



**NATIONAL CENTER FOR MENTAL HEALTH
FACILITIES & EQUIPMENT MAINTENANCE SECTION
PREVENTIVE MAINTENANCE/CALIBRATION REQUEST FORM**

FEMS PM
Calibration
Request
Rev. 0
17 Jul 2023

CALIBRATION PARAMETERS <i>(Quantitative inspection)</i>	PREVENTIVE MAINTENANCE <i>(Qualitative inspection)</i>
(1) = ELECTRICAL SAFETY TESTING (2) = VOLUME (3) = FLOW/PRESSURE (4) = SPEED (5) = TEMPERATURE	(1) = PHYSICAL INSPECTION (2) = MECHANICAL INSPECTION (3) = OPERATIONAL/FUNCTIONALITY INSPECTION (4) = ELECTRICAL COMPONENT INSPECTION (5) = CLEANING INTERIOR AND EXTERIOR EXPONENT

QUANTITY	UNIT OF ISSUE	EQUIPMENT DESCRIPTION/ DETAILS	CALIBRATION PARAMETERS (Quantitative) Scope of Works						PREVENTIVE MAINTENANCE (Qualitative) Scope of Works						SERVICE FREQUENCY
			1	2	3	4	5	OTHERS (please specify)	1	2	3	4	5	OTHERS (please specify)	
			3	Unit	ABG Machine	✓					PO2, PCO2	✓	✓	✓	
2	Unit	Anesthesia Machine	✓	✓	✓			Breath Rate, I:E ratio	✓	✓	✓	✓	✓	-	Semi-Annual
4	Unit	Vaporizer						Gas Concentration	✓		✓		✓	-	Semi-Annual
2	Unit	Autoclave	✓		✓		✓	-	✓		✓	✓	✓	-	Annual
204	Unit	BP Apparatus			✓			-	✓	✓	✓		✓	-	Annual
21	Unit	BIPAP Machine	✓		✓		✓	-	✓		✓		✓	-	Annual
14	Unit	Cardiac Monitor	✓		✓			SpO2 %, NIBP, Rate	✓		✓		✓	-	Semi-Annual
6	Unit	Defibrillator	✓					Energy (Joules)	✓		✓		✓	-	Semi-Annual
19	Unit	ECG Machine	✓					Paper speed, Rate (bpm)	✓		✓		✓	-	Semi-Annual
1	Unit	ECT Machine	✓					Rate (bpm)	✓		✓	✓	✓	-	Semi-Annual
3	Unit	Electro Surgical Unit	✓					Watts (Cut-Coag)	✓		✓	✓	✓	-	Semi-Annual
7	Unit	Fetal Doppler						Rate(bpm)	✓		✓	✓	✓	-	Semi-Annual

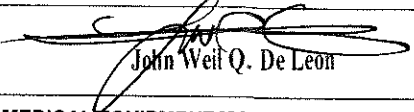
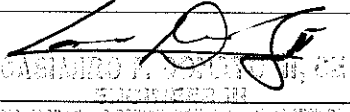
16	Unit	High Fl.	✓	✓			-	✓		✓	-	Semi-Annual	
1	Unit	Infant Weighing					Weight	✓	✓	✓	✓	-	Annual
1	Unit	Infant Incubator	✓			✓	-	✓	✓	✓	✓	-	Semi-Annual
11	Unit	Infusion Pump	✓	✓	✓		Flow Rate	✓	✓	✓	✓	-	Semi-Annual
24	Unit	Mechanical Ventilator	✓	✓	✓		Breath rate(bpm), I:E Ratio, Oxygen percentage	✓	✓	✓	✓	-	Semi-Annual
1	Unit	Mixing Machine	✓			✓	-	✓	✓	✓	✓	-	Annual
42	Unit	Nebulizer			✓		-	✓	✓	✓	✓	-	Annual
1	Unit	OR Lights	✓				Illuminance	✓	✓	✓	✓	-	Semi-Annual
278	Unit	Oxygen Regulator with Flow Meter			✓		-	✓	✓	✓	✓	-	Annual
6	Unit	Phrama Refrigerator	✓			✓	-	✓	✓	✓	✓	-	Annual
1	Unit	Portable Ventilator (Ambulance)	✓	✓	✓		Breath rate(bpm), I:E Ratio, Oxygen percentage	✓	✓	✓	✓	-	Semi-Annual
14	Unit	Suction Machine			✓		-	✓	✓	✓	✓	-	Annual
32	Unit	Thermohygrometer				✓	-	✓		✓	✓	-	Annual
1	Unit	Ultrasound	✓				Axial and Lateral resolution, Distance	✓		✓	✓	-	Annual
2	Unit	UV Light	✓				UV Irradiance	✓		✓	✓	-	Annual
73	Unit	Weighing Scale					Weight	✓	✓	✓	✓	-	Annual

