

DATE/TIME: 15 DEC 23

DELIVERED BY: MS. ACHAYON

POL NR: 917 1040000

64-1308

DISPOSITION FORMSecurity Classification (if any)
RESTRICTED

FILE NR: D-SAMB Files-2023-SDF- Approval of Indicative Annual Procurement Plan CY 2024 of OG2, PA

SUBJECT: **Approval of Indicative Annual Procurement Plan CY 2024 of OG2, PA – PhP369,414,999.80**TO: **CG**
THRU: **VC**FROM: **CS**DATE: **DEC 16 2023** CMT NR
MAJ RENTUTAR/JCMB/kca/6014

G4

G10

15 DEC 23

15 DEC 23

SUMMARY:

1. Reference: Subject-to-Letter from Chairperson, PA Bids and Awards Committee 2 dated 14 December 2023 with subject: BAC Resolution of IAPP CY 2024.

2. Reference pertains to the Indicative Annual Procurement Plan (IAPP) Calendar Year (CY) 2024 of the Office of Assistant Chief of Staff for Intelligence, Philippine Army (OG2, PA) chargeable against General Appropriations Act CY 2024 amounting to THREE HUNDRED SIXTY-NINE MILLION FOUR HUNDRED FOURTEEN THOUSAND NINE HUNDRED NINETY-NINE 80/100 PESOS (PhP369,414,999.80).


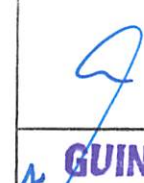
3. PA Bids and Awards Committee 2, under Resolution Number IAPP-019-2024 recommends the following as the modes of procurement:

Modes of Procurement	Amount (PhP)
Direct Contracting	68,197,999.80
Public Bidding	301,217,000.00
Total	369,414,999.80

4. G4 recommends approval of the IAPP for CY 2024 of OG2.

RECOMMENDATION:

5. Approval of and signature on the attached IAPP for CY 2024 of OG2.

TO: CG FM: VC	DATE: 16 DEC 23	CM1
RECOMMEND:		
<input checked="" type="checkbox"/> APPROVAL	 CAMBA  GUINID	
<input type="checkbox"/> DIS-APPROVAL		
<input type="checkbox"/> SIGNATURE		
<input type="checkbox"/> NOTATION		

APPROVED/DISAPPROVED
 GALIDO
17 DEC 2023

DISPOSITION FORMSecurity Classification (if any)
RESTRICTEDFILE NR: D-PMO Files-2023-SDF- Approval of
Indicative Annual Procurement Plan CY 2024 of
OG2, PASUBJECT: **Approval of Indicative Annual
Procurement Plan CY 2024 of OG2, PA –
PhP369,414,999.80**TO: **G4**FROM: **C, PMO**DATE: **7 5 DEC 2023** CMT NR ____
MAJ LOZADA/arh/4434

1. Reference: Subject-to-Letter from Head Secretariat, PA Bids and Awards Committee 2 dated 14 December 2023 with subject: IAPP CY 2024 of OG2, PA.

2. Reference pertains to the Indicative Annual Procurement Plan (IAPP) Calendar Year (CY) 2024 of OG2, PA chargeable against General Appropriations Act CY 2024 amounting to THREE HUNDRED SIXTY-NINE MILLION FOUR HUNDRED FOURTEEN THOUSAND NINE HUNDRED NINETY-NINE AND 80/100 PESOS (**PhP369,414,999.80**)

3. PA Bids and Awards Committee 2, under Resolution Number IAPP-019-2024 recommends as the following mode of procurement:

Mode of Procurement	Amount (PhP)
Direct Contracting	68,197,999.80
Public Bidding	301,217,000.00
Total	369,414,999.80

4. For favorable action.


NADALA



NADALA

4. For favorable action

	Total
Public Bidding	369,414,999.80
Direct Contracting	301,513,000.00
Mode of Procurement	68,197,999.80
Amount (P=00)	

010-5024 recommends as the following mode of procurement:

3. PA Bids and Awards Committee 3, under Resolution Number IABP-PESOS (P=00389,414,999.80)

HUNDRED FOURTEEN THOUSAND NINE HUNDRED NINETY-NINE AND 80/100 AOT CY 2024 amounting to THREE HUNDRED SIXTY-NINE MILLION FOUR Calendar Year (CY) 2024 of OGS PA contracts against General Appropriations

5. Reference herein to the Indicative Annual Procurement Plan (IAPP)

PA.

