wages	P1,057,670.00
Living Allowances	69,600.00
Honoraria	51,000.00
TOTAL Personal Services	P1,178,270.00
	VVVVVVVVVVVVVV

Communications Expenses	P 3,730.00
Repairs and Maintenance	10,000.00
Transportation Services	5,000.00
Supplies & Materials	50,000.00
Water, Illumination & Power.....	20,000.00
Maintenance of Motor Vehicle	8,000.00

TOTAL Maintenance and Operating Expenses	P96,730.00
	VVVVVVVVVV

TOTAL FUNDING REQUIREMENT (C.Y. 1983)	P1,275,000.00
	VVVVVVVVVVVVVV
	VVVVVVVVVVVVVV

INTEGRATED RESEARCH AND TRAINING CENTER

Proposed Staffing Pattern
Calendar Year 1983

NUMBER OF PERSONNEL	POSITION	SALARY RANGE	SALARY GRADE	MONTHLY SALARY	ANNUAL SALARY	TOTAL AMOUNT	JUSTIFICATION
1	Executive Director	85		3,500.00	42,000.00	42,000.00	The operationalization of the ITRC is to be managed by an Executive Director who is responsible for the administrative and managerial matters involving project implementation.
1	Secretary	56		774.00	9,288.00	9,288.00	The office of the Executive Director will maintain an office staff of one (1) secretary and one (1) senior stenographer. They will take charge of all processing of papers, communications, including reproduction of training materials which will be centralized.
1	Senior Stenographer	58		898.00	10,776.00	10,776.00	A project planning specialist will be in charge of program planning including budget preparation and allocation of resources.
1	Project Planning Specialist	16		2,311.00	27,732.00	27,732.00	The project coordinator will take care of monitoring and evaluation of programs. They will be supported by one (1) clerk. These core staff are necessary to insure effective-ness and efficiency of project implementation
1	Project Coordinator	72		1,715.00	20,580.00	20,580.00	
1	Clerk II	52		634.00	7,608.00	7,608.00	

NUMBER OF PERSONNEL	POSITION	SALARY RANGE	SALARY GRADE	MONTHLY SALARY	ANNUAL SALARY	TOTAL AMOUNT	JUSTIFICATION
4	Mechanical Engineer Specialists	16		2,311.00	27,732.00	110,928.00	The Mechanical Engineer Specialists are to be assigned to four sub-fields and specialization i.e. Mechanical processes, Stationary marine and Power, Automotive, Refrigeration and Air-Conditioning and Foundry. They will be responsible in the design and conduct of training programs and Applied Research in Mechanical Engineering.
2	Mechanical Laboratory Shop Specialists	16		2,311.00	27,732.00	55,464.00	The Mechanical Laboratory Specialists are to complement the expertise of the engineers in fundamental theories. Their expertise is in the application of the theories to the actual operation of the modern machines. They are experienced and highly skilled in their technology area where they have specialized. A total of 2,720 students and 500 trainers are to be trained in five course programs, (three levels) for the year 1983. Activities of Mechanical engineer specialists and shop specialists will consist of training and conduct of research.

NUMBER OF PERSONNEL	POSITION	SALARY RANGE	SALARY GRADE	MONTHLY SALARY	ANNUAL SALARY	TOTAL AMOUNT	JUSTIFICATION
1	Mechanical Technician	12		992.00	11,904.00	11,904.00	The five technicians are to provide maintenance and upkeep of all machines in the five laboratories i.e. (Mechanical, Boiler, Automotive, Refrigeration and Air-Conditioning and Foundry Laboratories). They must keep the machines in normal operating and running conditions. They will also assist the engineer specialists in the performance of research experiments.
1	Boiler Technician	12		992.00	11,904.00	11,904.00	
1	Automotive Technician	12		992.00	11,904.00	11,904.00	
1	Refrigeration & Air-Conditioning Technician	12		992.00	11,904.00	11,904.00	
1	Foundry Technician	12		992.00	11,904.00	11,904.00	
2	Electrical Engineer Specialists	16		2,311.00	27,732.00	55,464.00	The two (2) Electrical Engineer and two (2) Electronic Engineer Specialists will take charge of the conduct of training and research in such sub-fields as Power Engineering, Electronics, Control Engineering and Computer Engineering. They will be complemented by one (1) shop specialist who will provide the application of the fundamental theory to the operation of the machines and equipment, and link the principle to actual practice.
2	Electronic Engineer Specialists	16		2,311.00	27,732.00	55,464.00	
1	Electrical Laboratory Shop Specialist						A total of 3,240 students and 720 trainers are to be trained in six course programs (3 in three levels) for the year 1963.

REL	POSITION	SALARY RANGE	SALARY GRADE	MONTHLY SALARY	ANNUAL SALARY	TOTAL AMOUNT	JUSTIFICATION
	Electrical Technician	12		992.00	11,904.00	11,904.00	The two technicians will be responsible in the maintenance and upkeep of the Electrical and Electronic Laboratories and to keep the machines in normal operating and running conditions. They will assist the engineers during the performance of research experiments.
	Electronics Technician	12		992.00	11,904.00	11,904.00	
	Civil Engineer Specialist	16		2,311.00	27,732.00	110,928.00	The Civil Engineer Specialists are to take charge of the conduct of training and Applied Research in such sub-fields as Surveying, Soil Engineering, Materials Testing, Reinforced Concrete and Structural Engineering. They will be complemented by one shop specialist who will concentrate on application of fundamental theories and principles in actual construction.
	Civil Engineer Shop Specialist	16		2,311.00	27,732.00	27,732.00	
	Civil Technicians	12		992.00	11,904.00	23,808.00	The two (2) Civil Technicians will provide maintenance and upkeep of the materials testing laboratory and the surveying equipment. They will ensure that machines and equipment are in normal operating conditions. They will assist the engineers in the conduct of research experiments. A total of 4,680 students and 1,320 trainees will be trained in twelve courses for five sub-fields in three (3) levels for the year 1983.
	Civil Technicians	12		992.00	11,904.00	23,808.00	

