2　質問票・同回答（第１回～第４回）

第１回質問票

Questionnaire

We are planning to dispatch the Supplementary Study Team for "The Project on the Improvement of Electrical Appliances Testing and Standardization in the Republic of the Philippines" in next February and March, and we are now preparing for it. In the Study Team, it is included to specify the machinery and equipment to be used in the Project and to conduct needs survey of the particular fields including electronic appliances testing.

Accordingly, we would like to ask BPS to send the following information by December 22, 1997. Thank you very much for your cooperation in advance.

1.Present layout drawings of the testing equipment and facilities

As new cooperation fields of electrical testing may be set up, it will be necessary for BPS Testing Center(BPSTC) to relocate the existing testing equipment and facilities and install the new testing equipment for the new fields of testing at the existing area and/or additional rental area. Please provide us the present layout drawings of the Workshop Building I and III including additional rental area including the following information.

a)Testing equipment layout.
Those that are difficult to relocate (eg:those fixed to the floor) are to be remarked in the drawings.

b)Special conditions at the additional rental area to be considered during formulating a plan

c)Outlet of the power supply mains (source, voltage, capability)

d)Outlet and other information for water supply and sewage

e)Air conditions for additional rental area

f)Gas supply

2.List of the testing equipment and facilities

Please provide us the list of the existing testing equipment and facilities including name of testing equipment, name of

manufacturer, model name, quantity, installed place in the testing laboratory and additional remarks or comments, if any. Those that are under repairing or unable to use are also to be clearly stated.

(Note : By the last two consecutive survey team of JICA dispatched to BPS, some information related to the above was furnished to us, but we are intending to get more detail information of them to specify the machinery and equipment to be used in the Project.)

3.Statistics for testing needs

Please provide us the following statistics and information for our consideration of testing needs.

a)Local and foreign manufacturers of electrical and electronic products categorized by wiring device, cable and cords, lighting appliances, heating appliances, motor operated appliances and electronic appliances

b)Manufacturers listed under BPS product certification scheme (manufacturer's name and certified product)

c)Statistics of production on electrical and electronic products

d)Statistics of import on electrical and electronic products

e)Statistics of Import Commodities Clearance (ICC) on electrical and electronic products

f)Statistics of export on electrical and electronic products

4.Electrical Engineers of BPSTC

Please provide us the information about career and experience of the electrical engineers of BPSTC who will be in charge of testing on heating appliance, motor operation appliance or electronic appliance.

5.BPSTC annual budget

Please provide us the detail information about BPSTC annual budget including the items concerning the management of testing laboratory such as consumable expenditure and others.

(Note : In connection with the above, if there is no change with the data furnished to the Preliminary Study Team of JICA in June

and July this year, it does not need to be furnished this time.)

6.BPSTC testing activity

Please provide us the information about BPSTC testing activities like actual number of testing by category, average testing period, and so on.

7.Testing laboratory accreditation scheme

Please provide us the information about the testing laboratory accreditation scheme conducted by BPS. Please also give us the information about the accredited laboratories (name, activities and the volume of testing annually), and state how BPS will utilize those accredited laboratories in line with the activities of BPSTC.

8.Others

If there is any other major information related to the survey, please furnish to us.

第１回回答

ANSWERS TO THE JICA QUESTIONNAIRE

1. Present Layout drawings of the test equipment and facilities.

   See attached BPSTC Building Layout.

   a) Generally, all the supplied equipment are free standing, meaning they are not fixed on the floor. However, some equipment needs new wiring and power supply panel boards when transferred.
   b) Special conditions at the additional rental area
   Wallings shall be preformed steel panels with built-in insulation. Appropriate airconditioning and water/gas supply shall be provided as necessary.
   c) Main power supply
   At present, BPSTC is equipped with a 500 KVA transformer system, of which 30~40% is being utilized. Voltage output is 230 Volts, although a 250 voltage line was provided to supply power to wiring devices loading units. Additional panel boards shall be installed in the new rental area. A standby 100KVA Power Generator is likewise installed in the building.
   d) Water supply and sewage. Layout shows the water piping system of BPSTC. A 4,000 liter water tank was installed to support the MIRDC water supply system.
   e) Air conditions for additional rental area. Additional package/cassette-type airconditioners shall be installed in the additional rental area.
   f) Gas supply - No existing gas supply system yet. But with BPSTC's acquisition of some chemical analytical equipment (AAS, FTIR, GC), BPSTC will install the system. Tentative piping system is shown in the layout.

2. List of testing equipment and facilities.

   Please see attached equipment list.

3. Statistics for testing needs:

   See attached documents.

4. Electrical Engineers of BPSTC

At present, BPSTC has 5 electrical and 2 electronics engineers assigned at the present sections in lamps, wires and cables and wiring devices testing. BPSTC will reassign some of these experienced engineers to supervise/conduct tests on electrical and electronic appliances. Please see attached engineers profile and tentative organizational setup for appliances testing section.

5. BPSTC Annual Budget

   See attached BPSTC Budget Plan.

6. BPSTC Testing Activity

Please see attached BPSTC Testing Statistics

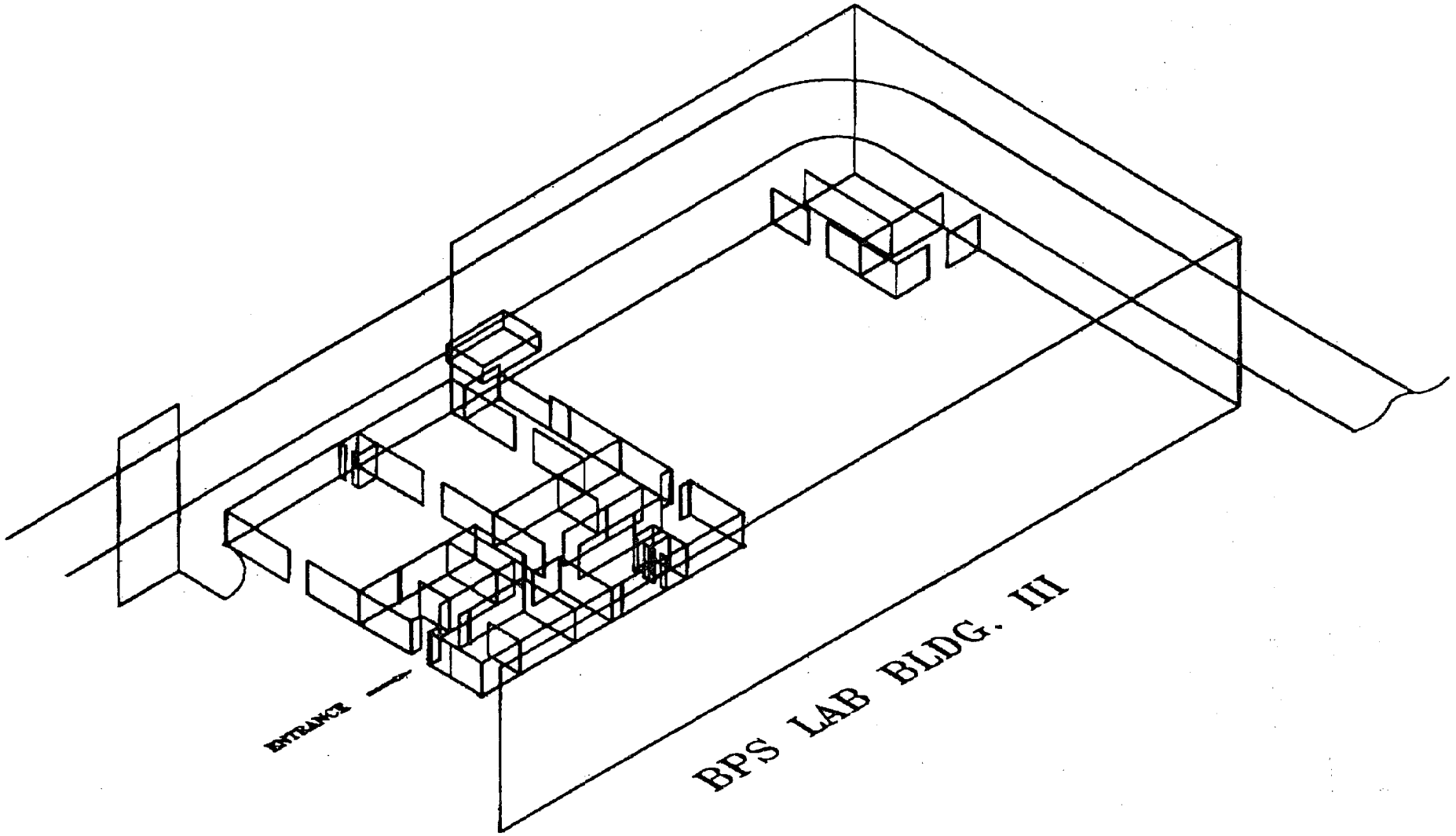
7. Testing Laboratory Accreditation Scheme:

At present, BPS runs the Laboratory Accreditation Scheme (BPSLAS) to accredit laboratories operating under the ISOGuide 25. In principle all testing laboratories can apply voluntarily. Yet, few laboratories can be tapped by BPSTC to subcontract some the tests t2hat it needs to facilitate the PS Mark Certification Scheme.

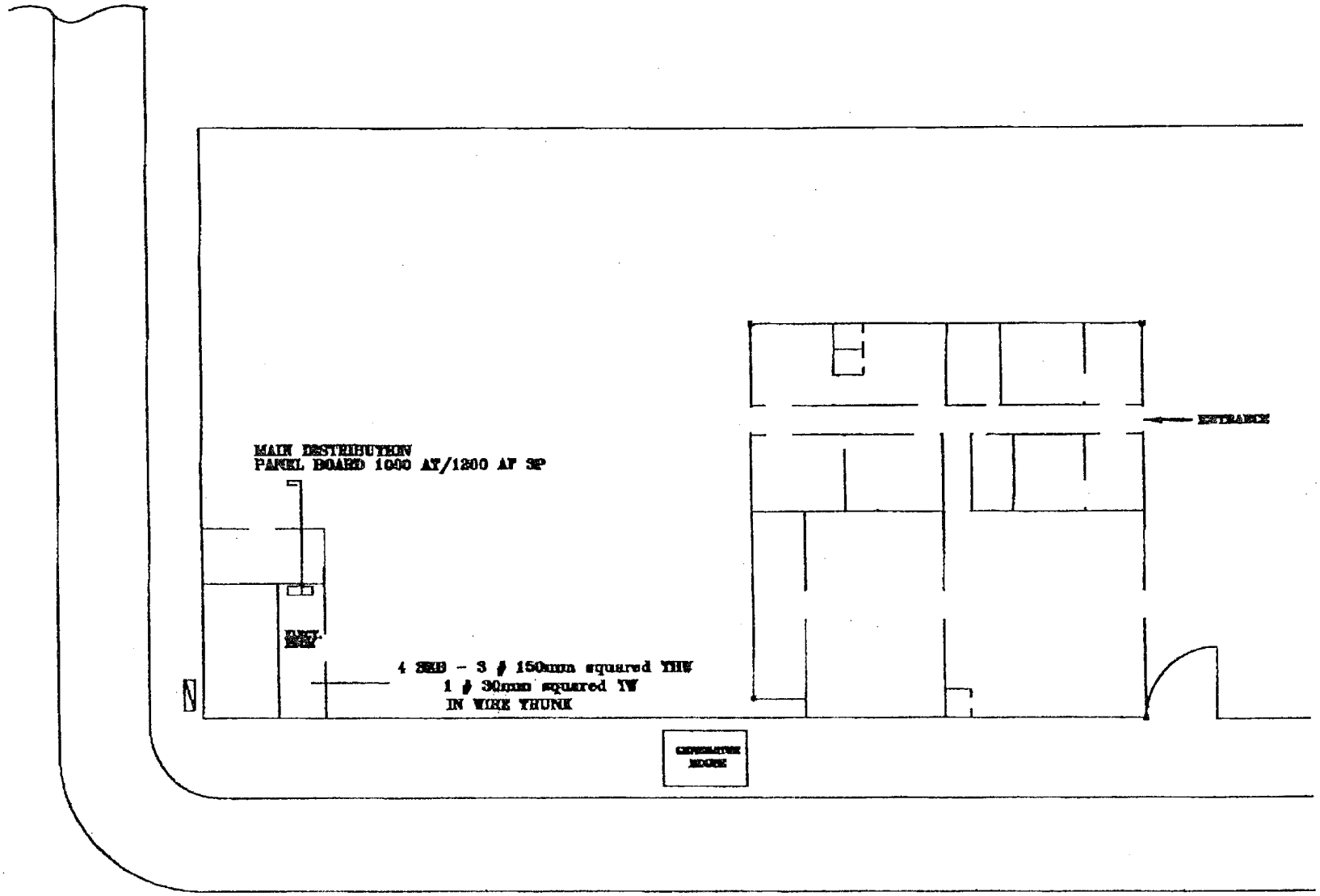
8. Others

New development: The DTI management has just recently transferred the test and inspection equipment (for furniture and textile products) of the Philippine Trade Training Center (PTTC) to the BPSTC. List of equipment is also attached. BPSTC will incorporate these equipment to the existing inventory of BPSTC. With the profile of the transferred equipment, the mechanical and chemical testing section will be improved to a certain degree. Inspection of the equipment shows that they are still in working condition inspite of the old age. These equipment only need calibration and general maintenance in order to operate properly again.