ADDITIONAL DETAILS FOR SCOPE OF WORKS

- Perform preventive maintenance Including qualitative evaluation, adjustment, system performance test, software and hardware updates and replacement of PM parts/kit if necessary. Any consumables to be used during the test will be provided by the service provider such as reagents/solutions/ machine supplies (e.g. Isoflurane/sevoflurane /films/patch/lubricants etc.)
- Perform Calibration/verification which include quantitative evaluation using calibrated test equipment/tools
- Cleaning, lubricating and perform minor hardware or software repair if necessary
- Application of preventive maintenance and calibration stickers which indicates PM and calibration date and due date

TERMS OF REFERENCE

- Service provider must have an existing physical calibration facility / laboratory in the Philippines
- All service shall be done at the National Center for Mental Health facilities
- Service provider should coordinate with Medical Equipment Maintenance Unit before and after the preventive maintenance and other services
- Medical equipment found defective prior to the preventive maintenance and calibration procedure will not be included in the payment
- Service provider must have full-time certified biomedical technicians with NCII certificates of Biomedical Equipment Servicing or engineer with PRC license
- Service provider shall provide the following:
 - Current, valid and National Institute of Standards and Technology (NIST) traceable certificate of calibration or other international standards for the test/calibration equipment to be used.
 - FOUR (4) copies of completed Service Report for minor repair or for the medical equipment may found defective.
 - FOUR (4) copies of completed Preventive Maintenance Report and Calibration Certificate for each equipment which includes qualitative and quantitative data compliant with ISO 9001 documentation.
 - Current and Valid Training Certificates of technicians/engineers who performed the services
 - Proof of ownership for the test/calibration equipment.
 - ISO Certification related to calibration or other technical services

CHECKED AND EVALUATED BY	APPROVED BY
 John Wei Q. De Leon	 GASIMIRO T. BASCARA, JR., CM
MEDICAL EQUIPMENT MAINTENANCE UNIT	CHIEF, FACILITIES AND EQUIPMENT MAINTENANCE SECTION



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(1) = ELECTRICAL SAFETY TESTING (2) = VOLUME (3) = FLOW/PRESSURE (4) = SPEED/TIME (5) = TEMPERATURE	(1) = PHYSICAL INSPECTION (2) = MECHANICAL INSPECTION (3) = OPERATIONAL/FUNCTIONALITY INSPECTION (4) = ELECTRICAL COMPONENT INSPECTION (5) = CLEANING INTERIOR AND EXTERIOR EXPONENT