PERSONNEL	POSITION	SALARY RANGE	SALARY GRADE	MONTHLY SALARY	ANNUAL SALARY	TOTAL AMOUNT	JUSTIFICATION
2	Computer Specialist	16		2,311.00	27,732.00	55,732.00	The Computer Specialists are to design and conduct short training programs for faculty, staff and executives of TUP and other agencies. They are also to prepare the needed software programs.
2	EDP Instructor or	65		1,211.00	14,532.00	29,064.00	The EDP Instructor will take charge of students who are to take an EDP course. An EDP file librarian is needed to handle the systematic filing of diskettes, programs and other softwares. He will also provide maintenance and upkeep of the computers. For 1983 a total of 1,630 students and 1,080 employees, staff/faculty and executives are targeted for training in five course programs.
1	EDP File Librarian/Computer Technician	12		992.00	11,904.00	11,904.00	
1	Physics Specialist	16		2,311.00	27,732.00	27,732.00	The Physics Laboratory is fully equipped and will provide the science base for the engineering fields. The Physics Specialist will conduct training and research in the use and application of Physics to the specific technologies. He will also produce training softwares for the effective teaching.
1	Physics Laboratory Technician	12		992.00	11,904.00	11,904.00	The Physics laboratory technician will provide maintenance and upkeep of the Physics laboratory so that all the equipment are in normal running condition.

NUMBER OF PERSONNEL	POSITION	SALARY RANGE	SALARY GRADE	MONTHLY SALARY	ANNUAL SALARY	TOTAL AMOUNT	JUSTIFICATION
1	:Media Specialist	16		2,311.00	27,732.00	27,732.00	The IRC is fully equipped with a TV studio and a Master Control Room which will be utilized in the production of "canned training materials" for the engineering fields. A media specialist direct the overall production from the planning stage to the actual shooting both in studio and on location.
1	:Media Production Officer	72		1,715.00	20,580.00	20,580.00	The Media Production Officer is in-charge of layout, scriptwriting, voicing and mixing. These are both Mass communication graduates. (Media Specialist & Media Production Officer)
1	:Audio Visual Specialist	16		2,311.00	27,732.00	27,732.00	The Audio Visual Specialist is in charge of the technical aspect. He supervises the operation and control of all VTR equipment.
1	:Audio Visual Technician	12		992.00	11,904.00	11,904.00	An audio-visual technician and soundman takes care of the sound effects equipment. He also the overall technician for maintenance of the equipment in the Studio and Master Control room.
1	:TV Cameraman	12		992.00	11,904.00	11,904.00	A TV Cameraman will take care of the studio camera and the ports-pack.

NUMBER OF PERSONNEL	POSITION	SALARY RANGE	SALARY GRADE	MONTHLY SALARY	ANNUAL SALARY	TOTAL AMOUNT	JUSTIFICATION
1	Film Editor	70		1,553.00	18,636.00	18,636.00	Film editor is responsible on editing raw films and processing them using the editing equipment into a coherent and integrated film text. This requires special skill and training. In addition to its task of video and film production the media and audio visual specialists are to conduct training programs or short courses on Audio Visual Production for personnel of other agencies who possess AV equipment. A total of 10 film productions in engineering and technology are targeted for 1983. Likewise 320 AV personnel will be trained for this year.
1	Maintenance & General Services Supervisor	76		2,093.00	25,116.00	25,116.00	Maintenance of the five-storey WRTC building will be assigned to a maintenance and general services supervisor, who will look into the Electrical, water, plumbing, general cleanliness and safety of the building. He will be assisted by a staff made up of one plumbing technician for the safe operation of the water pump, drainage and cooling water system fed to the machines.
1	Plumbing Technician	12		992.00	11,904.00	11,904.00	
1	Elevator Operator	55		736.00	8,832.00	8,832.00	One elevator operator whose task is to safely convey the handicap students, officials and staff and to provide maintenance of the lift.

NUMBER OF PERSONNEL	POSITION	SALARY RANGE	SALARY GRADE	MONTHLY SALARY	ANNUAL SALARY	TOTAL AMOUNT	JUSTIFICATION
3	Drivers	55		736.00	8,832.00	26,400.00	The 3 drivers are for the three vehicles of the center, one Toyota jeep, one Toyota Land cruiser wagon and one coaster.
4	Janitors	50		574.00	6,888.00	27,552.00	Four (4) janitors are needed as there are five floors, each floor complete with two sets of comfort rooms, classrooms, laboratories and corridors.
1	Utilityman/ Gardener	50		574.00	6,888.00	6,888.00	The gardener will be assigned to take care of the grounds, surroundings and plants.

- I. PROJECTED NUMBER OF ENROLMENT FOR SHORTTERM COURSES
- II. NUMBER OF STUDENTS FOR LABORATORY COURSES (SY-1983/84) PER SEMESTER PER COURSE
- III. NUMBER OF SECTIONS PER COURSE OFFERING WITH THE NUMBER OF STUDENTS PER SEMESTER
- IV. NUMBER OF SESSION FOR 1983 (TWO SEMESTER AND ONE SUMMER)
- V. HOW MANY STUDENTS PER SESSION
- VI. NUMBER OF FACULTY TO EFFECTIVELY TRAIN STUDENTS

INTEGRATED RESEARCH AND TRAINING CENTER

Course Programs
SY 1983 - 1984

I. Short Term Courses

TITLE	Duration	Cycles	Number of		PROGRAMMING IMPLEMENTATION
			participants	2 semester	
			per session	1 semester	Total enrollment
A. Computer-Based Courses	2 weeks				
1. Computer Application for Secretaries	(once a month)	12	20	240	3 hours per day (AM) for 10 sessions one computer specialist
2. Operation of Computers for employees and staff	2 weeks (once a month)	12	20	240	2 hours per day (PM) for 10 sessions one computer specialist
3. Basic Programming for Faculty and Trainers	2 weeks (once a month)	12	20	240	3 hours per session for 10 sessions (EVE) one computer specialist
4. Computer Seminar for Executives	2 weeks (twice a month)	24	15	360	3 hours per session for 10 sessions (EVE) one computer specialist
5. Introduction to EDP (for students)	1 semester (3 hours per week)	3 terms for 13 sections	40 per section	1680	A.M. 4 sections three specialists P.M. 4 sections EVE 5 sections
B. Audio Visual Production					
1. Film Editing	4 weeks	4	20	80	3 hours per day