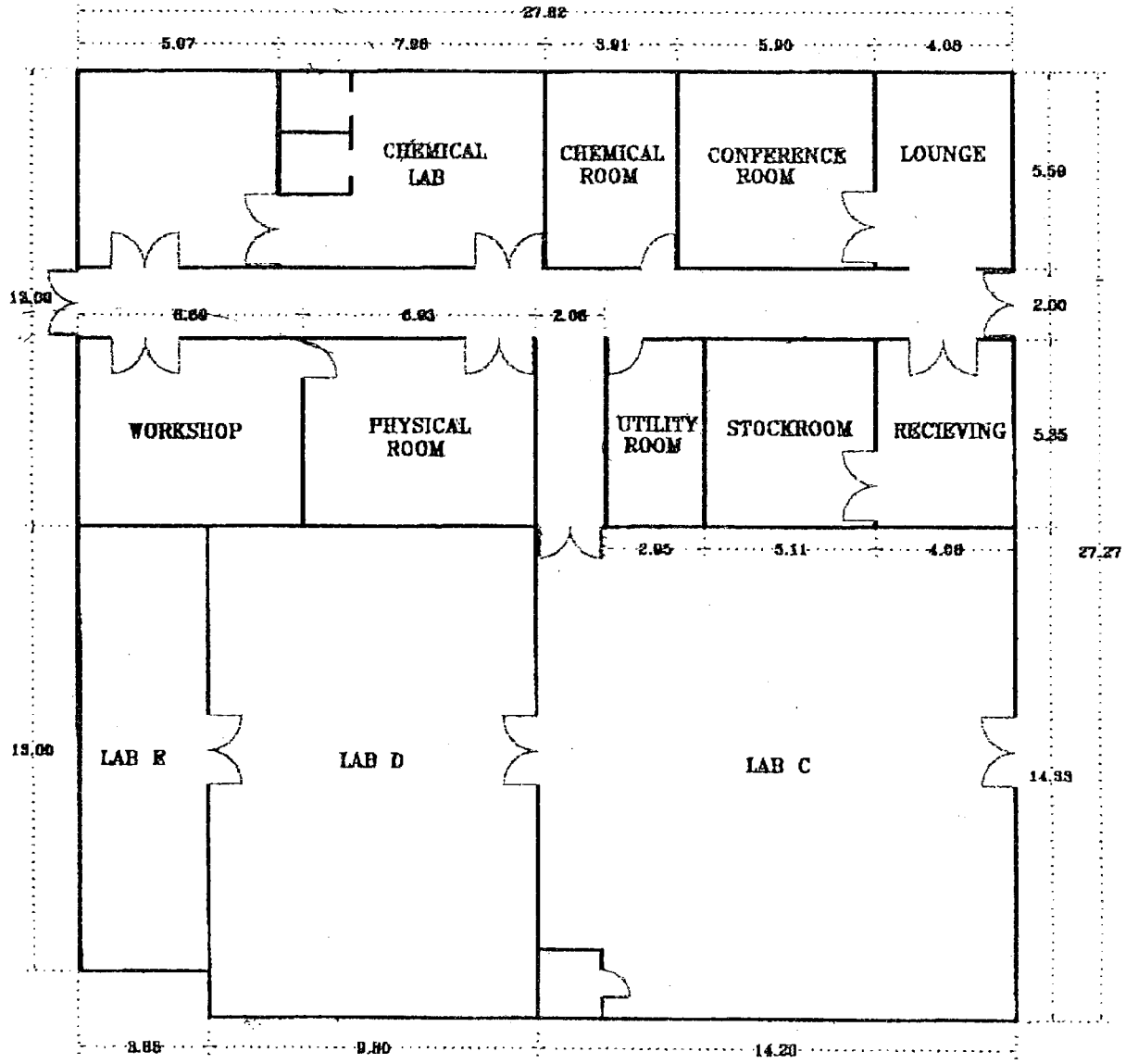
Item 1



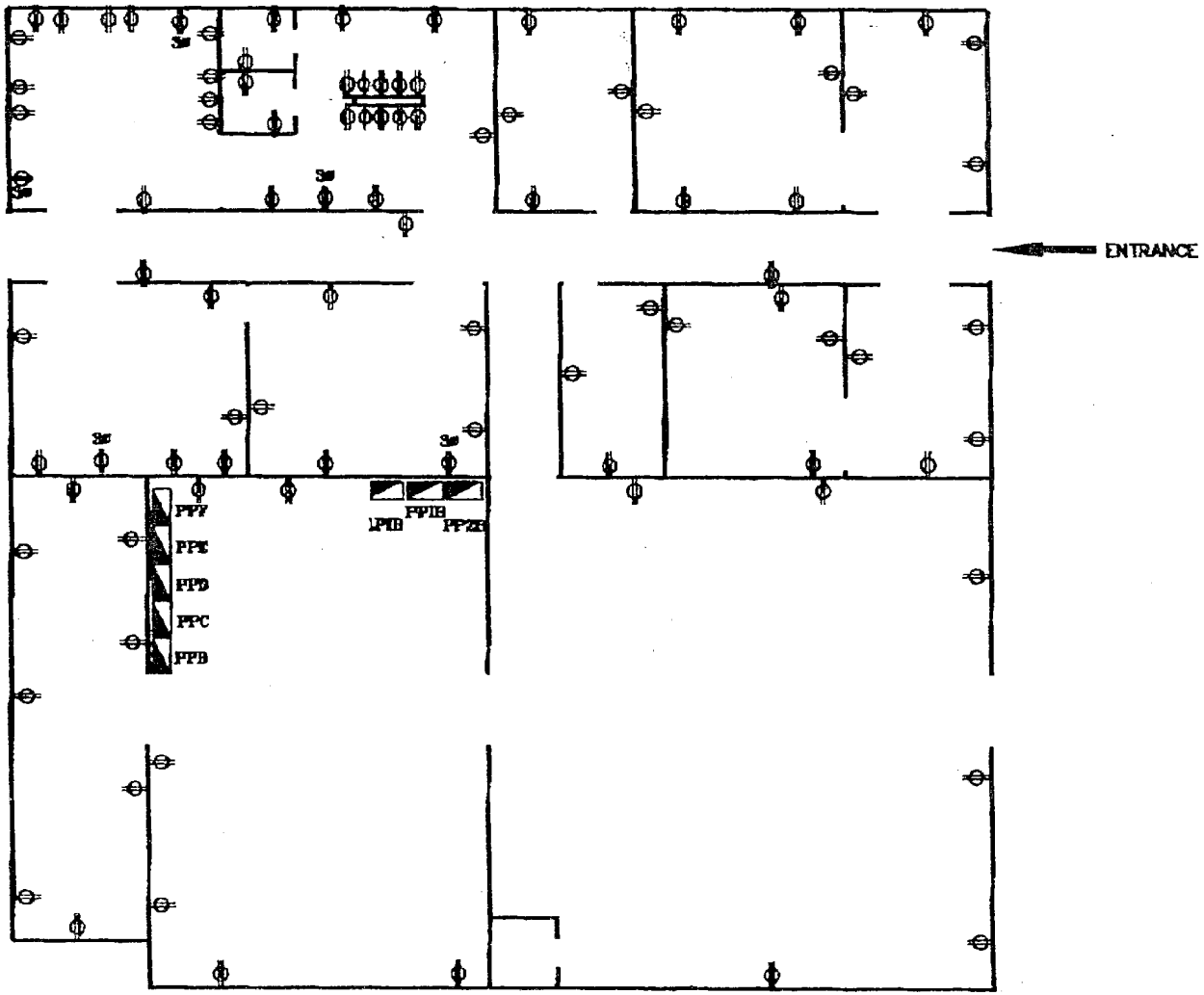
ENTRANCE
BPS LAB BLDG. III



OUTSIDE LINE FACILITIES

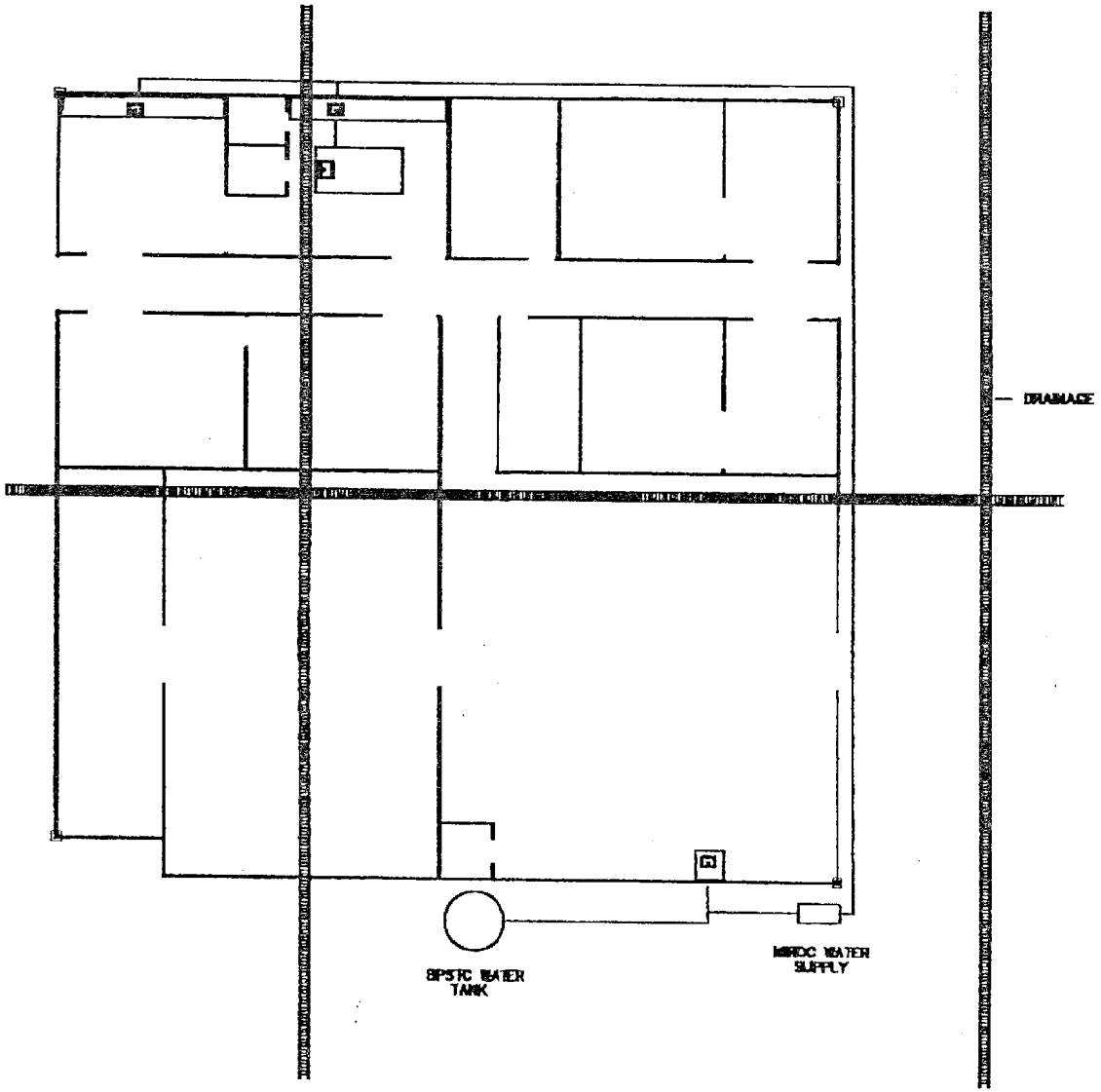


BPSTC BLDG. III

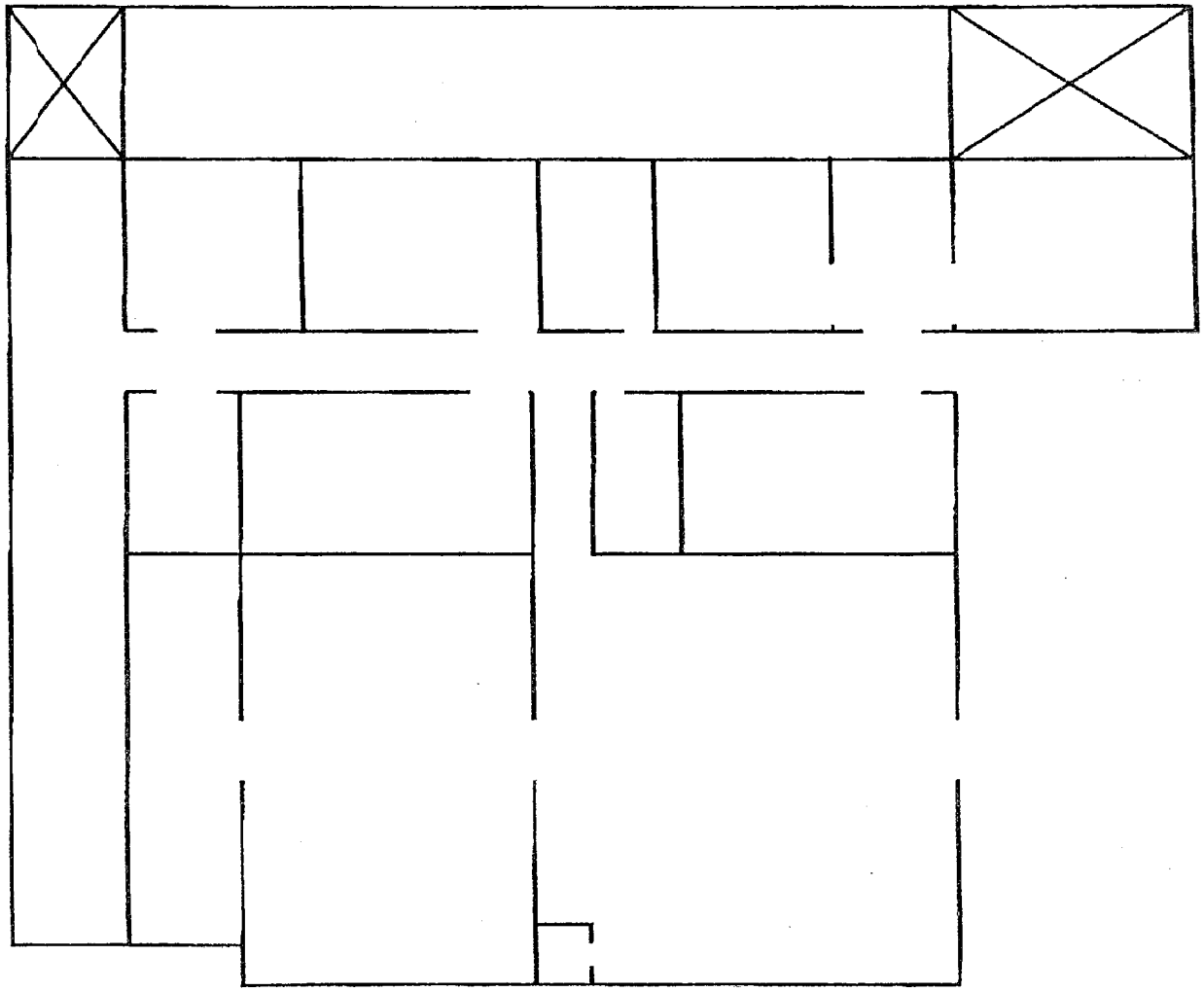


CONVENIENCE OUTLET

EQUIPMENT LAYOUT



PLUMBING WORK



Proposed Layout for HPSTC Expansion

TEST ROOM C		
	Description	Size (m)
1.	Rack	1.23 x 0.62
2.	Air-con	1.07 x 0.51
3.	Water Bath	1.43 x 0.92
4.	Water Bath	1.43 x 0.92
5.	Office Table	1.5 x 0.76
6.	Computer's Table	1.24 x 0.52
7.	Heat Distortion Tester (HDT)	0.66 x 0.47
8.	HDT's Computer	0.7 x 0.65
9.	Volt Endurance Tester	1 x 0.55
10.	Office Table	1.5 x 0.76
11.	Working Table	6.82 x 1.2
12.	Rack	1.23 x 0.62
13.	Rack	1.23 x 0.62
14.	Table	2.5 x 1.0
15.	Rack	1.23 x 0.62
16.	Rack	1.19 x 0.45
17.	Calibration Test Device	1.2 x 0.83
18.	Temperature Test Device	1.5 x 0.83
19.	Performance Test Device	1.5 x 1.0
20.	Tungsten Lamp Test Device	1.2 x 0.9
21.	Tungsten Lamp Test Cabinet	0.9 x 0.7
22.	Endurance Test Device	1.4 x 0.8
23.	Test Chamber	0.95 x 0.8
24.	Load Resister	0.95 x 0.8
25.	Temperature Test Device	1.5 x 0.83
26.	Endurance Test Device	0.9 x 0.8
27.	Load Unit	1.4 x 0.9
28.	Load Unit	1.4 x 0.9
29.	Load Unit	1.4 x 0.9
30.	Load Unit	1.4 x 0.9
31.	Air-con	1.07 x 0.51
32.	Load Unit	1.4 x 0.9
33.	Load Unit	1.4 x 0.9
34.	Compressor	0.65 x 0.55
35.	Endurance Test Device (C.B.)	0.80 x 0.70

TEST ROOM D		
	Description	Size (m)
1.	Spark Test	0.3 x 0.95
2.	Freezer	0.55 x 0.65
3.	Temperature Chamber	0.72 x 1.18
4.	Air-con	0.51 x 1.07
5.	Gear aging	0.70 x 1.22
6.	Temperature Humidity Chamber	1.02 x 1.18
7.	Oven	0.50 x 0.65
8.	Dust Chamber	0.60 x 0.80
9.	Working Table	1.00 x 2.50
10.	Temperature Chamber	1.21 x 1.65
11.	Rack	0.63 x 1.22
12.	Normal Operation Test Apparatus	0.52 x 0.90
13.	Bier Dais Aging (BDA)	0.41 x 0.80
14.	BDA's Accessories	0.30 x 0.40
15.	Rack	0.45 x 1.19
16.	Rack	0.63 x 1.22
17.	Endurance Tester for Iron	0.73 x 1.43
18.	Tumbling Barrel	0.70 x 0.70
19.	Constant Temperature	0.65 x 0.74
20.	Flexibility Tester	0.90 x 0.52
21.	Test Rack	1.02 x 1.57
22.	Endurance Test Unit for FCL	0.90 x 1.80