Awards Committee 3 dated 14 December 2023 with subject IABP CY 2024 of OGS

4. Reference: Subject-to-Letter from Head, Secretariat, PA Bids and

TO: GA

FROM: C PMO

DATE:

CMT NR

OGS OF

Indicative Annual Procurement Plan CY 2024 of

P=00389,414,999.80

Procurement Plan CY 2024 of OGS PA -

FILE NR: D-PMO Files 2023-2024- Approval of

SUBJECT: Approval of Indicative Annual

DISPOSITION FORM

RESTRICTED

Security Classification (if any)



HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE PA BIDS AND AWARDS COMMITTEE 2
Fort Andres Bonifacio, Taguig City



PABAC2

14 DEC 2023

SUBJECT: **BAC Resolution of IAPP FY 2024**

TO: **Commanding General, PA**
Post
Attn: **Chief, PMO, PA**

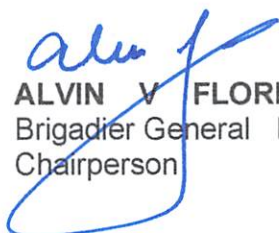
1. Reference: STL from Chief, PMO, PA dated 05 December 2023 with Subject: Issuance of BAC Resolution and Signature on the IAPP CY 2024 of OG2, PA.

2. Above reference, forwarded is the BAC Resolution of Indicative Annual Procurement Plan (IAPP) and Project Procurement Management Plan (PPMP) for FY 2024 of the unit as indicated below:

NR	BAC RESO NR	UNIT/OFFICE	AMOUNT (PhP)
1	PABAC2 IAPP-019-2024	OG2, PA	369,414,999.80

3. The PA Bids and Awards Committee 2 (PABAC2) has reviewed the afore-cited IAPP/PPMP CY 2024 and found it compliant to the provision set by the Revised IRR of RA 9184.

4. PABAC2 recommends approval of the CG, PA on the IAPP CY 2024 of the aforementioned unit.


ALVIN V. FLORES
Brigadier General PA
Chairperson



HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE PA BIDS AND AWARDS COMMITTEE 2
Fort Andres Bonifacio, Taguig City



RESOLUTION NR PABAC2 IAPP-019-2024

Indicative Annual Procurement Plan (IAPP) for CY 2024 of
Assistant Chief of Staff for Intelligence, G2, Philippine Army

WHEREAS, in accordance with Section 7.2 of the Revised IRR of RA 9184, "no government procurement shall be undertaken unless it is in accordance with an approved Annual Procurement Plan";

WHEREAS, the **Assistant Chief of Staff for Intelligence, G2, Philippine Army**, submitted an Indicative Annual Procurement Plan (IAPP) CY 2024 amounting to THREE HUNDRED SIXTY-NINE MILLION FOUR HUNDRED FORTY-THOUSAND NINE HUNDRED NINETY-NINE PESOS AND 80/100 (PhP369,414,999.80) broken down as follow:

Mode of Procurement	Amount (PhP)
Direct Contracting	68,197,999.80
Public Bidding	301,217,000.00
Total>>>	PhP369,414,999.80

WHEREAS, the following are the items to be procured through alternative methods of procurement:

a. The amount of **PhP68,197,999.80** shall be done through "Direct Contracting" pursuant to Section 50 of the Revised IRR of RA 9184;

b. The amount of **PhP301,217,000.00** these shall be utilized through "Competitive Bidding" pursuant to Section 10 of the Revised IRR of RA 9184 provides that "All procurement shall be done through competitive bidding, except as provided in Rule XVI of the IRR". It is a method of procurement which is open to participation by any interested party and which consists of the following processes: pre-procurement conference, advertisement, pre-bid conference, eligibility screening of prospective bidders, receipt and opening of bids, evaluation of bids, post-qualification, and award of contract. For purposes of, and throughout the IRR, the terms "Competitive Bidding" and "Public Bidding" shall have the same meaning and shall be used interchangeably;

WHEREAS, upon careful review & evaluation by the PABAC2 of the aforementioned program/projects, the Committee found the same to be in accordance with the provisions set forth by RA 9184 and its Revised IRR;

WHEREFORE, BE IT RESOLVED AS IT IS HEREBY RESOLVED, by the members of the Philippine Army Bids and Awards Committee 2 to recommend for approval by the Commanding General, Philippine Army the Indicative Annual