QUANTITY	UNIT OF ISSUE	EQUIPMENT DESCRIPTION/ DETAILS	CALIBRATION PARAMETERS (Quantitative) Scope of Works						PREVENTIVE MAINTENANCE (Qualitative) Scope of Works						SERVICE FREQUENCY
			1	2	3	4	5	OTHERS (please specify)	1	2	3	4	5	OTHERS (please specify)	
2	pc	Biological Refrigerator (single door)	X				X		X	X	X	X	X		Annual
2	pc	Biological Refrigerator (double door)	X				X		X	X	X	X	X		Annual
1	pc	Analytical Balance, Digital,	X	X					X	X	X	X	X		Annual
2	pc	Autoclave, bench top, stainless steel, 40L capacity	X		X		X	To include time calibration	X	X	X	X	X		Annual
1	pc	Autoclave, floor type, stainless steel, 1000L capacity	X		X		X	To include time calibration	X	X	X	X	X		Annual
1	pc	Blood Typing and Crossmatching System using gel technique (DiaMed) incubator	X			X	X	To include time calibration	X	X	X	X	X		Annual
1	pc	Blood Typing and Crossmatching System using gel technique (DiaMed) centrifuge	X			X		To include time calibration	X	X	X	X	X		Annual
3	pc	Biological Safety Cabinet, Class II, Type A2, Anti UV tempered glass	X		X			<ul style="list-style-type: none"> ▪ Inflow velocity test ▪ Downflow velocity test 	X	X	X	X	X		Annual
								<ul style="list-style-type: none"> ▪ Light intensity test ▪ Airflow smoke pattern test ▪ Particle count/product protection test ▪ Simulated power supply conditions 							
1	pc	Blood Bank Refrigerator, 30 bag capacity, digital temp. control, triple layer, glass window	X				X	Functionality test (alarm function, recommended model-performance testing)	X	X	X	X	X		Annual
2	pc	Centrifuge, Clinical, bench top, 24 placer	X			X		To include time calibration	X	X	X	X	X		Annual
3	pc	Centrifuge, Clinical, bench top, 12 placer	X			X		To include time calibration	X	X	X	X	X		Annual
1	pc	Water bath, Digital temp. setting	X				X		X	X	X	X	X		Annual
1	pc	Drying Oven, Digital Temp Control	X				X		X	X	X	X	X		Annual
1	pc	Incubator, Dry, 15-20L capacity, bench top	X				X		X	X	X	X	X		Annual
1	pc	Incubator, Dry, 50-60L	X				X		X	X	X	X	X		Annual

ADDITIONAL DETAILS OF SCOPE OF WORKS

MINIMUM REQUIREMENTS FOR GENERAL EQUIPMENT/ HIGH-END AND CRITICAL EQUIPMENT



- Perform preventive maintenance including qualitative evaluation, adjustment, system performance test, software and hardware updates and replacement of PM parts/kit's if necessary.
- Perform calibration and verification which include quantitative evaluation using calibrated test equipment.
- Cleaning, lubricating and perform minor hardware or software repair if necessary.
- Application of preventive maintenance and calibration stickers which indicates PM and calibration date and due date.

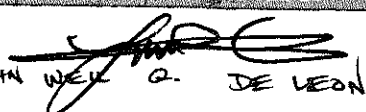
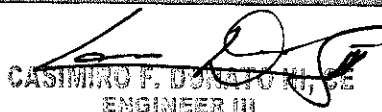
TERMS OF REFERENCE

1. Onsite calibration and preventive maintenance
2. Conduct performance verification of laboratory equipment
3. Conduct calibration with participation of Hospital in-charge technicians/employee on site
4. Provide PMS stickers on all equipment indicating PMS and calibration date
5. Submit report/findings and recommendations on all equipment
6. Submit calibration certificate and service report indicating status of each unit seven (7) days after service
7. Submits certificate of all calibration tools used for the calibration of equipment
8. Any damage on equipment incurred during the conduct of PMS/Calibration shall be paid by the service provider
9. Trained service engineers – training certificates from accredited training centers shall be submitted

NOTE: For the following equipment, service provider shall provide current and valid certificate of distributorship and/or certificate of exclusivity namely:

1. VITEK 2 compact- Automated Microbial Identification and Susceptibility testing System
2. COBAS e-411- Automated Immunology Analyzer
3. Mindray C3100 – Automated Coagulation Analyzer

REQUESTED BY	APPROVED BY
 Jonnelly Ann L. Westnit, RMT, MMHoA Chief Medical Technologist	 Frank Anthony E. Panganiban, MD, MMHoA, DPSP Officer in- Charge
REQUESTING OFFICER	CHIEF OF SECTION

CHECKED AND EVALUATED BY	APPROVED BY
 JOHN WEL G. DE LEON	 CASIMIRO F. DONATO, RME ENGINEER III <small>OIC, FACILITIES & EQUIPMENT MAINTENANCE SECTION</small>
MEDICAL EQUIPMENT MAINTENANCE UNIT	CHIEF, FACILITIES AND EQUIPMENT MAINTENANCE SECTION