23.	Endurance Test for Starter	0.90 x 1.85
24.	Test Rack	0.62 x 1.23
25.	Table with oven	0.75 x 1.80
26.	Test Rack	0.69 x 1.54
27.	Endurance Test Unit for FL	0.80 x 2.00
28.	Endurance Test Unit for IL	0.80 x 2.00
29.	Ballast Endurance Tester	1.00 x 2.00
30.	Incubator	62.5 x 0.78
31.	Parallel Plate Plastometer	115 x 1.83
32.	Air-con	0.51 x 1.07
33.	AC Regulator	0.45 x 0.60
34.	Test Rack	0.60 x 1.26

TEST ROOM E		
	Description	**Size (m)**
1.	Testing Circuit Unit for FL	0.57 x 0.94
2.	Starting Unit for FL	1.05 x 2.15
3.	Photometric Measurement	0.85 x 1.64
4.	Testing Circuit for Starter	0.67 x 0.71
5.	Testing Circuit for Incandescent Lamp	0.57 x 0.94
6.	Office Table	0.76 x 0.94
7.	Lamp Cap Temperature Rise Test	0.80 x 0.93
8.	Rack	0.62 x 1.25
9.	Table	0.52 x 1.24
10.	Table with Oscilloscope	0.55 x 0.93
11.	Office Table	0.62 x 1.25
12.	Ballast Electric Characteristic	1.48 x 1.80
13.	Working Table	1.00 x 2.50
14.	Auto Voltage	0.50 x 0.50
15.	Ballast Temperature Rise Test	0.90 x 1.50
16.	Rack	0.62 x 1.25

PHYSICAL LAB		
	Description	**Size (m)**
1.	Office Table	0.76 x 1.40
2.	Computer's Table	0.51 x 1.25
3.	Universal Testing Machine (UTM)	1.0 s 2.18
4.	Office Table	0.61 x 1.22
5.	Working Table	1.0 x 2.50

CHEMICAL LAB		
	Description	**Size (m)**
1.	Built-in Cabinet	0.73W
2.	Rotary Evaporator	1.76 x 1.8
3.	Rack	0.45 x 1.19
4.	Rack	1.2 x 2.4
5.	Metal Analyzer	0.77 x 0.89
6.	Steel Cabinet	0.4 x 1.76
7.	Instrument's Cabinet	0.4 x 1.76
8.	Rack	0.62 x 1.23
9.	Fume Hood	0.73 x 1.24
10.	Working Table	1.2 x 2.4
11.	Built-in Cabinet	0.73W
12.	Working Table with sink	1.57 x 3.06
13.	Glassware Cabinet	0.65 x 1.2
14.	Built-in Cabinet with sink	0.71W
15.	Built-in Cabinet with sink	0.73W
16.	Chromatograph	0.71 x 1.2

WORKSHOP		
	Description	Size (m)
1.	Lathe Machine	0.55 x 0.64
2.	Welding Set	1.4 x 1.8
3.	Compound Abrasion Tester	0.61 x 0.66
4.	UTM Accessories	0.65 x 1.32
5.	UTM	0.92 x 1.68
6.	Band Saw	0.55 x 0.61
7.	Working	0.9 x 1.8
8.	Table with Bench Grinder	0.8 x 1.5
9.	Bench Type Drilling	0.81 x 0.86
10.	Plastic Specimen Cutter	0.7 x 0.8
11.	UTM	0.92 x 1.68
12.	Rack	0.62 x 1.23
13.	Bending Tester	0.7 x 0.75
14.	working Table	0.64 x 2.46