2. Lighting Technique	4 weeks	4	20	88	3 hours per day
3. Visual Technique	4 weeks	4	20	80	3 hours per day
4. Audio Technique	4 weeks	4	20	80	3 hours per day
5. Script Writing	4 weeks	4	20	80	3 hours per day
C. Design					
1. Photography	4 weeks	2	20	40	3 hours per day
2. Design Technique	4 weeks	2	20	40	3 hours per day

II. Regular Courses

A. Mechanical Engineering

COURSE TITLES	NUMBER OF STUDENTS/PER SEMESTER/PER SESSION		DURATION		CYCLE	TOTAL STUDENTS PER YEAR	
	Basic : Students	Advanced : Students	for students : training	for Trainers		2 semesters : 1 summer	Students
1. Mechanical processing course	30	30	one semester : 3 hours per day for 3 days, three times a week	3 hours per day for 3 months	3	540	120
2. Stationary Marine Engine Course	30	30	one semester : 3 hours per day for 3 times a week	3 hours per day for 3 months	3	540	120
3. Refrigeration and Air- Conditioning Course	30	30	-do-	-do-	3	540	120
4. Automotive Engineering Course	30	30	-do-	-do-	3	540	120
5. Foundry Course	30	30	-do-	-do-	3	540	120

NOTE: Student Scheduling/Sectioning
 A.M. Session - AMF group & TINS group
 P.M. Session - AMF group & TINS group
 Evening Session - daily

B. Electrical and Electronic Engineering

COURSE TITLES	NUMBER OF STUDENTS/PER SEMESTER/PER SESSION		DURATION : for students :	DURATION : for Trainers :	CYCLE	TOTAL STUDENTS PER YEAR
	Basic : Technician:Engineers: Students :	Advanced : Faculty & Engineers : Students :				
1. Power engineering	30	30	20	one semester : 3 hours : 3 hours per : per day : day, three : for 3 : times a week : months	3	540
2. Power Engineering II	30	30	20	-do-	3	540
2. Fundamental Electronics	30	30	20	-do-	3	540
4. Advanced Electronics	30	30	20	-do-	3	540
5. Control Engineering	30	30	20	-do-	3	540
6. Computer	30	30	20	-do-	3	540

COURSE TITLES	NUMBER OF STUDENTS/PER SEMESTER/PER SESSION		DURATION	DURATION	CYCLE	TOTAL STUDENTS PER YEAR	
	Basic	Advanced				Students	Trainers
1. Surveying		20		1 to 3 months	3	540	120
2. Soil Engineering I	30	20	one semester	3 months	3	540	120
			3 hours per day, three times a week				
3. Soil Engineering II	30	20		-do-	3	540	120
3. Materials							
Concrete I	30	20		-do-	3	540	120
Concrete II	30	20		-do-	3	540	120
Asphalt	30	20		-do-	3	540	120
Timber	30	20		-do-	3	540	120
Metal	30	20		-do-	3	540	120
4. Reinforced Concrete I	30	20		-do-	3	540	120
Reinforced Concrete II	30	20		-do-	3	540	120
5. Structural Engineering	20	30		-do-	3	540	120

III. NUMBER OF SECTION PER COURSE

1. Technician Courses in Four (4) fields,
Nine (9) sections (a.m.; p.m.; evening)
50 Students each = 450 students
2. Engineering Courses in three fields
6 sections - first year to fifth year
at 40 students = 240 students

IV. SESSIONS FOR 1983:2 semesters & summer

Morning Session - 7:00 - 4:30 (A.M. Shop)
Afternoon Session 7:00 - 4:30 (P.M. Shop)
Evening Session

V. AVERAGE: 40 - 50 students per section

VII. NUMBER OF FACULTY NEEDED

1. Mechanical Engineering

Four (4) Mechanical Engineering Specialists
Two (2) Shop Specialists

2. Electrical Engineering

Four (4) Electrical/Electronics
Engineering Specialists
One (1) Shop Specialist

3. Construction and Civil Engineering

Four (4) Civil Engineering Specialists
One (1) Shop Specialist

4. Computer Based Curriculum

Two (2) Computer Specialists
Two (2) EDP Instructors

5. Audio and Video Technology

One (1) Media Production Specialist
One (1) Audio Visual Specialist
One (1) Shop Specialist

INTEGRATED RESEARCH AND TRAINING CENTER

ACQUISITION OF EQUIPMENT
Calendar Year 1983

QTY.	UNIT	DESCRIPTION	UNIT COST	TOTAL COST	JUSTIFICATION
5	Units	Filing Cabinet: Steel Gauge 20, 4 drawers with central lock	350.00	4,750.00	The filing cabinets will be distributed into these units of the Center: Office of the Executive Director - 1; Computer Division - 1; Office of the JICA Experts detailed to IRIC - 1; Media Production Division - 1; Office of Engineering Technology Training Division - 1.
1	Unit	Electric Typewriter: Ball-type; Standard Size Carriage	7,900.00	7,900.00	For the Office of the Executive Director
2	Units	Manual Typewriter: PICA Type; 24" carriage	4,200.00	8,400.00	One (1) Unit for the Media Production Services: One (1) Unit for the Office of Engineering Technology Training
1	Unit	Manual Typewriter: Elite Letter Type; 24" carriage	4,200.00	4,200.00	For the Office of the JICA Experts detailed to TWTC.
1	Set	Vacuum Cleaner; 220 V smallest model for small areas; 1 HP	1,500.00	1,500.00	For use on the delicate equipment at the Master Control Room
1	Set	Vacuum Cleaner; 220 V Heavy Duty; 1 1/2 HP for floor	3,500.00	3,500.00	For the carpeted floor of the TV Studio