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QUANTITY	UNIT OF ISSUE	EQUIPMENT DESCRIPTION/ DETAILS	CALIBRATION PARAMETERS (Quantitative) Scope of Works						PREVENTIVE MAINTENANCE (Qualitative) Scope of Works						SERVICE FREQUENCY
			1	2	3	4	5	OTHERS (please specify)	1	2	3	4	5	OTHERS (please specify)	
1	Unit	Automatic Tissue Processor "Leica" TP1020 SN#4258	✓						✓	✓	✓	✓	✓		Annual
1	Unit	Cryostat "Leica" CM1850 SN# 2068	✓				✓		✓	✓	✓	✓			Annual
1	Unit	Rotary Microtome "Leica" RM 2125RT SN# 11981							✓	✓	✓	✓	✓		Annual
1	Unit	Gross Pathology Station Jr. Thermo Scientific Instruments, SHANDON, SN#9601110502	✓						✓		✓	✓			Annual
1	Unit	Tissue Embedding Station, Sakura Brand, Model tec Cro Module, SN#52360144, SN#52370144	✓				✓		✓		✓	✓			Annual
1	Unit	One (1) Body Cadaver Refrigerator Model ANGELANTONI, SN# 64294	✓				✓		✓	✓	✓	✓			Annual
1	Unit	Two (2) Body Cadaver Refrigerator, Model CEABIS, SN# CLF22146	✓				✓		✓	✓	✓	✓			Annual
2	Unit	Two (2) Body Cadaver Refrigerator, Model MORTECH, SN#7467, SN# 08103	✓				✓		✓	✓	✓	✓			Annual
1	Unit	Microscope, 3 Header with Scientific Digital Camera, BX43 LED, 3 headers and DP 22, SN#6H46220	✓						✓	✓	✓	✓	✓		Annual
3	Unit	Microscope, Olympus, Model CX31, SN# 2L31743, Model CX21 LED, SN#0L83114,	✓						✓	✓	✓	✓	✓		Annual

		Model CX21 1A81	SN#															
2	Unit	Electric Bone Autopsy Saw SN# 1485, SN# 19402-133	✓								✓	✓	✓	✓	✓			Annual
1	Unit	Paraffin Oven, Model 9071A, PN# L-407424	✓				✓				✓		✓	✓	✓			Annual
1	Unit	Water Floatation Bath, "THERMO BD" SN#SB1028C1009	✓				✓				✓		✓	✓	✓			Annual
2	Unit	Thermometer, digital and analogue					✓				✓		✓	✓	✓			Annual
2	Unit	Weighing Scale, Fuji, Top Loading digital, SN# A10202149, SN#S1610085	✓								✓	✓	✓	✓	✓			Annual

ADDITIONAL DETAILS FOR SCOPE OF WORKS

- Perform preventive maintenance including qualitative evaluation, adjustment, system performance test, software and hardware updates and replacement of PM parts/kit if necessary. Any consumables to be used during the test will be provided by the service provider such as reagents/solutions/ machine supplies (e.g. Isoflurane/sevoflurane /films/patch/lubricants etc.)
- Perform Calibration/verification which include quantitative evaluation using calibrated test equipment/tools
- Cleaning, lubricating and perform minor hardware or software repair if necessary
- Application of preventive maintenance and calibration stickers which indicates PM and calibration date and due date

TERMS OF REFERENCE

- All service shall be done at the National Center for Mental Health facilities
- General Scope of Works for Preventive Maintenance and/or Calibration Services should apply to all medical equipment
- Service provider should coordinate with Medical Equipment Maintenance Unit before and after the preventive maintenance and other services
- Medical equipment found defective prior to the preventive maintenance and calibration procedure will not be included in the payment
- Service provider must have full-time certified biomedical technicians with NCII certificates of Biomedical Equipment Servicing or engineer with PRC license
- Service provider shall provide the following:
 - Current, valid and National Institute of Standards and Technology (NIST) traceable certificate of calibration or other international standards for the test/calibration equipment to be used.
 - FOUR (4) copies of completed Service Report for minor repair or for the medical equipment may found defective.
 - FOUR (4) copies of completed Preventive Maintenance Report and Calibration Certificate for each equipment which includes qualitative and quantitative data.
 - Current and Valid Training Certificates of technicians/engineers who performed the services
 - Proof of ownership for the test/calibration equipment.