Item 2

EQPMNG

ID	No.	Description	Destination	Qty	Code	Seal	Acs	Ictn	Phase	Maint	Seal	1Yr	EXTRA
0													
1													
2		Standard Resistor 1 ohm	N1023K108 (1961)	1 set	EE	011	N	E					
3	I. 1	F/L Testing Circuit Unit Toshiba		1 set	EE	001		E	1	M	C	3M;1Y	5,210,000
4	I. 2	F/L Starting Test Unit Toshiba		1 set	EE	002		D	1	M	C	3M;1Y	8,720,000
5	I. 3	F/L Photometric Test Unit TOSHIBA	Dark box	1 set	EE	003		E	1	M	C	3M;1Y	6,450,000
6		Thermometer (Glass)		1 pc	EE	003	A	E	1		C	1Y	
7		Chroma Meter MINOLTA	CL-100	1 pc	EE	003	B	E	1		C	1Y	
8		Lux Meter MINOLTA	T-1	1 pc	EE	003	C	E	1		C	1Y	
9		Data Processor MINOLTA	DP-100	1 pc	EE	003	D	E	1		C	1Y	
10		Standard Lamp (FL) 10W	TW-FL10D-661 to 63	3 pcs	EE	003	E	E	1		R	3Y	
11		Standard Lamp (FL) 15W	TW-FL15D-666 to 68	3 pcs	EE	003	F	E	1		R	3Y	
12		Standard Lamp (FL) 20W	TW-FL20D-671 to 73	3 pcs	EE	003	G	E	1		R	3Y	
13		Standard Lamp (FL) 40W	TW-FL40D-686 to 88	3 pcs	EE	003	H	E	1		R	3Y	
14		Standard Lamp (FL) 22W	TW-FCL22D/21-676 to 78	3 pcs	EE	003	I	E	1		R	3Y	
15		Standard Lamp (FL) 32W	TW-FCL32D/30-681 to 83	3 pcs	EE	003	J	E	1		R	3Y	
16		Standard Lamp (FL) 40W	TW-FCL40D-691 to 93	3 pcs	EE	003	K	E	1		R	3Y	
17	I. 4	Endurance Test Unit TOSHIBA		1 set	EE	004		E	1	M	C	3M;1Y	10,540,000
18		Endurance Test Unit for FCL TOSHIBA	FCL	1 set	EE	004	FCL	D	1	M	C	3M;1Y	
19	II. 1	I/B Testing Circuit Unit TOSHIBA		1 set	EE	005		E	1	M	C	3M;1Y	3,335,000
20		Reference Lamp		6 pcs	EE	005	A	E	1		R	3Y	
21	II. 2	I/B Lamp Cap Temp. Rise Test Unit		1 set	EE	006		E	1	M	C	3M	3,455,000
22		Adaptor	E27	1 pc	EE	006	A	E	1		C	1Y	
23		Adaptor	E40	1 pc	EE	006	B	E	1		C	1Y	
24		Adaptor	E26	1set	EE	006	C	E	2		C	1Y	
25	II. 3	Endurance Test Unit TOSHIBA		1 set	EE	007		D	1	M		3M	4,170,000
26	III. 1	Starter F/L Testing Circuit Unit		1 set	EE	008		E	1	M	C	3M;1Y	6,910,000

27	III. 2	Starter F/L Endurance Test Unit		1 set	EE	009		D	1	M		3M	9,000,000
28	IV. 1	Ballast Temp. Rise Test Unit TEC		1 set	EE	010		E	1	M		6M	5,130,000
29		Volt Meter	2013-18 YEW 73AE5748	1 pc	EE	010	A	E	1		C	1Y	
30		Ampere Meter	2013-16 YEW 73AE5690	1 pc	EE	010	B	E	1		C	1Y	
31		Temperature	uR-1800 YEW	1 set	EE	010	C	E	1		C	1Y	
32		Digital Thermometer	TX-570 YEW	1 set	EE	010	D	E	1		C	1Y	
33	IV. 2	Ballast Electric Characteristics TEC		1 set	EE	011		E	1	M	C	3M;1Y	13,390,000
34		Auto-Voltage	YAC-2K	1 set	EE	011	A	E	1				
35		Digital AC Power Meter	2533E YEW	1 set	EE	011	B	E	1		C	1Y	
36		LCZ Meter	2321 NF	1 set	EE	011	C	E	1		C	1Y	
37		Equivalent Resistor		1 set	EE	011	D	E	1		C	1Y	
38		Standard Resistor, 1 ohm	53FS4098	1 set	EE	011	E	E	1		C	1Y	
39		Oscilloscope	SS-7603 ONO	1 set	EE	011	F	E	1		C	1Y	
40		Personal FFT Analyzer	CF4210 ONO	1 set	EE	011	G	E	1		C	1Y	
41		Printer	RQ-110	1 set	EE	011	H	E	1				
42		Amplifier	FG-121B	1 set	EE	011	I	E	1				
43		Digital Volt	7551 YEW	1 set	EE	011	J	E	1		C	1Y	
44		Inpedance		1 pc	EE	011	K	E	1		C	1Y	
45		Standard Resistor, 10 ohm	53FS5060	2 pcs	EE	011	L	E	1		C	1Y	
46	IV. 3	Ballast Endurance Test Unit TEC		1set	EE	012		D	1	M		3M	6,420,000
47		Incubator	PHV-120 Tabai	1 set	EE	012	A	D	1	M		3M	
48	V. 1	Temperature / Humidity Chamber	PR-3ST Tabai	1 set	GE	001		D	1	M	C	3M;1Y	3,957,000
49	V. 2	Temperature Chamber	PH-300 Tabai	1 set	GE	002		D	1	M	C	3M;1Y	1,537,000
50	V. 3	Temperature Chamber	PH-100 Tabai	1 set	GE	003		D	1	M	C	3M;1Y	834,000
51	VI. 1	Auto Voltage Regulator	SACE-2KH	1 set	EV	001		B	1				150,000
52	VI. 2	Ammeter	2013-01 YEW SN 73AE3	1 pc	EM	001		B	1		C	1Y	@35,200
53		Ammeter	2013-02 YEW SN 74AE0	1 pc	EM	002		B	1		C	1Y	281,600

54		Ammeter	2013-03 YEW SN 73AE5	1 pc	EM	003		B	1		C	1Y	
55		Ammeter	2013-04 YEW SN 73AE2	1 pc	EM	004		B	1		C	1Y	
56		Ammeter	2013-05 YEW SN 73AE5	1 pc	EM	005		B	1		C	1Y	
57		Ammeter	2013-06 YEW SN 74AE0	1 pc	EM	006		B	1		C	1Y	
58		Ammeter	2013-07 YEW SN 74AE0	1 pc	EM	007		B	1		C	1Y	
59		Ammeter	2013-08 YEW SN 74AE0	1 pc	EM	008		A	1		C	1Y	
60	VI. 3	Voltmeter	2013-16 YEW SN 74AE0	1 pc	EM	009		B	1		C	1Y	@35,200
61		Voltmeter	2013-17 YEW SN 74AE0	1 pc	EM	010		B	1		C	1Y	105,600
62		Voltmeter	2013-18 YEW SN 74AE0	1 pc	EM	011		A	1		C	1Y	
63	VI. 4	Wattmeter	2041-01 YEW SN 74AN0	1 pc	EM	012		B	1		C	1Y	@102,900
64		Wattmeter	2041-02 YEW SN 74AN0	1 pc	EM	013		B	1		C	1Y	308,700
65		Wattmeter	2041-18 YEW SN 74AN0	1 pc	EM	014		B	1		C	1Y	
66	VI. 5	Thermal Recorder	uR-1800 YEW	1 set	EI	001		A	1		C	1Y	705,700
67		Voltage Regulator	SS-260-10	1 set	EV	002		A	1				34,000
68		Wheatstone Bridge	2755-97 YEW	1 set	EI	002		A	1		C	1Y	296,000
69		Digital Mullitester	7533-01 YEW	1 set	EI	003		A	1		C	1Y	22,500
70		Clampmeter 94AD3646	2343-04 YEW	1 set	EI	004		C	1		C	1Y	55,000
71	VII.	Vernier Caliper Set MITUTOYO	500-151 SN 0006655	1 set	GI	001		B	1		C	1Y	16,500
72	VII.	Outside Micrometer Set MITUTOYO	293-949	1 set	GI	002		A	1		C	1Y	102,000
73	VII.	Inside Micrometer Set MITUTOYO	345-511	1 set	GI	003		A	1		C	1Y	96,000
74		Inside Micrometer Set MITUTOYO	345-512	1 set	GI	004		A	1		C	1Y	
75	VII.	Steel Long Tape Set YAMAYO	10m	1 set	GI	005		A	1		C	1Y	16,500/2pc
76	VII.	Steel Rule Set YAMAYO	150mm	1 set	GI	007		A	1		C	1Y	4,000
77		Steel Rule Set YAMAYO	600mm	1 set	GI	009		A	1		C	1Y	23,500
78	VII.	Thickness Gauge Set	184-303	1 set	GI	010		A	1		C	1Y	12,000
79	VII.	Toolmakers Microscope MITUTOYO	TF-510F	1 set	GI	011		A	1	M		3M	1,623,000
80	VII.8	Digimatic Indicator Set. MITUTOYO		1 set	GI	012		A	1		C	1Y	

No.	Sect.	ITEM	Description	Q'ty	Code	Seq.	Rec.	Type	Phase	Main	Cal.	Unit	EXTRA
81	VIII.	Computer Set with Printer	IBM PS/2	1 set	OE	001		JICA	1				1,628,000
82		UPS		1 set	OE	001	A	JICA	1				
83		Color Display	9515X02	1 set	OE	002		JICA	1				
84		Laser Printer	LaseJet 4 HP	1 set	OE	003		JICA	1				
85		Transformer for Printer		1 pc	OE	003	A	JICA	1				
86	VIII.	Electric Calculator Casio	fx-360PV	1 set	OE	004		A	1				9,800
87	VIII.	Electric Saw	c-7	1 set	SE	001		WS	1	M		EU	25,300
88	VIII.	Electric Sander	PDA-1000	1 set	SE	002		WS	1	M		EU	17,400
89	VIII.	Bench Type Drilling	MachineB-23	1 set	SE	003		WS	1	M		EU	222,900
90	VIII.	Electric Grinder	GP-10	1 set	SE	004		WS	1	M		EU	50,000
91	VIII.	Jig Saw	CJ-60	1 set	SE	005		WS	1	M		EU	34,000
92	VIII.	Welding Machine	(200N)300A	1 set	SE	006		WS	1	M		EU	130,000
93	VIII.	Laboratory Refrigerator	MPF-311D	1 set	KV	001		K	1				300,000
94	VIII.	Distilling Apparatus	GS-130	1 set	KV	002		C	1	M		3M	480,000
95	VIII.	Portable Drill	BUL-SH3	1 set	SE	007		WS	1	M		EU	26,600
96	VIII.	Air Compressor	OLC-07PB	1 set	SE	008		WS	1	M		3M	270,000
97	VIII.	Water Compressor	LK-41SH	1 set	SE	009		WS	1	M		EU	200,000
98	VIII.	Hand Lifter	HS-100M	1 set	SE	010		WS	1	M		EU	123,500
99	VIII.	Fascimile Canon	FAX-T301	1 set	OE	005		JICA	1				359,000
100	VIII.	Copying Machine Canon	NP-9050	1 set	OE	006		SR	1				1,436,700
101	VIII.	Copy Board NEC	101	1 set	TR	001		LB	1				331,400
102	VIII.	Drill Set		1 set	SE	011		WS	1	M		EU	27,500
103	VIII.	Hygrothermograph		1 set	GI	013		A	1		C	1Y	189,800
104	VIII.	Infrared Thermometer MINOLTA	TR-630	1 set	GI	014		A	1				300,000
105	VIII.	Table Vice	E-200-150J	1 set	SE	012		WS	1				102,500
106	VIII.	Soldering Stations	H-60,H6	1 set	SE	013		A	1				3,500
107	VIII.	Tool Kit	700S	1 set	SE	014		A	1				60,000