ALVIN V. FLORES
BGEN PA
Chairperson

JOSEPH F. MANANGAN
COL MNSA (OS) PA
Vice Chairperson

ALDRIN F. OREJUDOS
COL GSC (FS) PA
Provisional Member

ROMEO E. NORIEGA
LTC GSC (OS) PA
Provisional Member

MEDATRIX S. TUMBALI
LTC JAGS
Regular Member

Procurement Plan (IAPP) CY 2024 of **Assistant Chief of Staff for Intelligence, G2, Philippine Army**, amounting to THREE HUNDRED SIXTY-NINE MILLION FOUR HUNDRED FORTY-THREE THOUSAND NINE HUNDRED NINETY-NINE AND 80/100 PESOS (**PhP369,414,999.80**) chargeable against GAA CY 2024 and shall be undertaken through Direct Contracting and Public Bidding as the Mode of Procurement.

RESOLVED this 14 DEC 2023 by the members of the Philippine Army Bids and Awards Committee 2 at Fort Andres Bonifacio, Taguig City.


ALVIN V FLORES
Brigadier General PA
Chairperson


JOSEPH F MANANGAN
COL MNSA (OS) PA
Vice Chairperson


ALDRIN F OREJUDOS
COL GSC (FS) PA
Provisional Member


ROMEO E NORIEGA
LTC GSC (OS) PA
Provisional Member


MEDIATRIX S TUMBALI
LTC JAGS
Regular Member



HEADQUARTERS
PHILIPPINE ARMY
Fort Andres Bonifacio, Taguig City

PMOX

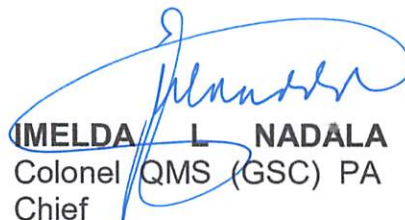
04 December 2023

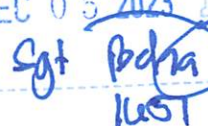
SUBJECT: **Issuance of BAC Resolution and Signature on the IAPP CY 2024 of G2, PA**

TO: **Chairperson, PA Bids and Awards Committee 2**
Post
Attn: Head Secretariat

1. Forwarded for evaluation and further issuance of resolution is the Indicative Annual Procurement Plan (IAPP) Calendar Year (CY) 2024 of OG2, PA chargeable against General Appropriations Act CY 2024 amounting to THREE HUNDRED SIXTY-NINE MILLION FOUR HUNDRED FOURTEEN THOUSAND NINE HUNDRED NINETY-NINE AND 80/100 PESOS (PhP369,414,999.80).

2. For appropriate action.


IMELDA L. NADALA
Colonel QMS (GSC) PA
Chief

RECEIVED
DEC 05 2023
BY:  PAF
IUST

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HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE, G2
Fort Andres Bonifacio, Taguig City

JUSTIFICATION

The 151st Army Intelligence Company (AIC), 15th Army Intelligence Battalion (AIB), Army Intelligence Regiment (AIR), PA is an intelligence gathering unit specializing in tradecraft operation and open-source Intelligence (OSINT) for foreign intelligence entities (FIEs). Its function revolves around intelligence, analysis, and support to operational security. It also provides real-time exploitation, reporting, and rapid dissemination support of theater and/or national-level collected imagery.

Thus, AIR, PA programmed the Analysis Software because it is an essential tool used for open-source intelligence and forensics, which provides 151AIC, a library of data extracted from open sources and visualization of the information in various formats suitable for link analysis and data mining.

Currently, the Philippine Army uses Analysis Software, which does not have the desired advanced features for data and link analysis. Moreover, the compatibility of the software with existing hardware and equipment is of paramount consideration. Below are some capabilities that the Analysis Software may have:

- View up to one (1) million entities in one (1) graph;
- Access to over 58 data sources in the hub;
- Connect OSINT, commercial, and internal data sources;
- Automatically combine disparate data sources in point-and-click logic;
- Use algorithms to auto-detect entity types;
- Enrich data through an intuitive graphical user interface;
- Choose from different layouts for pattern presentation;
- Use entity weights to detect patterns in large graphs; and
- Annotate the graph for further use.

Thus, under Section 50 of Republic Act No. 9184, Direct Contracting can be resorted under the following conditions, to wit:

“X x x;

(c) Procurement of items of proprietary nature which can be obtained only from the proprietary source, i.e., when patents, trade secrets, and copyrights prohibit others from manufacturing the same item.”