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QTY.	UNIT	DESCRIPTION	UNIT COST	TOTAL COST	JUSTIFICATION
7	Units	:Electric Fan: Stand :16"	\$50.00	3,850.00	For use in the following units: Mechanical Engineering Laboratory - 2; Boiler Room Laboratory - 1; Civil Engineering Laboratory - 1; Printing Laboratory - 2; Automotive Laboratory - 1
2	Sets	:Executive Desk	1,200.00	2,400.00	One (1) desk and chair for Executive Director
2	Pcs.	:Senior Revolving Chair	800.00	1,600.00	One (1) desk and chair for Team Leader of JICA Experts detailed to IRTC
15	Pcs.	:Office Tables: Hard	900.00	13,500.00	These will be used by the 15 Engineers and shop
15	Pcs.	:Wood Lacquer Finish :Office Chairs: :Upholstered	600.00	9,000.00	Specialists of the Mechanical, Electrical, and Civil Engineering Divisions
1	Pc.	:Conference Table: :Hard Wood, Lacquer :Finish, for 12 :Revolving Chairs	2,500.00 250.00	2,500.00 3,600.00	For the meetings room to be used during conferences and meetings with Japanese experts.
3	Pcs.	:Clerical Desk	600.00	1,800.00	For the Senior Stenographer, Secretary and Clerk.
3	Pcs.	:Clerical Chair	250.00	750.00	
1	Unit	:Basic Programming :Software	4,000.00	4,000.00	These softwares are Computer application programs needed for running the twelve (12) sets
1	Unit	:Fortran/80 Software	4,000.00	4,000.00	
1	Unit	:Database Software	6,000.00	6,000.00	
1	Unit	:Accounting Payroll :Software	6,000.00	6,000.00	
1	Unit	:Statpack Software	7,000.00	7,000.00	

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QTY.	UNIT	DESCRIPTION	UNIT COST	TOTAL COST	JUSTIFICATION
6	Units	: Disk Drive : PC-8031 : : A/B 5 1/4" HD-D-NEC Double- : Sided, Double-Density : : 0.64 megabytes/unit :	20,000.00	120,000.00	: There are twelve (12) units of computer : available at the Center. Of these, only four (4) : have disk drives. As the computer courses are : in full operation, the six (6) units of disk : drives are needed for the application programs.
1	Set	: <u>Engineer Transit</u> : Complete with : Accessories: Telescope : 242 mm magnification : 28 x level vial : Telescope level 40; : horizontal circle : dia. 150 mm; compass : circle; needle length : 0.82 mm.	9,800.00	9,800.00	: This is a training equipment in the advanced : surveying courses. The available surveying : equipment at the Center are Theodolites.
1	set	: Surveyors' Compass: : Aluminum case 115 mm. : square with sights : 75 mm needle	350.00	350.00	: An necessary to complement the transit.
1	Set	: Combination Socket : Wrench: 1/2" square : drive: 16 pcs./set	1,400.00	1,400.00	: There are laboratory equipment and tools : needed to complement the machines at the : Center.
1	Set	: Combination Wrench Set: : 150° angle opening : 11 pcs./set	1,100.00	1,100.00	: do -

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QTY.	UNIT	DESCRIPTION	UNIT COST	TOTAL COST	JUSTIFICATION
1	Unit	Vacuum Pump: Rotary Model C-150 220V 500 RPM: 1/4 HP	18,000.00	18,000.00	These are laboratory equipment and tools needed to complement the machines at the Center.
1	Set	Variable Transformer: Stepdown: 230 v input 115 output	750.00	750.00	- do -
1	Pc.	Van Motor: MC 77 MB 700	1,310.00	1,310.00	- do -
1	Pc.	Power Supply: VH-500 Power Source for Vacuum tubes output DC-AC 0-500	2,350.00	2,350.00	- do -
1	Set	Logic Digital: Trainer System	7,127.00	7,127.00	- do -
1	Set	Transistor Checker: B&K US Model 520	1,286.00	1,286.00	- do -
1	Set	Sine Square Wave Generator: B&K Model 7310 B SV-6436	606.00	606.00	- do -
1	Set	Bomb Calorimeter	6,500.00	6,500.00	- do -
2	Set	Aluminum Door Frame with spring	1,000.00	2,000.00	for the Snack and Lounge - for screening and sanitation purposes.
				268,229.00	

Nothing follows -

TECHNOLOGICAL UNIVERSITY OF THE PHILIPPINES

The Japanese Technical Cooperation Program
for
The Integrated Research
and Training Center Project

MINUTES OF THE MEETING

The Japanese Mutual Consultation Team
The Technological University of the Philippines Team
The Japanese Experts

August 1 - August 5, 1983

THE JAPANESE MUTUAL CONSULTATION TEAM

DR. YOSHIYUKI NAITO	Leader, Electric and Electronic Professor, Tokyo Institute of Technology
DR. KIYOSHI NISHIMOTO	Mechanical Engineering, Professor Tokyo Institute of Technology
PROF. KUNIO KAWAKATSU	Machine Processing Assistant Professor, Maizuru Technical College
MR. TOKIO HIRAI	Management and Planning Chief of Unit, Planning and Coordination Division, Science and International Affairs Bureau, Ministry of Education Science and Culture
MR. TETSUYA SUZUKI	Coordination Officer, Overseas Center Division, Social Development Cooperation Department, JICA

THE TECHNOLOGICAL UNIVERSITY OF THE PHILIPPINES TEAM

DR. JOSE R. VERGARA	President Technological University of the Philippines
DR. GALICANO J. DATU	Vice President for Academic Affairs Technological University of the Philippines
PROF. PERLA S. ROXAS	Executive Director Integrated Research and Training Center
PROF. FERNANDO ALFONSO	Assistant Executive Director Integrated Research and Training Center
PROF. JORGE DAGUM	Dean, College of Industrial Technology Technological University of the Philippines