108	VIII.	Torque Driver Set TOHNITI	1.5LTDH 01609F	1 set	GI	015		D	1		C	1Y	83,300
109		Torque Driver Set TOHNITI	6LTDH-N 01139F	1 set	GI	016		D	1		C	1Y	
110		Torque Driver Set TOHNITI	26LTDH-N 00200G	1 set	GI	017		D	1		C	1Y	
111	VIII.	Spring Balance OHBA	200N	1 set	GI	018		A	1		C	1Y	30,000
112	VIII.	Tension Gauge Set TECLOCK	PP-705-1000	1 set	GI	019		A	1		C	1Y	30,000
113	VIII.	Insulated Transformer		1 set	EV	003		A	1				49,000
114	IX. 1	Arc Tracking Test Apparatus Hitachi	HAT-500-1	1set	EE	013		B	1	M		3M	4,356,000
115	IX. 2	Ball Pressure Test Apparatus EXEL	T-10.02	1 set	EE	014		B	1	M	C	EU;1Y	120,000
116	IX. 3	Glow Wire Test Apparatus Hitachi	HAT-214	1 set	EE	015		B	1	M	C	EU;1M	5,507,700
117	IX. 4	Hot Mandrel Test Apparatus PTL	T-01.15	1 set	EE	016		B	1	M		6M	3,360,000
118	IX. 5	Needle Flame Test Apparatus PTL	T-21.28	1 set	EE	017		B	1	M		EU	320,000
119	X. 1	Insulation Resistance Meter	3213-23 YEW	1 set	EI	005		A	1		C	1Y	31,000
120	X. 2	Dielectric Strength Tester Kikusui 5050	1.5/5kV	1 set	EI	006		A	1		C	1Y	300,000
121	X. 3	Dielectric Strength Tester Kikusui 5051	2.5/5kV 4020075	1 set	EI	007		D	1		C	1Y	211.000
122	X. 4	Universal Leackage Current Tester 64NJ0	3226-10 YEW	1 set	EI	008		E	1		C	1Y	85,000
123	X. 5	Standard Test Finger Set	P-10.08	1 set	EV	004		D	1	M		6M	150,000
124		Standard Test Finger Set	P-10.09	1 set	EV	005		D	1	M		6M	
125	X. 6	Test Probe	P-10.06	1 pc	EV	006		D	1	M		6M	40,000
126		Test Probe	P-10.11	1 pc	EV	007		D	1	M		6M	26,000
127		Test Probe	P-10.12	1 pc	EV	008		D	1	M		6M	23,000
128		Test Probe	P-10.15	1 pc	EV	009		D	1	M		6M	19,000
129		Test Probe	P-10.02	1 pc	EV	010		D	1	M		6M	23,000
130		Test Probe	P-10.16	1 pc	EV	011		D	1	M		6M	20,000
131		Test Probe	P-10.17	1 pc	EV	012		D	1	M		6M	20,000
132		Test Probe	P-10.13	1 pc	EV	013		D	1	M		6M	20,000
133		Earth Continuity Tester CLAR	A-2-17-u802	1 set	EI	009		A	1		C	1Y	532,000
134		Steel Tape Set YAMAYO	20m	1 set	GI	006		A	1		C	1Y	

ID	SNo	ITEM	Description	QTY	Code	Seq	Res	Acqn	Phase	Maint	Cal	Ver	EXTRA
135		Steel Rule Set YAMAYO	300 mm	1 set	GI	008		A	1		C	1Y	
136	IX. 6	Metal Analyzer Shimadzu	UV-VIS	1 set	KE	001		K	1		C	1Y	835,000
137	I. 1	Dust Chamber		1 set	GE	004		D	2.1	M		6M	
138	II. 8	Impact Hammer PTL	F22.50	1 set	MV	001		A	2.1	M	C	3M;1Y	
139		Impact Hammer PTL	F22.16	1 set	MV	002		A	2.1		C	1Y	
140		Tensile Testing Machine SHIMDZU	AGS-5kND	1 set	ME	001		A		M	C	3M;1Y	
141		Displacement Meter	AGS-5kND	1 set	ME	001	A	A			C	1Y	
142		DTF Extensometer	SC-25	1 set	ME	001	B	A	2.1				
143		Control/Measuring Unit SHIMADZU		1 set	ME	001	C	A	2.1				
144		Air Compressor		1 set	ME	001	D	A	2.1	M		3M	
145	II. 16	Universal Testing Machine SHIMADZU	AG-20kNE	1 set	ME	002		PH	2.1	M	C	3M;1Y	
146		Diplacement Meter		1 set	ME	002	A	PH	2.1		C	1Y	
147		DTF Extensometer	SC-25	1 set	ME	002	B	PH	2.1		C	1Y	
148	II. 17	Vacuum Desiccator		1 pc	KV	003		K	2.1				
149		Vacuum Desiccator		1 pc	KV	004		K	2.1				
150		Vacuum Desiccator		1 pc	KV	005		K	2.1				
151	II. 18	Manual Vacuum Pump		1 pc	KV	006		A	2.1				
152		Manual Vacuum Pump		1 pc	KV	007		B	2.1				
153		Manual Vacuum Pump		1 pc	KV	008		B	2.1				
154	II. 19	Electric Analytical Balance	AEG-220 D400402276	1 set	KV	009		B	2.1		C	1Y	
155		Electric Analytical Balance	AEG-220 D4000402277	1 set	KV	010		A	2.1		C	1Y	
156	III. 4	Steel Tape Measure YAMAYO	10 m	1 set	GI	020		A	2.1		C	1Y	
157		Steel Tape Measure YAMAYO	20 m	1 set	GI	021		A	2.1		C	1Y	
158	III. 4	Steel Rule YAMAYO	15 cm	1 pc	GI	022		A	2.1		C	1Y	
159		Steel Rule YAMAYO	15 cm	1 set	GI	023		A	2.1		C	1Y	
160		Steel Rule YAMAYO	30 cm	1 pc	GI	024		PH	2.1		C	1Y	
161		Steel Rule YAMAYO	30 cm	1 pc	GI	025		A	2.1		C	1Y	

No.	Ref.	Item	Description	Qty.	Code	Seq.	Acc.	Crit.	Phase	Maint.	Loc.	Inv.	Price
162		Steel Rule YAMAYO	60 cm	1 pc	GI	026		A	2.1		C	1Y	
163		Steel Rule YAMAYO	60 cm	1 pc	GI	027		A	2.1		C	1Y	
164		Steel Rule YAMAYO	1 m	1 pc	GI	028		PH	2.1		C	1Y	
165		Steel Rule YAMAYO	1 m	1 pc	GI	029		A	2.1		C	1Y	
166	III. 6	Computer Set with Printer	IBM PS/2	1 set	OE	007		SR	2.1				
167		UPS		1 set	OE	007	A	SR	2.1				
168		Color Display	9515002	1 set	OE	008		SR	2.1				
169		Laser Printer	Laser Jet 4 HP	1 set	OE	009		SR	2.1				
170		Transformer for Printer		1 set	OE	009	A	SR	2.1				
171	III. 6	Calculator Casio	FX-3600PV	1 set	OE	010		SR	2.1				
172		Calculator		1 set	OE	011		SR	2.1				
173		Calculator		1 set	OE	012		SR	2.1				
174		Calculator		1 set	OE	013		SR	2.1				
175		Tool Kit	700S	7 set	SE	015			2.1				
176	IV. 1	TV Monitor JVC	AV-S290M	1 set	TR	002		MR	2.1				
177		Video Deck JVC	HR-D1820UM	1 set	TR	003		MR	2.1				
178	I.1	Accelerated Ageing Tester YASUDA	(JIS K-6301)	1 set	EE	018		C	2.2	M		6M	3,584,000
179	I.2	Profile Projector MITUTOYO PJ250	301-923	1 set	GE	005		A	2.2	M		3M	1,944,000
180	I.3	Dielectric StrengthTester Kikusui	TOS-5101	1 set	EI	010		C	2.2		C	1Y	566,000
181	II.1	Delta Scope	No. 569	1 set	GI	030		A	2.2				78,000
182	II.2	Precision Double Bridge	2752 YEW	1 set	EI	011		CA	2.2		R	1Y	825,000
183	II.3	Electric Galvanometer	2709 YEW	1 set	EI	012		CA	2.2		R	1Y	475,000
184	II.4	Decade Resistance Box	2793-03 YEW 54FT1093	1 set	EV	014		C	2.2		C	1Y	2,316,000/
185		Decade Resistance Box	2793-01 YEW 54FT0300	1 set	EV	018		CA	2.2		C	1Y	1,492,000
186		Measuring Clamp	2754 YEW 54EU0020	1 set	EV	022		B	2.2				520,000
187		Measuring Cord	2753 YEW	1 set	EV	026		A	2.2				448,000
188	II.5	Spark Tester YASUDA	YST-1	1 set	EE	019		C	2.2				1,040,000

ID	NO	ITEM	Description	Qty	Code	Seq	PCS	Type	Phase	Maint	Cal	Life	Price
189	II.6	Volt Endurance Tester YASUDA	YSF-5	1 set	EE	020		C	2.2		C	1Y	2,652,000
190	II.7	Ultra High Insulating Resister	R8340A	1 set	EI	013		C	2.2		C	1Y	664,000
191	II.8	Schoppers Sample Cutter	No.115	1 set	SE	022		PH	2.2	M		3M	473,000
192	II.9	Geer Aging Universal Tester YASUDA	450 x 450 x 500	1 set	EE	021		C	2.2	M		3M	1,453,000
193	II.10	Parallel Plate Plastometer YASUDA	185-3	1set	EE	022		C	2.2	M		3M	2,062,000
194	II.11	Electrical Wire Flammability Tester	No. 252	2 set	EE	023		C	2.2	M		3M	1,571,000
195	II.12	360 Degree Turn Bending Flexibility Tester	No. 224	1 set	EE	024		C	2.2	M		3M	1,542,000
196	II.13	Test Tube Aging Tester YASUDA	No. 122	1 set	EE	025		C	2.2	M		6M	1,208,000
197	III.1	Gauge Block Set MITUTOYO	BM3-10M-0 SN 020015	1 set	GI	031		CA	2.2		R	5Y	57,300
198		Standard Weight Set	JIS 1st class	1 set	GI	032		B	2.2		R	5Y	57,000
199		Standard Thermometer ANDO KEIKI	8 pcs/set	1 set	GI	033		CA	2.2		R	3Y	324,000
200		Standard Thermometer ANDO KEIKI	8 pcs/set	1 set	GI	034		CA	2.2		R	3Y	
201		AC Voltage / Current Standard	2558-01 YEW	1 set	EI	014		CA	2.2		R	1Y	1,296,000
202		DC Calibration Device	2560-44 YEW	1 set	EI	015		B	2.2		R	1Y	1,237,000
203		Loop Type Calibration Device MAEKAWA	20KN SN 5013	1 set	GI	045		B	2.2		R	3Y	668,000
204		Loop Type Calibration Device MAEKAWA	5KN SN 5027	1 set	GI	046		B	2.2		R	3Y	
205	III.2												547,000
206									2.2		C	1Y	449,000
207		Pendulum Impact Test Apparatus PTL	F40.15	1 set	EE	026		A	2.2	M		6M	1,810,00
208		Tumbling Barrel PTL	F06.15	1 set	EE	027		PH	2.2	M		6M	2,272,000
209		Test Weight	1kg, 2kg, 3kg	1 set	GV	001		A	2.2		C	1Y	98,000
210		Graph	AR-6411	1 set	ME	001	D	A	2.2		C	1Y	2,750,000
211		Normal Operation Test Apparatus PTL	F46.25	1 set	EE	028		C	2.2	M		6M	4,223,000
212	III.3	Auto Voltage Regulator	2 KVA	1 set	EV	030		A	2.2				294,000
213		Ammeter	2013-01 YEW SN 74AE2	1 set	EM	015		A	2.2		C	1Y	@70,000
214		Ammeter	2013-02 YEW SN 74AE1	1 set	EM	017		A	2.2		C	1Y	
215		Ammeter	2013-03 YEW SN 74AE2	1 set	EM	019		A	2.2		C	1Y	