To date, the desired features of the Analysis Software can only be delivered by one (1) supplier. The software can only be obtained through a License Agreement, which prohibits others, including the licensees, from copying the Software or any accompanying documentation of the said software. Under the said agreement, the software shall have copyright markings, serial numbers, and other characteristics that may not be eliminated or changed, indicating that the Analysis Software is protected from any form of infringement. Thus, the TWG of the 14AIB and 15AIB Capability

Enhancement Program, under which the desired Analysis Software is included, has opted for a Direct Contracting mode of procurement.

Further, the Analysis Software will be utilized for the exploitation of highly sensitive information gathered from various sources. Thus, the TWG did not opt for Public Bidding since this mode of procurement requires disclosing the technical specifications and features of the software. This may compromise the capability which, in effect, may adversely affect the operations of the Army Intelligence Regiment (AIR), PA.

In view of the above, we respectfully request the exemption from Public Bidding and be allowed to use Direct Contracting as the mode of procurement for the Analysis Software.



MARIA LOURDES M YLANAN
MAJ (MI) PA

Chairperson, 14AIB and 15AIB Capability
Enhancement Program TWG

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DISPOSITION FORM

SECURITY CLASSIFICATION:
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FILE: Z/PBB Files/2023 PBB/SDF-DF/
Indicative APP and PPMP for Capital Outlay
FY 2024.doc

SUBJECT: **Indicative Annual Procurement
Plan (IAPP) for Capital Outlay FY 2024**

TO: **PMO**

FROM: **G2**

Date:

CMT Nr:

MAJ ESICO JR/jgb/6171

1. Reference: HPAG2 Capital Outlay Projects for Fiscal Year 2024.
2. In reference, request facilitates the approval of the Indicative Annual Procurement Plan (IAPP) for OG2 Capital Outlay Projects FY 2024.
3. Further, attached is the Project Procurement Management Plan (PPMP) and Summary of Program of Implementation (SPI) FY 2024 for reference.
4. For favorable consideration.


DELOS SANTOS

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HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE, G2
Fort Andres Bonifacio, Taguig City

JUSTIFICATION

The Technical Working Group (TWG) of the Spectrum Analyzer Acquisition Project has opted for the Direct Contracting method. The Spectrum Analyzer is an Intelligence Mission Essential Equipment (IMEE) that is intended for the Army Intelligence Regiment (AIR). Currently, AIR, PA has a Spectrum Analyzer in its inventory.

Currently, the Philippine Army has one (1) on-hand Spectrum Analyzer. Relatedly, **the existing equipment is interoperable with other systems in the AFP.** The Spectrum Analyzer has a semi-active monitoring capability that covers 2G/GSM, 3G/UMTS, 4G/LTE, and 5G networks and would typically be designed for intelligence gathering and monitoring of wireless communications. Below are some capabilities such a system might have:

1. **Protocol Support:**
 - **2G/GSM:** The system can monitor and analyze GSM (Global System for Mobile Communications) signals.
 - **3G/UMTS:** It has the capability to work with UMTS (Universal Mobile Telecommunications System) signals.
 - **4G/LTE:** The system can handle LTE (Long-Term Evolution) signals.
 - **5G:** It supports the monitoring and analysis of 5G NR (New Radio) signals.
2. **Frequency Range:**
 - The system covers a wide frequency range to support the different bands used by 2G, 3G, 4G, and 5G networks.
3. **Signal Detection:**
 - It can detect and identify active wireless signals in its operational range.
4. **Spectrum Analysis:**
 - Provides spectrum analysis capabilities to visualize and analyze the frequency spectrum used by different mobile technologies.
5. **Interception and Decoding:**
 - Capable of intercepting and decoding voice and data traffic for intelligence purposes. This includes the ability to decode GSM, UMTS, LTE, and 5G signaling and user data.
6. **Location Tracking:**
 - Can perform location tracking of mobile devices within its coverage area using various techniques, including triangulation.
7. **Encryption Handling:**
 - Capable of handling encryption used in these networks. This may involve decryption for monitoring and analysis purposes.
8. **Traffic Monitoring:**
 - Monitors data and voice traffic to analyze patterns, usage, and other relevant information.
9. **Direction Finding:**
 - Has the ability to perform direction finding to locate the source of signals.

10. Real-Time Monitoring:

- Provides real-time monitoring capabilities to track changes in network activity.

11. Stealth Operation:

- Operates with a level of discretion to avoid detection by the targeted network or users.