IRTC - JICA EXPERTS

PROF. YASUHO MAEDA	Chief Advisor and Mechanical Engineering Expert
ENGR. SHIGEO IWAI	Civil Engineering Expert
DR. SHINJI YAMAGUCHI	Electrical Engineering Expert
ENGR. HIDEKI TANIMOTO	Coordinator

Day 1: August 1, Monday

PRESENT:

Japanese Team

Dr. Yoshiyuki Naito
Dr. Kiyoshi Nishimoto
Prof. Kunio Kawakatsu
Mr. Tokio Hirai
Mr. Tetsuya Suzuki

TUP Team

Dr. Jose R. Vergara
Dr. Galicano J. Datu
Prof. Perla S. Roxas
Prof. Fernando Alfonso
Prof. Jorge Dagum

IRTC-JICA Experts

Prof. Yasuho Maeda
Engr. Shigeo Iwai
Dr. Shinji Yamaguchi
Engr. Hideki Tanimoto

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10:00 A.M. I Discussion on Management and Administration
of the IRTC Project

President Jose R. Vergara opened the meeting and requested all those present to review the whole agenda to be covered in all the meetings.

TOPIC: Expenditure in F/Y 1982

Dr. Vergara started by saying that as of 1982, the IRTC has been institutionalized as it acquired a regular item (KBI) in the University's budget. The president requested Mrs. Roxas to explain the expenditures for 1982 and the budget for F/Y 1983.

Prof. Roxas presented the summary sheet on Expenditures for F/Y 1982.

Out of the total 1982 appropriation of ₱1,717,000.00, ₱1,275,000 is for Current Operating Expenditures and ₱442,000 for Acquisition of Equipment.

From the ₱1,275,000 only ₱300,000 was allotted for Personal Services and ₱800,000 was allotted for Maintenance and Operating Expenditures. Allotment represents the authorized ceiling that can be spent for that purpose. ₱175,000 was reserved or unreleased.

Actual expenditures total ₱378,567.19 of which ₱291,509.01 went to Personal Services and ₱87,058.18 was used for Maintenance and Operating Expenditures (MOE).

Dr. Naito inquired on why very little was used of the ₱800,000 for MOE.

Mrs. Roxas explained that since the IRTC project formally started on November 3, 1982, ₱800,000 was too big to spend in a very short time.

Of the ₱442,000 appropriated for Equipment, only 50% or ₱221,000 was released on March 15, 1983. This will be used for purchase of office furniture, air conditioners for offices where Japanese experts stay, and other office equipment. As the release was at the close of the first quarter, it was difficult to spend it. At the present time, it needs revalidation to be able to use it.

Mrs. Roxas emphasized that this equipment release intended for 1982 will be given in addition to what is expected of 1983.

TOPIC: Budget in F/Y 1983

For F/Y 1983 the same lump sum amounts were appropriated. However, this time, no amount was allotted for release pending approval of a Special Budget, or plan of expenditures covering complete staffing patterns, courses to be offered and other activities.

A copy of the Special Budget was presented and discussed by Prof. Roxas.

Among the positions requested were those for Engineer Specialists and Shop Specialists in the three technology areas. The position for Assistant Executive Director

cannot be given as pointed out by the management analysts from the Management Office, Ministry of the Budget, since they say the IRTC as a center is within the TUP Campus where the President and Vice President exercise direct supervision and control, in which the position of an Executive Director is enough to coordinate the programs.

President Vergara reminded the group that for F/Y 1984 Mrs. Roxas will incorporate certain proposals in the Special Budget depending upon outcome of talks going on. Copies of Budget Appropriations for 1983 and 1984 were distributed.

TOPIC: Present Situation of Joint Steering Committee and Establishment of Sub-Joint Steering Committee

Mrs. Roxas explained that the Joint Steering Committee was not formally convened yet because of three reasons: late arrival of JICA experts, late approval of the 1983 Special Budget for IRTC and at the present time this is a period of adjustment between experts and counterparts.

President Vergara said that the present situation is that experts and counterparts are now working cooperatively in accordance with the Record of Discussions.

Dr. Naito said that the Joint Steering Committee should meet at least once a year.

President Vergara said that the members of the Philippine Joint Steering Committee will still meet. The president said that when the Joint Steering Committee will convene, they will include NEDA representative, other JICA personnel and members of the Embassy of Japan as observers.

Dr. Naito mentioned that there was no formal meeting for the members of the local steering committee in Japan. The members have not been fixed yet. However there were frequent informal meetings. The local steering committee in Japan will be established soon.

Dr. Naito learned that experts and counterparts have been meeting regularly every Friday of the week. He suggested that this be the Sub-Joint Steering Committee.

President Vergara agreed and proposed that this be finalized during the August 5 meeting. The members of the Sub-Joint Steering Committee are officials in IRTC and the experts with their respective counterparts.

Mrs. Roxas stressed that the objective of the meeting should be to assess the activities of the week and discuss the plan of activities for the coming week. Likewise she said that the President and the Vice President may be consulted when the need for either Japanese side or Filipino side arises.

Dr. Naito mentioned that to formalize the local TUP-Sub Steering Committee it must have a formal approval of the Joint Steering Committee, which Dr. Vergara agreed.

Mrs. Roxas said that they've been meeting since April and it was only when the Coordinator came that the meeting became structured. Mr. Tanimoto is responsible in submitting a compilation of the minutes to JICA Manila and Tokyo.

TOPIC: Schedule and Basic Policy of IRTC Activity

Mr. Suzuki asked about the long term plan for 1984 to 1987.

Mrs. Roxas invited them to look into the Macro Plan for 1983 - 1984 contained in the prepared Executive Brief report. She explained in detail the Macro Plan which contains the program of activities of the center.

President Vergara said that there is no long term planning beyond 1984. There is still a need to have a consultative meeting. He also said that the Sub-Joint Steering Committee will prepare a draft program up to 1984 to be submitted to Joint Steering Committee so that the plans of the center will be monitored in Japan. He said that the finalization of operation will come from the Joint Steering Committee then to the Sub-Steering Committee and then to a consultative meeting.