216		Ammeter	2013-04 YEW SN 74AE2	1 set	EM	021		A	2.2		C	1Y	
217		Ammeter	2013-05 YEW SN74AE26	1 set	EM	023		A	2.2		C	1Y	
218		Ammeter	2013-06 YEW SN 74AE1	1 set	EM	025		A	2.2		C	1Y	
219		Ammeter	2013-07 YEW SN 74AE2	1 set	EM	027		A	2.2		C	1Y	
220		Ammeter	2013-08 YEW SN 74AE2	1 set	EM	029		A	2.2		C	1Y	
221		Voltmeter	2013-16 YEW SN 74AE2	1 set	EM	031		A	2.2		C	1Y	
222		Voltmeter	2013-17 YEW SN 74AE2	1 set	EM	033		A	2.2		C	1Y	
223		Voltmeter	2013-18 YEW SN 74AE2	1 set	EM	035		A	2.2		C	1Y	
224		Wattmeter Set	2041-01 YEW SN 74AN0	1 set	EM	037		A	2.2		C	1Y	206,000
225		Wattmeter Set	2041-02 YEW SN 74AN0	1 set	EM	039		A	2.2		C	1Y	
226		Wattmeter Set	2041-03 YEW	1 set	EM	041		A	2.2		C	1Y	
227		Thermal Recorder	uR1800 YEW	1 set	EI	017		A	2.2		C	1Y	1,140,000
228		Cart		1 set	EI	017	A	A	2.2				169,000
229		Thermocouple, Type T	0.32mm x 100m	1 set					2.2		C	1Y	70,500
230		Voltage Regulator	SS-260-10	1 set	EV	032		A	2.2				132,000
231		Wheatstone Bridge	2755-97 YEW	1 set	EI	019		E	2.2		C	1Y	295,000
232		Digital Multiester 94AE2467	7533-01 YEW	1 set	EI	020		B	2.2		C	1Y	@22,400
233		Clampmete 94AE3685	2343-04 YEW	1 set	EI	023		C	2.2		C	1Y	@55,200
234	III.4	Vernier Caliper MITUTOYO	500-151 SN 0006657	1 set	GI	035		A	2.2		C	1Y	@17,700
235		Outside Micrometer Set MITUTOYO	293-949	1 set	GI	040		A	2.2		C	1Y	@102,000
236		Inside Micrometer Set MITUTOYO	245-511	1 set	GI	042		A	2.2		C	1Y	@94,000
237		Inside Micrometer Set MITUTOYO	345-512	1 set	GI	043		A	2.2		C	1Y	
238		Thickness Gauge	184-303	1 set	GI	044		A	2.2		C	1Y	11,800
239	III.5	Insulation Resistance Meter	3213-23 YEW	1 set	EI	025		A	2.2		C	1Y	60,000
240		Dielectric Strength Tester 2.5/5kV	TOS-5051 14050327	1 set	EI	027		C	2.2		C	1Y	304,000
241		Dielectric Strength Tester 1.5/5kV	TOS-5050 14060743	1 set	EI	028		C	2.2		C	1Y	210,000
242		Universal Leakage Current Tester	3226-10 YEW	1 set	EI	016		A	2.2		C	1Y	84,000

No.	No.	Description		Description	Qty	Code	Seq	Acc	Ref	Phase	Maint	Cal	Insp	EXTRA
243	III.4	Standard Test Finger		P-10.08,P-10.09	1 set	EV	036		A	2.2				147,000
244	III.6	Pressure Test Apparatus		20mm	1 set	ME	003		A	2.2			1Y	1,824,00
245		Insulated Transformer		YT-220-440	1 set	EV	037		A	2.2				48,000
246	II.4	Decade Resistance Box		2793-03 YEW 54FT1095	1 set	EV	015		C	2.2		C	1Y	
247	II.4	Decade Resistance Box		2793-03 YEW 54FT1092	1 set	EV	016		CA	2.2		C	1Y	
248	II.4	Decade Resistance Box		2793-03 YEW 54FT1097	1 set	EV	017		CA	2.2		C	1Y	
249		Decade Resistance Box		2793-01 YEW 54FT0298	1 set	EV	019		CA	2.2		C	1Y	
250		Decade Resistance Box		2793-01 YEW 54FT0299	1 set	EV	020		CA	2.2		C	1Y	
251		Decade Resistance Box		2793-01 YEW	1 set	EV	021		CA	2.2		C	1Y	
252		Measuring Clamp		2754 YEW	1 set	EV	023		A	2.2				
253		Measuring Clamp		2754 YEW	1 set	EV	024		A	2.2				
254		Measuring Clamp		2754 YEW	1 set	EV	025		A	2.2				
255		Measuring Cord		2753 YEW	1 set	EV	027		A	2.2				
256		Measuring Cord		2753 YEW	1 set	EV	028		A	2.2				
257		Measuring Cord		2753 YEW	1 set	EV	029		A	2.2				
258	III.3	Auto Voltage Regulator		2 KVA	1 set	EV	031		C	2.2				
259		Ammeter		2013-01 YEW SN 74AE2	1 set	EM	016		A	2.2		C	1Y	
260		Ammeter		2013-02 YEW SN 74AE1	1 set	EM	018		A	2.2		C	1Y	
261		Ammeter		2013-03 YEW SN 74AE2	1 set	EM	020		A	2.2		C	1Y	
262		Ammeter		2013-04 YEW SN 74AE2	1 set	EM	022		A	2.2		C	1Y	
263		Ammeter		2013-05 YEW SN 74AE2	1 set	EM	024		A	2.2		C	1Y	
264		Ammeter		2013-06 YEW SN 74AE1	1 set	EM	026		A	2.2		C	1Y	
265		Ammeter		2013-07 YEW SN74AE18	1 set	EM	028		A	2.2		C	1Y	
266		Ammeter		2013-08 YEW SN 74AE2	1 set	EM	030		A	2.2		C	1Y	
267		Voltmeter		2013-16 YEW SN 74AE2	1 set	EM	032		A	2.2		C	1Y	
268		Voltmeter		2013-17 YEW SN 74AE2	1 set	EM	034		A	2.2		C	1Y	
269		Voltmeter		2013-18 YEW SN 74AE5	1 set	EM	036		A	2.2		C	1Y	

ID	No.	Name	Description	Qty	Code	Seq.		Cap.	Phase	Maint.	Cal.	Life	Remarks
270		Wattmeter Set	2041-01 YEW SN 74AN0	1 set	EM	038		A	2.2		C	1Y	
271		Wattmeter Set	2041-02 YEW	1 set	EM	040		A	2.2		C	1Y	
272		Wattmeter Set	2041-03 YEW	1 set	EM	042		A	2.2		C	1Y	
273		Thermal Recorder	uR1800 YEW	1 set	EI	018		B	2.2		C	1Y	
274		Cart		1 set	EI	018	A	B	2.2				
275		Thermocouple, Type T	0.32mm x 100m	1 set					2.2		C	1Y	
276		Voltage Regulator	SS-260-10	1 set	EV	033		A	2.2				
277		Voltage Regulator	SS-260-10	1 set	EV	034		A	2.2				
278		Voltage Regulator	SS-260-10	1 set	EV	035		A	2.2				
279		Digital Multitester	7533-01 YEW	1 set	EI	021		A	2.2		C	1Y	
280		Digital Multitester	7533-01 YEW	1 set	EI	022		A	2.2		C	1Y	
281	III.4	Vernier Caliper MITUTOYO	500-151 SN 0006650	1 set	GI	036		E	2.2		C	1Y	
282	III.4	Vernier Caliper MITUTOYO	500-151 SN 0006659	1 set	GI	037		A	2.2		C	1Y	
283	III.4	Vernier Caliper MITUTOYO	500-151 SN 0014521	1 set	GI	038		A	2.2		C	1Y	
284	III.4	Vernier Caliper MITUTOYO	500-151 SN 0006656	1 set	GI	039		E	2.2		C	1Y	
285		Outside Micrometer Set MITUTOYO	293-949	1 set	GI	041		A	2.2		C	1Y	
286	III.5	Insulation Resistance Meter	3213-23 YEW	1 set	EI	026		B	2.2		C	1Y	
287		Clampmeter (lost)	2343-04 YEW	1 set	EI	024			2.2		C	1Y	
288		Thermohygrograph	ST-100V	1 set	GI	049		A	94s		C	1Y	160,000
289		Thermohygrograph	ST-100V	1 set	GI	050		B	94s		C	1Y	
290		Thermohygrograph SEKONIC	ST-100V 5A1016	1 set	GI	047		E	94s		C	1Y	
291		Thermohygrograph SEKONIC	ST-100V 5A1023	1 set	GI	048		B	94s		C	1Y	
292		Extensometer Potentiometer type	PE-500	1 set	GE	006		A	94s				650,000
293		Electrical Tool Set	KS-06	1 set	SE	023			94s				20,000
294		Electrical Tool Set	KS-06	1 set	SE	024			94s				
295		Electrical Tool Set	KS-06	1 set	SE	025			94s				
296		Electrical Tool Set	KS-06	1 set	SE	026			94s				

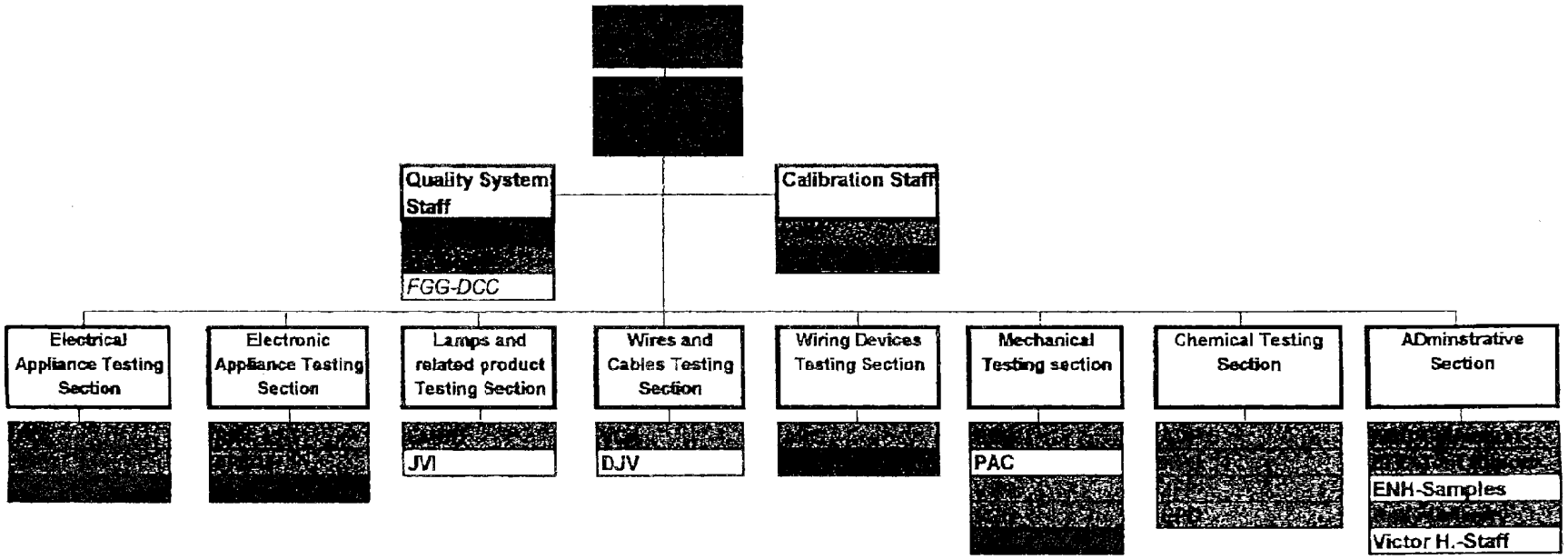
ID	No	ITEM	Description	Qty	Code	Srl	Acs	Letr	Phase	Mant	Cal	Intvl	EXTRA
297		Electrical Tool Set	KS-06	1 set	SE	027			94s				
298		Ammeter	2051-04 YEW	1 set	EM	043			94s				10,000
299		Vice		1 set	SE	028		A	94s				
300		Vice		1 set	SE	029			94s				
301		Load Unit Yamabishi	YRL-15S	1 set	EV	038		C	3				
302		Load Unit Yamabishi	YRL-15S	1 set	EV	039		C	3				
303		Load Unit Yamabishi	YRL-15S	1 set	EV	040		C	3				
304		Load Unit Yamabishi	YRL-15S	1 set	EV	041		C	3				
305		Load Unit Yamabishi	YRL-15S	1 set	EV	042		C	3				
306		Load Unit Yamabishi	YRL-15S	1 set	EV	043		C	3				
307		Performance Test Eqpt. /Current Fuse	Mukai Giken	1 set	EE	029		C	3		C	1Y	
308		Temperature Test Eqpt. /Current Fuse	Mukai Giken	1 set	EE	030		C	3		C	1Y	
309		Endurance Test Device	Mukai Giken	1 set	EE	031		C	3	M		1M	
310		Calibration Test for Circuit Breaker	Mukai Giken	1 set	EE	032		C	3	M	C	3M;1Y	
311		Load Box for Calibration Test	Mukai Giken	1 set	EE	032	A	C	3				
312		Constant Temp. Chamber /Calibration	Mukai Giken	1 set	EE	032	B	C	3	M		3M	
313		Endurance Test Eqpt. for Circuit Breaker	Mukai Giken	1 set	EE	033		C	3	M		3M	
314		Endurance Test Eqpt. for Knife Switch	Mukai Giken	1 set	EE	034		C	3	M		3M	
315		Air Compressor for Endurance Test of CB	Mukai Giken	1 set	EE	033	A	C	3	M		3M	
316		Tungsten-Filament Lamp Test Equip for C	Mukai Giken	1 set	EE	035		C	3	M		6M	
317		Lamp Box for Tungsten-Filament Test Eqpt	Mukai Giken	1 set	EE	035	A	C	3	M		6M	
318		Temp.Test Eqpt. for Circuit Breaker	Mukai Giken	1 set	EE	036		C	3	M	C	3M;1Y	
319		Steel Gauge Block Set MITUTOYO	BM1-F112/2-1 SN 02014	1 set	GI	051		CA	3	M	C	6M;5Y	
320		Steel Gauge Block Set MITUTOYO	BM1-F112/2-1 SN 02015	1 set	GI	052		CA	3	M	C	6M;5Y	
321		Digital AC Power Meter		1 set	EE	011	M	E					
322		Lathe Machine	TL-3200	1 set	ME	004		PH		M		3M	
323		Standard Resistor, 10 ohm	53FS5062	1 set	EE	011	O	E					