OG2, PA's proposal for procurement of Spectrum Analyzer for 2024 has already been approved and included in the National Expenditure Program (NEP) Fiscal Year (FY) 2024. Under Section 50 of Republic Act No. 9184, Direct Contracting can be resorted under the following conditions, to wit:

"X x x;

(c) Those sold by an exclusive dealer or manufacturer, which does not have sub-dealers selling at lower prices and for which no suitable substitute can be obtained at more advantageous terms to the Government."

To date, only one (1) supplier can provide the Spectrum Analyzer which is interoperable with the existing systems of the AFP within the approved budget. This essentially makes them an exclusive dealer of the goods intended to be procured. Thus, the TWG of the Spectrum Analyzer Acquisition Project has opted for a Direct Contracting mode of procurement.

Further, the Spectrum Analyzer, being a highly confidential and technical equipment, the TWG did not opt for Public Bidding since this mode of procurement requires disclosing the technical specifications of the equipment. This may compromise the capability which, in effect, may adversely affect the operations of the Army Intelligence Regiment (AIR), PA.

The abovementioned grounds, such as, but are not limited to, the time that will be saved in procurement, interoperability of systems, support, and spare parts provided, and competitive pricing, inure to the great advantage and best interest of the PA.

In view of the above, we respectfully request the exemption from Public Bidding and be allowed to use Direct Contracting as the mode of procurement for the Spectrum Analyzer Acquisition Project.


FERDINAND C MARIANO

LTC GSC (MI) PA

Chairperson, Spectrum Analyzer TWG

HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE, G2
Fort Andres Bonifacio, Taguig City

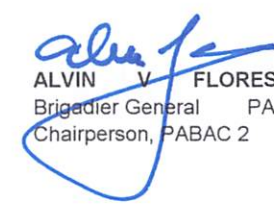
INDICATIVE ANNUAL PROCUREMENT PLAN (IAPP) FY 2024

CODE (PAP)	Procurement Program/Project	End- User	Is this an EPA? (Yes/No)	Mode of Procurement	Schedule for Each Procurement Entity				Source of Funds	Estimated Budget (Php)			Remarks (Brief Description of Program/Project)
					Ads/ Post of ID/BEI	Sub/ Open of Bids	Notice of Award	Contract Signing		Amount	MOOE	CO	
5-06-04-060-01	Motor Vehicles	MIB/AIR	No	Public Bidding	Jan 24	Jan 24	Feb 24	Feb 24	GAA CY 2024	98,338,000.00		98,338,000.00	Comprised of two- and four-wheeled GPs for the mobility of Intelligence units and will be used for the conduct of intelligence missions
5-06-04-050-03	Information and Communication Technology Equipment	AIR	No	Public Bidding	Jan 24	Jan 24	Feb 24	Feb 24	GAA CY 2024	21,058,000.00		21,058,000.00	ICT Equipment intended for real-time exploitation, reporting, and rapid dissemination of intelligence
5-06-04-050-07	Communication Equipment	MIB/AIR	No	Public Bidding	Jan 24	Jan 24	Feb 24	Feb 24	GAA CY 2024	173,717,000.00		173,717,000.00	Signals intelligence (SIGINT) equipment for interception and evaluation of coded enemy messages
5-06-04-050-07	Communication Equipment	AIR	No	Direct Contracting	Jan 24		Feb 24	Feb 24	GAA CY 2024	67,897,999.80		67,897,999.80	SIGINT equipment specializing in scanning, intercepting, decrypting, and analyzing communication signals in the airwaves
5-06-04-050-10	Military, Police and Security Equipment	AIR	No	Public Bidding	Jan 24	Jan 24	Feb 24	Feb 24	GAA CY 2024	3,040,000.00		3,040,000.00	Navigation and surveillance equipment used in intelligence operations on low light or night-time conditions
5-06-04-050-99	Other Machinery and Equipment	AIR	No	Public Bidding	Jan 24	Jan 24	Feb 24	Feb 24	GAA CY 2024	5,064,000.00		5,064,000.00	Comprised of equipment which will prolong and stabilize UAS operations and other specialized intelligence equipment for tradecraft operations
5-02-99070-01	ICT Software Subscription	AIR	No	Direct Contracting	Jan 24		Feb 24	Feb 24	GAA CY 2024	300,000.00		300,000.00	Software subscription for link analysis, data visualization, and data mining.
TOTAL -----										369,414,999.80		369,414,999.80	

Prepared by:


EDMUND PAUL R. DELOS SANTOS
Colonel GSC (MI) PA
AC of S for Intelligence, G2

Recommended by:


ALVIN V. FLORES
Brigadier General PA
Chairperson, PABAC 2

Approved by:


ROY M. GALIDO
Lieutenant General PA
Commanding General

HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE, G2
Fort Andres Bonifacio, Taguig City

Project Procurement Management Plan (PPMP) FY 2024

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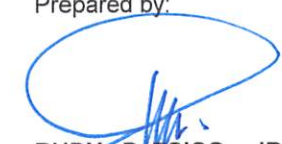
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32		UAV Tool Kit(297 piece 10 Drawer Top Chest Tool Kit): •Hand Tools •Power Tools •Sockets, Ratchets, and Accessories •Screwdrivers •Miscellaneous Tools and Accessories •Organizational Storage		10	set	10,000.00	100,000.00													
33	5-02-99070-01	ICT Software Subscription	MIB				300,000.00													
34		Analysis Software: Annual Subscription, One Desktop, Standard Transforms		1	unit	300,000.00	300,000.00													
35		TOTAL ABC -----					148,541,000.00													

Prepared by:


RUDY P. ESICO JR
 Major (FS) PA
 Chief, Admin Branch

Approved by:


EDMUND PAUL R DELOS SANTOS
 Colonel GSC (MI) PA
 AC of S for Intelligence, G2

HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE, G2
Fort Bonifacio, Taguig City

Summary of Program of Implementation FY 2024

Projects Calendared and Processed for the Month Broken Down by Mode of Procurement - Program of Implementation (In Number of Transaction)

Indicators	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
Projects Calendared and Processed for the Month Broken Down by Mode of Procurement																	
Public Bidding	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Direct Contracting	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Total	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2

Projects Calendared and Processed for the Month Broken Down by Mode of Procurement - Program of Implementation (In Amount)

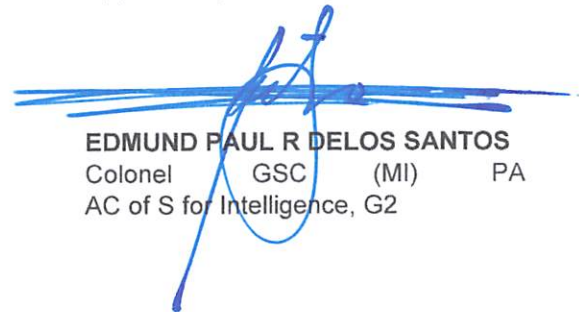
Mode of Procurement	Jan	Feb	Mar	1st Qtr	Apr	May	Jun	2nd Qtr	Jul	Aug	Sep	3rd Qtr	Oct	Nov	Dec	4th Qtr	Total
Public Bidding	301,217,000.00	-	-	301,217,000.00	-	-	-	-	-	-	-	-	-	-	-	-	301,217,000.00
Direct Contracting	68,197,999.80	-	-	68,197,999.80	-	-	-	-	-	-	-	-	-	-	-	-	68,197,999.80
Total	369,414,999.80	-	-	369,414,999.80	-	-	-	-	-	-	-	-	-	-	-	-	369,414,999.80

Prepared by:



RUDY P. ESICO JR
Major (FS) PA
Chief, Admin Branch

Approved by:



EDMUND PAUL R. DELOS SANTOS
Colonel GSC (MI) PA
AC of S for Intelligence, G2



HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE AC OF S FOR FINANCIAL MANAGEMENT, G10
Fort Andres Bonifacio, Taguig City

CERTIFICATION

THIS IS TO CERTIFY that the fund intended for the procurement of the following Philippine Army's FY 2024 requirements amounting to FOURTEEN BILLION ONE HUNDRED NINETY-SEVEN MILLION ONE HUNDRED THIRTY-SEVEN THOUSAND PESOS (PhP14,197,137,000.00) is available with fund allocation per FY 2024 National Expenditure Program:

Particulars	Amount (PhP)
Personnel Services	
1. Procurement of ICIE	1,519,131,000.00
a. Regular procurement of ICIE (Special Clothing Allowance)	496,896,000.00
b. Regular procurement of ICIE (Initial Clothing Allowance)	286,788,000.00
c. Individual Clothing and Individual Equipment (ICIE) for CAAs-I	555,661,000.00
d. Reserve Force Capability Development Program for RRUs (CCIE MOBSTOCK)	179,786,000.00
2. Procurement of Individual Protective Equipment (23,000 sets)	2,341,400,000.00
Sub-Total	3,860,531,000.00
Maintenance and Other Operating Expenses	
1. Operationalization of 11ID	109,581,000.00
a. Semi-Expendable Equipment – ICTE, Commo, MEE	10,392,000.00
b. Semi-Expendable Equipment – MEE	80,308,000.00
c. Processing and Training Requirements (Military Supplies)	18,881,000.00
2. Maintenance of Newly-Delivered Modernization Projects	236,121,000.00
a. Ground Vehicles	194,650,000.00
b. Unmanned Aerial System	11,562,000.00
c. 40mm Revolver Grenade Launcher	13,016,000.00
d. Tank Gunnery Simulator	4,946,000.00
e. Tactical Engagement Simulation System	11,947,000.00
3. Provision to cover the amenities of newly-completed TIKAS Facilities	113,877,000.00
4. ICT ISSP (MITHI) Requirements	33,886,000.00
5. Procurement of FOL	2,628,610,000.00
6. UN Peacekeeping Operation Capability Development Program	71,109,000.00
a. C4S requirements	11,181,000.00
b. Survivability	611,000.00

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c. Medical Equipment	1,150,000.00
d. Quartermaster & Other Equipment	8,167,000.00
e. Facilities	50,000,000.00
7. Intelligence Capability Enhancement Program	10,526,000.00
Sub-Total	3,203,710,000.00
Capital Outlay	
1. Operationalization of 11ID	1,348,480,000.00
a. C4S requirements	455,466,000.00
b. Other MEE	618,514,000.00
c. Facilities	274,500,000.00
2. Provision to cover the amenities of newly-completed TIKAS Facilities	63,082,000.00
3. Procurement of Parachutes	266,632,000.00
4. Forward Logistics Support System	360,163,000.00
5. Procurement of Frame-Type Tents	22,560,000.00
6. Vehicle Re-Fleeting Program (Military Vehicle)	798,000,000.00
7. Construction of Mobilization Center (Capiz)	103,000,000.00
8. ICT ISSP (MITHI) Requirements	159,998,000.00
9. UN Peacekeeping Operation Capability Development Program	669,209,000.00
a. C4S requirements	160,231,000.00
b. Quartermaster & Other Equipment	147,559,000.00
c. Medical Equipment	1,680,000.00
d. Firepower	36,026,000.00
e. Mobility	323,713,000.00
10. Firepower Capability Enhancement Program	843,837,000.00
11. Aviation Capability Enhancement Program	1,067,392,000.00
12. Night Fighting Capability Development (C4S Capability Enhancement Program)	1,061,128,000.00
13. Intelligence Capability Enhancement Program	369,415,000.00
Sub-Total	7,132,896,000.00
Total	14,197,137,000.00

This certification is being issued as reference for the conduct of Early Procurement Activities (EPA).


RAMON ANTONIO E BELLO
Colonel GSC (ARM) PA
AC of S for FM, G10

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Particulars	Amount (PhP)	OPR
Personnel Services		
1. Procurement of ICIE	1,519,131,000.00	
a. Regular procurement of ICIE (Special Clothing Allowance)	496,896,000.00	HPAG1
b. Regular procurement of ICIE (Initial Clothing Allowance)	286,788,000.00	
c. Individual Clothing and Individual Equipment (ICIE) for CAAs-I	555,661,000.00	HPAG3
d. Reserve Force Capability Development Program for RRU's (CCIE MOBSTOCK)	179,786,000.00	HPAG9
2. Procurement of Individual Protective Equipment (23,000 sets)	2,341,400,000.00	HPAG1
Maintenance and Other Operating Expenses		
1. Operationalization of 11ID	109,581,000.00	
a. Semi-Expendable Equipment – ICTE, Commo Equipment, MEE	10,392,000.00	HPAG6
b. Semi-Expendable Equipment - MEE	80,308,000.00	HPAG4
c. Training Requirements (Military Supplies)	18,881,000.00	
2. Maintenance of Newly-Delivered Modernization Projects	236,121,000.00	
a. Ground Vehicles	194,650,000.00	HPAG4
b. Unmanned Aerial System	11,562,000.00	HPAG2
c. 40mm Revolver Grenade Launcher	13,016,000.00	HPAG4
d. Tank Gunnery Simulator	4,946,000.00	HPAG6
e. Tactical Engagement Simulation System	11,947,000.00	
3. Provision to cover the amenities of newly-completed TIKAS Facilities	113,877,000.00	HPAG4
4. ICT ISSP (MITHI) Requirements	33,886,000.00	HPAG6
5. Procurement of FOL	2,628,610,000.00	HPAG4
6. UN Peacekeeping Operation Capability Development Program	71,109,000.00	
a. C4S requirements	11,181,000.00	HPAG6
b. Survivability	611,000.00	HPAG1
c. Medical Equipment	1,150,000.00	
d. Quartermaster & Other Equipment	8,167,000.00	HPAG4
e. Facilities	50,000,000.00	
7. Intelligence Capability Enhancement Program	10,526,000.00	HPAG2
Capital Outlay		
1. Operationalization of 11ID	1,348,480,000.00	
a. C4S requirements	455,466,000.00	HPAG6
b. Other MEE	618,514,000.00	HPAG4
c. Facilities	274,500,000.00	
2. Provision to cover the amenities of newly-completed TIKAS Facilities	63,082,000.00	HPAG4
3. Procurement of Parachutes	266,632,000.00	
4. Forward Logistics Support System	360,163,000.00	