2:00 P.M. II. The Japanese Experts

Dr. Datu opened the afternoon meeting.

TOPIC: Dispatch of Chief Advisor
Dispatch of Short Term Experts

Dr. Naito discussed about the dispatch of Chief Advisor. Dr. Naito said that there was one (1) Chief Advisor who was intended to be sent here but he became ill so at present they are busy looking for a replacement and in the meantime Prof. Maeda will act as the Chief Advisor and as a Mechanical Engineer expert. The real Chief Advisor maybe able to come here in April 1984.

Dr. Naito also discussed the dispatch of short term experts. He mentioned that they will send 4 short term experts in 1983. Their fields of specialization are: for Mechanical Engineering, Steam Turbine and Gears; for Electrical Engineering, Electronics and Fundamental Electronics; for Civil Engineering, Concrete. One in Mechanical Engineering will come on March 1984.

Mrs. Roxas asked the team if there is a possibility to request for a short term expert in Audio Visual. This is necessary because the Audio Visual Division supports the technology areas in the production of training materials.

Mr. Suzuki answered that only engineering experts that are covered by the Record of Discussions can be requested, however if there is really a need for an Audio Visual expert then the JICA may have to study the situation.

Dr. Naito said that generally, 4 to 5 short term experts will be sent in a year but it also depends upon the need.

TOPIC: Preparation for the Experts

Dr. Naito appreciates the nice facilities for the experts, however, the center lacks telephone facilities and air-conditioners.

Mrs. Roxas called the attention of the Japanese team that the Japanese contractor should have made provisions for cables within the building for telephone connections. For the air-conditioners, Mrs. Roxas said they are covered by the equipment budget approved for release for 1982 and will be provided.

Dr. Naito requested that Electric Fan be provided in Civil Engineering Office.

Prof. Maeda asked if they'll be provided with consumable materials for experiments.

Mrs. Roxas said yes, and these will be given.

TOPIC: Dispatch of New Experts in the Field of Electronics

Dr. Naito stressed that Prof. Maeda and Mr. Iwai will serve as experts for 2 years and Dr. Yamaguchi will stay here only for one year. Mr. Yamada will replace Dr. Yamaguchi on April 1984. He is an Electronics expert and can handle computer courses and digital electronics.

TOPIC: Activity of Coordinator

With regards to the activity of the Coordinator, Mrs. Roxas said that the tasks of Mr. Tanimoto are flexible. These have been arranged internally.

3:00 P.M. III. Progress Report: IRTC Activities as of July 1983

Mrs. Roxas explained the summary of activities of the center by technology area. They are contained in the Executive Brief. Mrs. Roxas mentioned in her report that some of the machines were not operating and is requesting representative from manufacturers to check on these machines.

Dr. Naito pointed out that the mission is not concerned directly with the installed machineries at the center, through Grant Aid.

Mr. Suzuki added that once the facilities are granted, it is the responsibility of the Philippine side to check on the effectivity of the facilities but if the malfunctioning of the equipment hampers the normal function of the center then the technical cooperation team can request for an assistance to fix the said equipment. They also suggested that we consult Mr. Arai of JICA and Mr. Mitaria regarding this matter.

When no more questions were raised the meeting was adjourned at 4:00 P.M.

Day 2: August 2, Tuesday

PRESENT:

Japanese Team

Dr. Yoshiyuki Naito
Dr. Kiyoshi Nishimoto
Prof. Kunio Kawakatsu
Mr. Tokio Hirai
Mr. Tetsuya Suzuki

TUP Team

Dr. Jose R. Vergara
Dr. Galicano J. Datu
Prof. Perla S. Roxas

Guest from JICA, Tokyo

Mr. Hiroshi Goto

IRTC-JICA Experts

Prof. Yasuho Maeda
Engr. Shigeo Iwai
Dr. Shinji Yamaguchi
Engr. Hideki Tanimoto

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10:00 A.M. IV. STAFF OF IRTC (i.e. Counterparts of
the Experts)

Dr. Galicano Datu opened the discussion and asked Mrs. Roxas to discuss the IRTC staff.

TOPIC: Number, Field of Counterparts at Present
and Future Plans

Mrs. Roxas made a presentation of the number of engineering counterparts and shop specialists at the Center. This was contained in the Executive Brief. Of the 13 Counterparts, 8 are Engineer Specialists and 5 are Shop Specialists.

For the supportive laboratories, Mrs. Roxas stressed that in the Computer Division, a team made up of selected Engineer Specialists are handling the computer programs at present, and Physics has one (1) and Audio Visual has two (2).

Prof. Roxas explained that the proposed staffing pattern for CY-1983 was based on the budget allocation of the Philippine Government for IRTC for the year. This funding will provide for additional one (1) Civil Engineer, two (2) Electrical Engineers, two (2) Mechanical Engineers, to complement present number of Counterparts.

Prof. Roxas further clarified that this personnel requirements is for 1983 only, thus another proposal for additional staff can be submitted for CY-1984. The complete plan of 5 to 6 Engineers in each area will be filled-in as soon as the request for permanent position items at IRTC is approved. The problem of looking for suitable counterparts was also brought-out.

TOPIC: Some Incentives Given for Counterparts

Prof. Roxas requested Mr. Suzuki to explain further the context of what they meant by incentive, inasmuch as, government employees should receive only fixed amount of salaries and other compensation.

Mr. Suzuki explained that the instructors and other personnel or counterparts in the Center must receive good salaries so that they won't get attracted by other institutions who are willing to offer them much higher income.

According to Prof. Roxas, the hiring rates of the Center for Specialists are equivalent in salary rank to Assistant Professors, and Engineer Specialists are now enjoying some benefits being received by permanent employees in the University.

Prof. Roxas stressed that new counterparts of IRTC at the moment are all under probation and they can be removed anytime if they are found not competent to handle their jobs. She also requested the experts to evaluate the performance of their respective counterparts, and if they are found not capable and have poor attitude, then they may be replaced.

Prof. Roxas made mention of the honoraria which she said was requested for the staff on detail to IRTC.