EQPMNG

[illegible]	[illegible]	ITEM	Description	Qty	[illegible]	[illegible]	A/S	[illegible]	[illegible]	[illegible]	Cal	[illegible]	[illegible]
324		Digital Thermometer YOKOGAWA	7536	1 set	GI	053		CA			C	3Y	
325		Cold Junction Bottle	Type K	1 set	GI	054		CA			C	3Y	
326		Cold Junction Bottle	Type T	1 set	GI	055		CA			C	3Y	
327		Resistance Temperature Detector	SN 70602370	1 set	GI	056		CA			C	3Y	
328		Resistance Temperature Detector	SN 70602371	1set	GI	057		CA			C	3Y	
329		Vicat Tester	148-HDPC-3	1 set	ME	005							
330		Constant Temperature Device Immersion	BK-53	1 set	GI	058							
331		Transformer	3KVA	1 set	GI	058	A						
332		High Resistance Meter	R8340A	1 set	EI	029							
333		Monitor	NB001-N01	1 set	OE	014							

Item 4

PROPOSED ORGANIZATIONAL STRUCTURE FOR BPSTC IN 1998



	BPSTC ELECTRICAL TEST ENGINEER PROFILE									
No.	*Name*	*Title*	*Age*	*College Degree*	*Licensed*	*Years of Testing Experience*	*Present Assignment*	*Electrical Products handled*	*Training Courses Attended (Related to Electrical Testing)*	*Year attended*
1	**Jerry T. Sayson**	Senior TID Specialist	29	B.S. Civil Engineering	Yes	5	Appliance Testing	Lighting components	JICA Group Training Course on Appliance Testing	1994
2	**Ramil R. Jurado**	TID Specialist	30	B.S. Electrical Engineering	Yes	4	Appliance Testing Wiring Devices	Wiring Devices	JICA Counterpart Training Course (Wiring Devices Testing)	1996
3	**Eusebio Manuel Urbano**	TID Specialist	38	B.S. Mechanical Engieering	Yes	12	Lamps and related products	Lamps and components	JICA Counterpart Training Course (Lamps Testing)	1995
4	**Victorino Abejero**	TID Specialist	29	B.S. Electrical Engineering	Yes	5	Wires and Cables	Wires and Cables	JICA Counterpart Training Course (Wire and cable Testing)	1994
5	**Wilfredo R. Rivera**	TID Analyst	26	B.S. Electrical Engineering	Yes	2	Wires and Cables	Wires and Cables	AOTS Training on Electrical Measurements	1997
6	**Fernando Garrido III**	TID Specialist	26	B.S. Electronics Engineering	No	3	Lamps and related products	Lamps and components	JICA Counterpart Training Course (Lamps Testing)	1996
7	**Ariel R. Garcia**	TID Specialist	26	B.S. Electrical Engineering	No	3	Appliance Testing Wiring Devices	Wiring Devices	JICA Counterpart Training Course (Wiring Devices Testing)	1996
8	**Dax Julius Velmonte**	Engineering Assistant	23	B.S. Electrical Engineering	No	1	Wires and Cables	Wires and Cables	None yet	-
9	**Jay Illescas**	Engineering Assistant	23	B.S. Electronics Engineering	No	1	Wiring Devices	Wiring Devices	None yet	-
	NOTE	**3-4 more staff will be added in 1998.**								

Item 6

BPS TESTING CENTER
ACCOMPLISHMENT REPORT

January to December 1995

LABORATORY	NO. OF PRODUCT TESTED	NO. OF COMPANY SERVED	IMPORTED/LOCAL
Lamps and Related Devices	234	116	72/44
Wiring Devices	541	167	149/48
Wires and Cables	125	53	0/53
Total	**900**	**336**	**221/145**

January to December 1996

LABORATORY	NO. OF PRODUCT TEST	NO. OF COMPANY SERVED	IMPORTED/LOCAL
Lamps and Related Devices	232	130	
Wiring Devices	439	172	
Wires and Cables	197	59	
Total	**868**	**361**	

January to December 1997

LABORATORY	NO. OF PRODUCT TEST	NO. OF COMPANY SERVED	IMPORTED/LOCAL
Lamps and Related Devices	188	112	103/48
Wiring Devices	466	158	235/115
Wires and Cables	179	68	1/110
Total	**833**	**338**	**339/273**

第２回質問票

Questionnaire (No. 2)

This is the additional questionnaire for Supplementary Study for "The Project on the Improvement of Electrical Appliances Testing and Standardization in the Republic of the Philippines" which is furnished to Bureau of Product Standards, following the question and answer between us on last December. It will be highly appreciated if you could answer the followings by January 26, 1998. We apologize the additional and pressing enquire of the Project, but it is due to our internal preparation for the Study Team.

Please also understand that another questionnaire may follow in advance for the Study Team.

1. Organization of Bureau of Product Standards (BPS)
   Please reconfirm that the current organization chart of BPS is as Attachment 1 which is Annex of Minutes of Discussions(M/D) of the Preliminary Study. In this chart, there exists no BPSTC, thus please inform where BPSTC is placed in the said chart.

2. Allocation of counterpart personnel
   A. We would like to confirm that all of the 9 engineers listed in your previous answer will be counterpart personnel in the Project for electrical and electronic testing under IEC 335 and 65. Please also confirm that whether each one of the counterpart personnel (5 in electrical and 2 in electronic engineers are nominated in your answer) is to cover the whole field of technology transfer on electrical and electronic testing or cover a part of the field of technology transfer concerned.
   B. Please also find in Attachment 2, "Tentative Schedule of C/P Allocation," which was attached as an annex of M/D of the Preliminary Study Team. The table shows 55 project staff including 30 testing staff would be allocated. Please explain the current status of the number of the staff shown in the table, and also the relationship between the table and your answer for the previous questionnaire.

3. Standards for electrical appliances
   We received and understood your comments to the list of standards to be applied in the Project implementation. However please reconfirm that 2nd edition of IEC 335-1 (general standard) is applied to the particular standards, that is, IEC 335-2-6, 2-

15, 2-24 and 2-28 following the comment which Mr. Panopio of BPS gave to us when he visited Japan last December.

4. Standards for electronic appliances
   Please inform us how PNS standard is harmonized to IEC 65.

5. Voltage Deviation on Supply Mains
   Please inform us of nominal and actual voltage deviation on supply mains of BPSTC Electrical Testing Laboratory which you stated as 230V in your answer.

6. Calibration
   We would like to confirm that "calibration" which you proposed during Preliminary Study Team means "internal traceability system" in BPSTC.

7. BPS's accredited laboratory in electrical and electronic testing
   Please inform us of the BPS's present accredited laboratory in electrical and electronic testing, if any, including name, date of accreditation, field of testing accredited and location.
   Please refer to Attachment 3 which shows BPS accredited laboratories, and whose source is the Development Study conducted by JICA in 1989.

8. Installation Work
   In line with the discussion in the Preliminary Study, please reconfirm that the Philippine side has to bear necessary expenses for the installation work of the equipment provided by JICA, including the installation of compressor (outside unit) for temperature controlled walk-in type chamber, in case these equipment are provided.

9 Scope of the Project Area (Whether the Project covers other offices of DTI than BPS and BPSTC.)

A. In line with the discussion at the Preliminary Study, the possibility of extension of the Project based on Regional and Provincial Standards Officers of DTI is to be investigated in the coming Supplementary Study, even though the supply of machinery and equipment by JICA are not to be considered. According to the Preliminary Study, Implementation through seminars, consulting service or BPSTC's training program are to be studied.
   Following the above, we would like you to provide details of what the Philippine side expect to be implemented in the extension aspect of the Project to the local area.

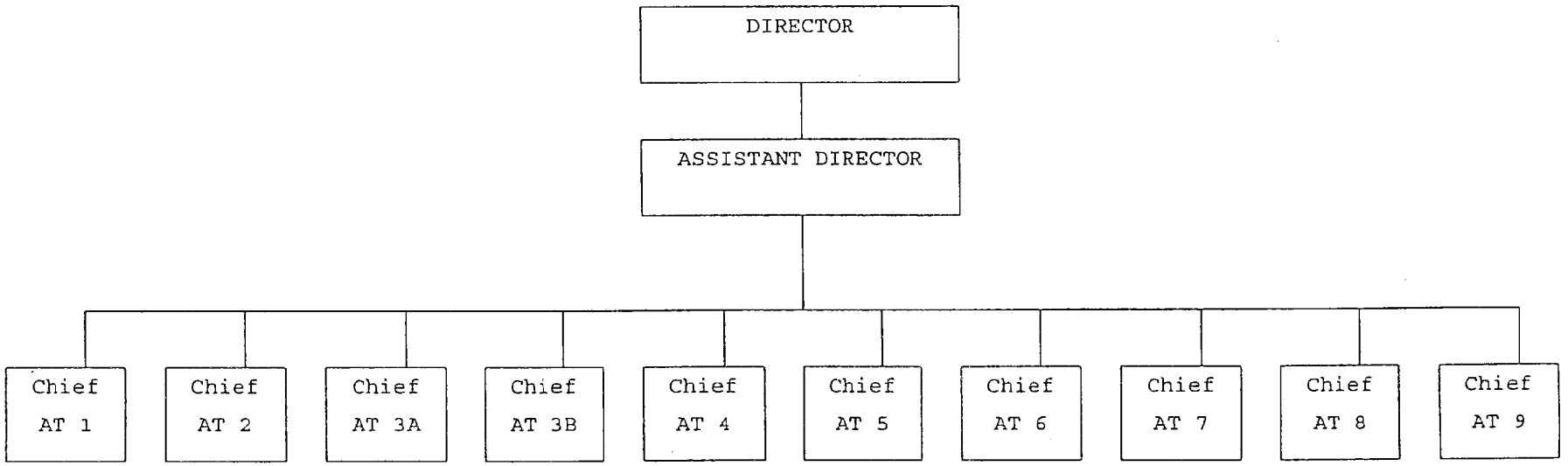
B. We are planning a visit to one of the Regional and Provincial Standards Officers of DTI in the Supplementary Study. In this connection, please inform us of the current activities and the role of the Officers including the

followings;

a. Organization chart of DTI which we can understand where the Regional and Provincial Officers situated in the DTI's organization.
b. Organization chart of Regional and Provincial Officers of DTI.
c. The role of Regional and Provincial Officers of DTI (Please refer to Attachment 4 which is an Annex of M/D of the Preliminary Study. If there is any change in the Attachment, please inform.)
d. The role or particularities of each Officer, by regions and/or provinces
e. Any other information, if any.

C. We further request you to recommend which Regional and Provincial Officers to visit during our Study, in the light of "Project Activities" of seminars, consulting service or BPSTC's training program, as well as "Project Purpose (BPS will be able to provide appropriate testing and technical assistance service for electrical appliances)" which have been agreed upon in the Preliminary Study. As far as we know, Officers in Cebu or Davao would be the candidates to visit.