Note: Current Certificate of Exclusive Distributorships for the following equipment, namely:





- 1.) 3-unit Microscope, Olympus, CX31, CX21 LED
- 2.) 1-unit Microscope, 3 Header, BX43 LED
- 3.) 2-units 2 Body Cadaver Refrigerator (MORTECH)
- 4.) 1 unit 2 Body Cadaver Refrigerator (CEABIS)

Note: For the following equipment (high-end and critical equipment) Additional terms of reference:

Service engineers/technicians must have training certificates from the manufacturer of the equipment or from manufacturer of similar equipment and the company/bidder must have available or access to spare parts for the equipment,

Namely:

- 1.) Cryostat
- 2.) Rotary Microtome
- 3.) Tissue processor

REQUESTED BY	NOTED BY
 JOCELYN B. DELA ROSA, RMT, MPA REQUESTING OFFICER	 ROMIL M. AGUIRRE, MD, FPSP, MMHoA CHIEF OF SECTION
CHECKED AND EVALUATED BY	APPROVED BY
 JOHN WEIL Q. DE LEON MEDICAL EQUIPMENT MAINTENANCE UNIT	 CASIMIRO F. DONATO III, CE CHIEF, FACILITIES AND EQUIPMENT MAINTENANCE SECTION



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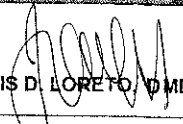

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			1	2	3	4	5	OTHERS (please specify)	1	2	3	4	5	OTHERS (please specify)	
			11	Unit	Dental Chair	✓		✓	✓	✓	-	✓	✓	✓	
7	Unit	Autoclave Machine	✓		✓	✓	✓	-	✓	✓	✓	✓	✓	-	Annual
9	Unit	UV Dry Heat Sterilizer	✓			✓	✓	-	✓	✓	✓	✓	✓	-	Semi-Annual
9	Unit	Ultrasonic Scaler	✓		✓	✓	✓	-	✓	✓	✓	✓	✓	-	Semi-Annual
8	Unit	Light Cure Machine	✓			✓	✓	-	✓	✓	✓	✓	✓	-	Semi-Annual
7	Unit	Extra Oral Suction Machine	✓		✓	✓	✓	-	✓	✓	✓	✓	✓	Replacement of all Filters	Semi-Annual
2	Unit	Intra Oral Suction Machine	✓		✓	✓	✓	-	✓	✓	✓	✓	✓	Replacement of all Filters	Semi-Annual
1	Unit	Dental X-ray	✓				✓	-	✓	✓	✓	✓	✓	-	Semi-Annual
7	Unit	Micromotor Unit	✓			✓	✓	-	✓	✓	✓	✓	✓	-	Semi-Annual
9	Unit	Contra Angle handpiece	✓			✓		-	✓	✓	✓		✓	Replacement of bearing with 6 mos. warranty	Semi-Annual
9	Unit	High Speed handpiece	✓			✓		-	✓	✓	✓		✓	Replacement of bearing with 6 mos. warranty	Semi-Annual
7	Unit	Surgical handpiece	✓			✓		-	✓	✓	✓		✓	Replacement of bearing with 6 mos. warranty	Semi-Annual
7	Unit	BP Apparatus			✓			-	✓	✓	✓		✓	-	Annual

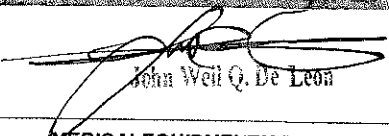
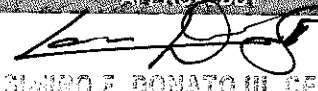
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- Perform Calibration/verification which include quantitative evaluation using calibrated test equipment/tools
- Cleaning, lubricating and perform minor hardware or software repair if necessary
- Application of preventive maintenance and calibration stickers which indicates PM and calibration date and due date
- Filter replacement of Extra/ Intra-oral Suction Machines
- Bearing replacement of Highspeed, Contra-angle, and Surgical Handpieces (with six (6) months warranty).

TERMSOFREFERENCE

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REQUESTEDBY	NOTEDBY
 JERVIS D. LORETO, DMD, MMHoA	 MARIA DEL CARMEN G. BUENDIA, DMD, MMHoA
REQUESTING OFFICER	CHIEF OF SECTION

CHECKED AND EVALUATED BY	APPROVED BY
 John Weil Q. De Leon	 CASIMIRO F. DONATO III, CE ENGINEER III
MEDICAL EQUIPMENT MAINTENANCE UNIT	CHIEF, FACILITIES AND EQUIPMENT MAINTENANCE SECTION