Mr. Suzuki made a very good remark about the efficiency of IRTC's present operation. He praised Prof. Roxas for her efforts to make the center effective, considering other JICA projects that are also starting to fully operate.

TOPIC: Stability and Bondage of Counterparts

As part of the commitment of the Philippine Counterparts who will be sent to attend training program abroad, Prof. Roxas discussed that before the nomination is made, the Philippine Counterpart is informed that the government requires the grantee to render services to the office for a period of three (3) years for every year training attendance or any fraction thereof. Before the counterpart can leave the country, contract papers must be signed with the National Economic and Development Authority (NEDA) in agreement to the conditions. If, in any case, the grantee would not be able to comply with the conditions, after he has attended the program, he will, then, be required to pay the expenses incurred.

Prof. Naito expressed his fear for the possible breach of contract when the grantee denies his employment with the office upon applying with NEDA. President Vergara assured Prof. Naito that there is no possibility of denying commitment since the nomination may only be approved with the support of the certificate of employment.

TOPIC: Counterparts Training Program in IRTC

Prof. Roxas discussed briefly the trainers' upgrading programs in Electrical Engineering, Mechanical Engineering, and Civil Engineering. She said that the staff were able to come up with such programs based on the need identification analysis made by the experts and their counterparts.

Prof. Naito suggested that the training program for counterparts should be all the year.

Mr. Maeda likewise suggested that after November, more counterparts should take part in the training program.

Dr. Vergara said that Prof. Roxas should place the training plans under study and these training plans, if possible, be extended even up to five (5) years.

Dr. Naito said that Japanese Experts must train counterparts from June to September and Counterparts must give training program to students from November to March. This process, he said, will enable the Center to have continuous flow of activities. Dr. Naito emphatically added that in the trainers' course, the topics covered could be grouped to several sub-topics which could run for several months. Likewise, he said that experts have their own fields of specialization and they can only cover specific courses.

Prof. Roxas pointed out that the counterparts want a capsulized training program so that the students whom they will handle could have the chance to have an advanced training in the Center. She added that if the training is expanded, especially the lecture type of training, then there might be a great possibility that some of the equipment cannot be used anymore.

Dr. Naito, however, assured Prof. Roxas that within the span of three (3) or four (4) years, all machines at the Center will be fully utilized and covered with the assistance of the short term experts, who are due to arrive in the near future.

Prof. Maeda told the panel that if the counterparts have the knowledge on the equipment operation in their shops then they are free to make use of the said equipment.

Dr. Naito discussed in detail the planned curriculum for November that will be used by counterparts. And Mr. Iwai presented his plans as follows:

1983 - November to March

- | | |
|------------------------------|-------------------|
| 1. Surveying (a,b) | |
| 2. Soil Engineering I (a,b) | a. Basic Course |
| 3. Soil Engineering II (a,b) | b. Advance Course |

1984 -- June to November
First and Second Semester

1. Surveying (a,b,c)
2. Soil Engineering I (a,b,c)
3. Soil Engineering II (a,b,c)
4. Material (Concrete) (a,b,c)
 - a. Basic Course
 - b. Advanced Course
 - c. Trainors Course

Dr. Naito said that the short-term expert will handle the material (concrete) area. He added that the trainors' course, could be opened or not depending on situation.

In Electrical Engineering, Dr. Yamaguchi has this plan of curriculum:

1983 - Electrical Engineering
November to March

1. Power Engineering I
2. Power Engineering II
3. A part of Fundamental Electronics
(Basic Electric Circuit Experiment)
4. The rest of Fundamental Electronics

Item 4 will start from June to November in 1984.

Dr. Naito said that item 4 will be handled by short term experts.

For Mechanical Engineering, Prof. Maeda has listed his plans as follows:

1983 - Mechanical Engineering
November to March

1. Metrology (a,b,c)
2. Mechanical Processing (Machine Tool)
3. Heat Engines (Steam Turbines, Internal Combustion Engines)
 - a. Basic Course
 - b. Advanced Course
 - c. Trainors' Course

In principle, Trainors Courses in Electrical and Mechanical Engineering could also be opened or not depending on situation.

1984 - June to November

1. Metrology
2. Mechanical Processing (Machine Tool)
3. Gear Cutting
4. Heat Engines (Steam Turbines, Internal Combustion Engines)
 - a. Basic Course
 - b. Advanced Course
 - c. Trainors' Course

Dr. Naito said that short-term experts will handle gear-cutting machine course.

Prof. Roxas made mention that the staff in Mechanical Engineering has not yet touched the equipment at the Mechanical Precision and Mechanical Measuring room until the short term experts arrive.

TOPIC: Counterparts' training in Japan

Prof. Roxas informed the group that one (1) Civil Engineer Specialist, and one (1) Mechanical Engineer Specialist are being nominated to attend the Counterpart Training Program in Japan. Her hopes for continuous training grant in the next 5 years was also expressed.

In support to the statement, Dr. Naito announced that three persons, one (1) in Civil Engineering, Marte Gutierrez and one (1) Mechanical Engineering, Ramon Amoncio will be sent to Japan for a period of one (1) year, and one official, for three weeks. It was, however, clarified by Dr. Naito that the Civil Engineering Specialist may leave only when the Civil Engineering Courses for students (which covers the period from November 1983 to March 1984), are over. Likewise, Mechanical Engineering Specialist shall have to leave by March, 1984. The travel schedule which was tentatively set earlier, must be put off for March 1984, because of his suggestion for these specialists to wait for the coming of the Short Term Experts who are expected to arrive from the middle of September 1983 to early March 1984. He expects all

counterparts to attend the training that will be conducted by these short term experts to be able to carry any course before anybody can leave for the training abroad.

Moreover, Mr. Goto is asking for the early submission of official requests for TUP-IRTC trainees to be sent abroad to help them solve the difficulty on budget allocation. The list maybe submitted to NEDA from this year to March 1984.