BPS ORGANIZATION CHART



AT 1	Standards Development, metrication and Personnel	AT 5	Training on ISO 9000 and Related Activities, Scholarship Committee
AT 2	Information Services on Standards, Library, WTO/TBT	AT 6	Production Services, Promotions and Media Related
AT 3A	Product Certification	AT 7	Budget and Other Staff Services
AT 3B	Quality System certification (Maintenance Scheme)	AT 8	Special Projects (APEC, ACCSQ, etc.)
AT 4	Testing and Laboratory Accreditation	AT 9	ISO Matters and BPS Quality System Document Control

ANNEX 10

TENTATIVE SCHEDULE OF C/P ALLOCATION

(Unit: Person)

YEAR / THE PROJECT STAFF	1998	1999	2000	2001	2002
PROJECT DIRECTOR	1	1	1	1	1
PROJECT MANAGER	1	1	1	1	1
ADMINISTRATIVE STAFF	12	12	12	12	12
TESTING STAFF	30	30	30	30	30
STANDARDIZATION STAFF	3	3	3	3	3
CERTIFICATION STAFF	3	3	3	3	3
CLEANING STAFF AND OTHER SERVICES	5	5	5	5	5
TOTAL	55	55	55	55	55

Table 3-3-2 LIST OF BPS-ACCREDITED LABORATORIES (1)

Name of Lab.	Date of Accreditation	Field of testing acredited	Location
Metals Industry Research & Development Center (MIRDC)	1982-07-22	Metal testing	Manila
Philippine Textile Research Institute (PTRI)	1982-09-01	Textile & Textile products	Manila
Philippine Institute of Pure & Applied Chemistry (PIPAC)	1982-11-02	Chemical & chemical products	Quezon
Industrial Test Masters, Inc., (ITM)	1983-06-10	Requalifier of LPG cylinders Note: ITM is not in operation at present.	Quezon
Consolidated Industrial Gases, Inc. (CIGI)	1983-08-12	Nitrogen Oxygen Argon Hydrogen Carbon Dioxide Acetylene	Manila
Filippine Electro Industrial Corporation (FEIC)	1984-02-22	Requalifier of LPG cylinders	Manila
Agricultural Machinery Testing & Evaluation Center (AMTEC)	1984-04-06	Hand tractor Thresher Drier Corn sheller Rice mill Weeder Transplanter Puddler Seeder Reaper Engine pump Sprayer Hammer mill Feed mixer Chaff cutter	Laguna
Sephil Marketing Corp. (ASEPHIL)	1984-06-21	Requalifier of LPG cylinders	Manila
Philippine Cement Industry Authority Cement Central Laboratory-CCL)	1985-06-12	Portland cement (Types: I, II, III, IV & V) Pozzolan and blended cements	Manila

Table 3-3-2 LIST OF BPS-ACCREDITED LABORATORIES (2)

Name of Lab.	Date of Accreditation	Field of testing acredited	Location
Ramcar Incorporated (RAMCAR)	1985-07-17	Automotive lead-acid storage battery	Queson
Ostrea Mineral Lab., Inc. (OSTREA)	1985-07-19	Gold & silver assay Coal analysis Fertilizer and fertilizer products Feeds & feed products Soil analisis	Manila
National Food Authority (NFA)	1985-08-05	Palay Milled rice Corn grain Wheat Corn grits Mongo Grain testing Sorghum Soybeen Rice by-products Corn by-products Peanuts	Queson
Sime Darby Pilipinas, Inc. (SIME DARBY)	1985-08-30	Natural crumb rubber Pneumatic tires	Manila
C. C. Unson Company, Inc. (CC UNSON)	1985-09-19	Automotive lead-acid storage battery	Queson
Philtread Tire & Ruber Corporation (FIRESTONE)	1985-11-25 1986-12-17	Peumatic tires Natural crumb rubber	Manila
Goodyear Tire & Rubber Co. of the Phils., Inc. (GOODYEAR)	1985-11-25	Peumatic tires	Las Pinas
University of San Carlos Testing Center (USCL)	1985-12-04	Chemical testing	Cebu
A. G. & E. Allied Services Company (AGE)	1986-03-18	Requalifier of LPG cylinders	Manila
Superior Gas and Equipment Company (SGE)	1988-03-24	Requalifier of LPG cylinders	Manila
Philips Electrical Lamps, Inc. (PHILIPS)	1988-04-07	Testing of incandescent lamps & fluorescent lamps	Manila

Table 3-3-2 LIST OF BPS-ACCREDITED LABORATORIES (3)

Name of Lab.	Date of Accreditation	Field of testing acredited	Location
Refractories Corporation of the Philippines, Inc. (RCP)	1988-08-05	Testing of basic refractories and monolithics	Manila
SGS Far East Limited Phils. (SGS)	1988-09-09	Vegetable oils & food Water Coal & related fuels Mineral ores and concentrates Chemicals and fertilizers Structual building & Ceramics materials Industrial manufacturing materials	Manila
CME Engineering & Consuting Services (CME)	1988-09-27	Feeds, domestic & industrial waste, water, foods	Manila

Source:BPS

THE ROLE AND DUTY OF REGIONAL/PROVINCIAL STANDARDS OFFICERS OF DTI

DTI Regional/Provincial Standards Officers	BPS
· Conduct factory and product assessments and product sampling	· Provide/update operations manual and other guidelines · Evaluate factory and product assessment reports
· If accredited laboratory is available in the region conduct product test otherwise send samples to BPS	· Conduct laboratory tests · Issue test reports · Issue PS Quality Certification Mark license, or test certificates; or
· Provide, if necessary technical consultancy to manufacturers /conduct reassessment · Collect license and testing fees	· Request further assessment by RDG in view of factories deficiencies that must be corrected · Prepare/coordinate billing
· Conduct market monitoring	
· Enforce standards · Prepare file legal cases against violators of mandatory standards	· Provide legal assistance to RDG · Coordinate DTI legal action on cases

第２回回答

BPS TESTING CENTER

FACSIMILE TRANSMITTAL SHEET

TO: Mr. Hajime Nakazawa	FROM: Gerardo P. Panopio - BPSTC
COMPANY: JICA Manila Office	DATE: 26 January 1998
FAX NUMBER: (0632) 8164222	TOTAL NO. OF PAGES INCLUDING COVER: 4
PHONE NUMBER: 8933081	SENDER'S REFERENCE NUMBER:
RE: Questionnaire	YOUR REFERENCE NUMBER:

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Dear Mr. Nakazawa:

Enclosed herewith are the answers to the second set of questionnaire that you sent us last 20 January 1998.

We have yet to complete the information on Item 3 of the former questionnaire. This is due to the difficulty of finding the correct information/statistical data regarding the electrical and electronics industry. We sill send this to you within this week.

Thank you very much for your continued support.

Very truly yours,

GERARDO P. PANOPIO
BPS Testing Center

MIRDC COMPOUND, GEN. SANTOS AVENUE
BICUTAN, TAGUIG, METRO MANILA

ANSWERS TO THE SECOND QUESTIONNAIRE

1. BPS ORGANIZATION

A. The BPS Testing Center belongs to the BPS AT4. Formerly, this AT has other functions like consumer affairs and laboratory accreditation. Presently, AT4 is only in charge of the product testing functions of BPS.

2. Allocation of Counterpart Personnel

2A The lists that we submitted are the present BPSTC staff for electrical testing. When the project starts, another 4~5 staff will be added. Full time counterparts (number will depend of the range of activities) will be assigned and will cover the whole field of technology transfer. The rest of the staff will join to cover parts of the technology transfer in areas that will concern their present work. Example, wires and cable section staff to study the internal wiring inspection of appliance, wiring devices staff studying appliance components testing, etc.

2B The 30 testing staff is still the target number for the total testing staff complement of the BPS Testing Center. However, this number includes all testing staff for electrical, mechanical and chemical laboratories. Since all of these laboratories will be involved in the appliance testing, they are also considered as counterpart staff. At present, there are 15 testing staff and there is a request for additional 15 testing staff for the project. We are expecting that the Department of Budget and Management (DBM) will give us the notice to hire very soon.

3. Standards for Electrical Appliance

IEC 335 2nd Edition is applied to IEC 335-2-6, 335-2-15, 335-2-24. IEC 335 3rd Edition is applied to IEC 335-2-28.

4. Standards for Electronic Appliances

The BPS Standards Development Division included the finalization of the PNS for electronic appliance with the IEC 65 being proposed for total adoption.

5. Voltage Deviation of Supply Mains

Voltage fluctuation at the BPS Testing Center is +/- 10% (230 volts nominal supply voltage)

6. Calibration

The main intention of the calibration activity is for BPSTC to establish its internal calibration system in view of the present state of metrology system in the Philippines, although it is not discounted that this service can be opened in limited service to PS licensed companies that cannot be accommodated by other calibration agencies.

7. BPS Accredited laboratory in electrical and electronic testing

At the moment, there is already no BPS accredited laboratory in electrical and electronic testing. Philips Lighting was accredited in 1988 for lamps testing but not under the ISO Guide 25. Now, BPS rarely use the Philips laboratory services in testing other companies' products for obvious reasons. The said laboratory has yet to apply for accreditation under the new BPS Laboratory Accreditation Scheme (ISO Guide 25).

The same is true with the Fuels and Appliance Testing Laboratory (FATL) of the Department of Energy. FATL was requested by BPS to test electric fans in 1990 since BPSTC has no facilities at that time. This year, electrical fan testing will be returned to BPSTC. FATL is presently conducting the Energy Efficiency tests for the Room Air conditioners and Refrigerators under the joint DTI-DOE Program on Energy Labeling of appliances.

8. Installation Work

BPS will shoulder the expenses of installing the equipment, i.e. walk-in chamber, in case these are provided. However, it is preferred that local staff of the Philippine Distributor of the equipment will do the installation in order to minimize the cost as much as possible. Likewise, all details of the installation work should be identified and the cost be estimated in advance in order to prepare the necessary budget.

9. Scope of Project Area

A. Extension of the Project to Regional and Provincial Areas

Training program on Appliance Testing

Target Audience:
- QA/QC Engineers of electrical and electronic appliance companies based in Regions 3, 4, 7 and National Capital Region (Metro Manila)
- DTI Regional and Provincial Standards Officers

Training Course Topics
- General Electrical Appliance Testing based on IEC 335 (2~3 times a year)
- General Electronic Appliance Testing based on IEC 65 (2~3 times a year)
- Specific Electrical/Electronic Product Testing* (ex. Flatiron, kitchen appliance, etc)

* First 2 courses shall be prerequisite of the third course.

Seminars on Electrical/Electronic Appliance Standards

Target Audience:
- Appliance Industry personnel
- DTI Regional Provincial Standards Officers
- Consumer Groups
- Academic People

Limited Consulting Service

Target clients:
Appliance Companies encountering problems in meeting the PNS requirements.

Topics: Depends on the actual company situation.

The project can coordinate with the specific DTI Regional and Provincial Offices regarding the implementation of the courses and seminars. Generally, these activities will be conducted at the BPS Testing Center since the facilities might be necessary in some hands-on training. However, some seminars maybe conducted in the local area if enough participants can be gathered by the local DTI office. BPS intends to collect nominal fees under the project.

More details can be discussed during the Supplementary Study Mission's visit.

B. Activities and Organization of DTI Regional and Provincial Officers

See attached DTI Organizational chart. In addition, DTI Standards Officers are regular DTI staff having other functions. Standards work is only one facet of their work. Under the DTI Local Office, they are under the Trade and Industry Regulations Division. Among the works of this division are: market monitoring of mandatory products, PS Mark factory and product assessments, price monitoring, patents and trademarks related work, consumer welfare desks, and others.

In short, these Standards Officers are not working full time in Standards work. Rather, Standards work is just one of their functions in the local area.

C. We recommend to visit 3 regional offices. First is the DTI Region 4 Office. This Office covers the CALBARZON area, where a big bulk of the electrical and electronic appliance factories are located. Second, the DTI-National Capital Region Office which covers the Metro Manila Area. Lastly, DTI -Cebu can be visited and standards officers there can be interviewed. But, we afraid that there is no factory/company for electrical and electronic products in Cebu area. Same is the case of Davao.

Prepared by:

Gerardo Panopio
BPS Testing Center