VI. Training Program for IRTC Students

TOPIC: Time Schedule of Training

Prof. Roxas admitted that as of this date, no time schedule of training was prepared. She, however, informed the group of the TUP students' basic schedule which is presently divided into 2 sessions: Day and Evening students. This idea made Dr. Naito to recommend evening schedule for the training, but further suggests that a timetable has to be prepared first before any undertakings. He also asked the Japanese experts to discuss the duration of each program with the Philippine Counterparts.

TOPIC: Recruitment and Application of Students

This item has already been discussed in the minutes of 1982.

2:00 P.M. Presentation of Progress of Work by Individual Counterparts

Progress reports for the period January to July 1983 were presented by respective counterparts. Present projects, problems on machine operation, needs and replacement. The Japanese experts were provided a copy of their reports individually by technology and shop area.

The counterparts were able to present some model curriculum for student training by November.

Day 3: August 3, Wednesday

PRESENT:

JAPANESE TEAM

Dr. Yoshiyuki Naito
Dr. Kiyoshi Nishimoto
Prof. Kunio Kawakatsu
Mr. Tokio Hirai
Mr. Tetsuya Suzuki

TUP TEAM

Dr. Jose R. Vergara
Dr. Galicano J. Datu
Prof. Perla S. Roxas
Prof. Fernando Alfonso
Prof. Jorge Dagum

IRTC-JICA EXPERTS

Prof. Yasuho Maeda
Engr. Shigeo Iwai
Dr. Shinji Yamaguchi
Engr. Hideki Tanimoto

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10:30 A.M.

Before the formal opening of the session, Dr. Naito raised some questions and made some clarifications regarding other points that were not discussed during the past meetings. To cite some of these were, the possibility of making Engr. Coloma a staff and counterpart in the IRTC, on which Mrs. Roxas said, the Engineering Department cannot afford to lose Engr. Coloma since he is most needed in the said department, and the decision to take him in at the Center would depend upon Engr. Coloma's personal priorities; availability of rooms for short term experts, which Mrs. Roxas emphatically said that in the building plan of the Center, there is no provisions for offices, thus short term experts could make use of the Design Product and Development Shop as their temporary working area together with the present coordinator Mr. Tanimoto.

As for the counterparts' training in Japan, which Dr. Naito also clarified, these Counterparts, he said, will not be granted diploma or degree for their training.

Dr. Naito likewise, asked Mrs. Roxas to explain the reason why there is a big difference between the budget proposal for 1983 and the actual Budget Appropriation.

Mrs. Roxas answered by saying that in the Philippines budgeting is Zero Based and once an institution gets its budget, any excess unused money returns to the General Fund. Every start of Fiscal Year a new budget is used.

She emphasized the fact that in making a budget proposal, the institution must project a bigger amount and must think and expect a definite slash when actual appropriation is granted.

10:45 A.M.

V. Training Equipment

TOPIC: New Equipment in the Japanese Fiscal Year 1983 Specifications and Procedure of Requests

Mrs. Roxas made mention of her proposal on how to utilize the ¥80,000,000 additional budget given to the Center for equipment procurement. She listed the breakdown of distribution on how to use the amount.

Civil Engineering	30%
Electrical Engineering	25%
Mechanical Engineering	30%
Computer	10%
Audio Visual	5%

She stated the rationale on how the breakdown was arrived at, and said that she allotted the Civil Engineering 30% because it still lacks several important equipment, 25% for Electrical Engineering because it lacks some of the necessary measuring tools, 30% for Mechanical Engineering since it is composed of 5 sub-areas and 15% for Computer and Audio Visual, since these sections are very necessary to support the other supportive sections which are Printing and Physics, she said that it is up to the mission to analyze the proposals of the said sections.

Mrs. Roxas, likewise said, that the lists of additional equipment were done based on the needs of the different technology areas to operate efficiently, and the said lists were prepared by counterparts in close coordination with their experts.

Mr. Suzuki suggested that in making budget allocations for equipment, the cost of equipment transfer from Port to Port be taken into utmost consideration.

He suggested that other requests for equipment for Computer and the Audio Visual Sections may be incorporated as common equipment for the three technologies. Furthermore, he said that they promise to send some of the needed equipment by 1983 (Japanese Fiscal Year), however, those equipment that might be difficult to find will be sent here by 1984 (Japanese Fiscal Year).

He also made mention that enough space allocation should be provided at the Center to house the coming new sets of equipment or else port storage and warehouse fees are expensive.

Mrs. Roxas agreed and that this is within the framework of the Record of Discussions.

Drafts of Listings of New Equipment Requests were presented in Civil, Mechanical and Electrical Engineering. Dr. Naito suggested for a review of the list by the experts and counterparts as it look like the costs are under valued.

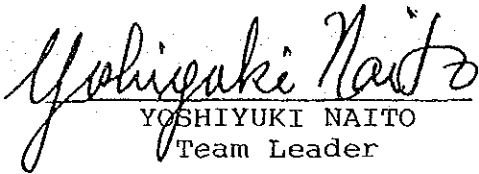
Mr. Suzuki reminded the Filipino group to submit the complete list (A-4 forms) to reach JICA, Tokyo until end of August.

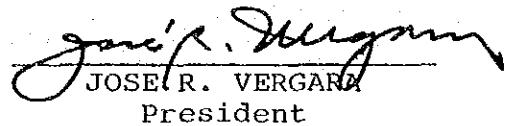
Meeting adjourned at 12:00 noon.

August 5, 1983

The Japanese Consultation Team thru Dr. Yoshiyuki Naito, team leader and the TUP team, thru Dr. Jose R. Vergara sat for a final discussion of the proceedings and outcome of the meetings.

After some clarifications from both sides, the document on the summary of proceedings was presented for final approval.


YOSHIYUKI NAITO
Team Leader


JOSE R. VERGARA
President

August 5, 1983

The Japanese Consultation Team thru Dr. Yoshiyuki Naito, team leader and the TUP team, thru Dr. Jose R. Vergara sat for a final discussion of the proceedings and outcome of the meetings.

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(SGD.) YOSHIYUKI NAITO
Team Leader

(SGD.) JOSE R. VERGARA
President

JICA