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5. Procurement of Frame-Type Tents	22,560,000.00	HPAG4
6. Vehicle Re-Fleeting Program (Military Vehicle)	798,000,000.00	
7. Construction of Mobilization Center (Capiz)	103,000,000.00	HPAG9
8. ICT ISSP (MITHI) Requirements	159,998,000.00	HPAG6
9. UN Peacekeeping Operation Capability Development Program	669,209,000.00	
a. C4S requirements	160,231,000.00	HPAG6
b. Quartermaster & Other Equipment	147,559,000.00	HPAG4
c. Medical Equipment	1,680,000.00	HPAG1
d. Firepower	36,026,000.00	HPAG4
e. Mobility	323,713,000.00	HPAG4
10. Firepower Capability Enhancement Program	843,837,000.00	HPAG4
11. Aviation Capability Enhancement Program	1,067,392,000.00	HPAG4 HPAG1
12. Night Fighting Capability Development (C4S Capability Enhancement Program)	1,061,128,000.00	HPAG6
13. Intelligence Capability Enhancement Program	369,415,000.00	HPAG2

Intelligence Capability Enhancement Program

Amount in Thousand Pesos

Particulars	MOOE	CO	Total
Radio Monitoring and Direction Finder Acquisition Project		152,976	152,976
Spectrum Analyzer		67,898	67,898
UAV Tool Set		100	100
Special Purpose Camera		1,159	1,159
Analysis Software		300	300
Computerized lie detector Machine		1,500	1,500
Laser Microphone		2,300	2,300
GBRDF Sustainment	4,666		4,666
14AIB and 15AIB Capability Enhancement Program	5,860	143,182	149,042
Total	10,526	369,415	379,941

DISPOSITION FORM

SECURITY CLASSIFICATION: **CONFIDENTIAL**

FILE: D:\HPAG2\PRB23\ Technical Specifications of Spectrum Analyzer.docx

SUBJECT: Technical Specifications of Spectrum Analyzer

TO: CG
THRU: VC

FROM: CS

Date: **NOV 06 2023** CMT Nr:
LTC SORIANO/RGDJR/4562

G2 **06 OCT 23**
G4 **29 OCT 23**

SUMMARY:

1. References:

- a. Philippine Army Program Objective Memorandum (POM) 2024-2029 Tier 2;
- b. Approved Spectrum Analyzer Market Research; and
- c. Disposition Form from G4 dated 01 September 2023 with subject: Submission of Necessary Documents for Conduct of EPA 2024.

2. In the references, the OG2 continuously programmed the Spectrum Analyzer through the Philippine Army Program Objective Memorandum (PA POM) 2024-2029 Tier 2. Following said programming, the Spectrum Analyzer was among the approved projects under the Intelligence Capability Enhancement Program for Fiscal Year (FY) 2024, amounting to SIXTY-SEVEN MILLION EIGHT HUNDRED NINETY-EIGHT THOUSAND PESOS (PhP67,898,000.00).

3. Spectrum Analyzer is a Signal Intelligence (SIGINT) equipment which specializes in scanning, intercepting, decrypting, and analyzing communication signals in the airwaves, which will allow collectors and analysts to better understand the information collected in the radio frequency spectrum.

4. As such, the Spectrum Analyzer Technical Working Group (TWG) drafted the Technical Specifications which were used for the conduct of market research, detailing the requirements in terms of the functions and performance to be met by the prospective supplier, including the testing parameters and procedures upon acceptance of the equipment attached.

5. With the foregoing, G2 recommends the approval of and signature on the attached Technical Specifications of the Spectrum Analyzer.

RECOMMENDATION:

6. Approval of and signature on the attached Technical Specifications of the Spectrum Analyzer

TO: CG FM: VC DATE: **07 NOV 23** CM1

RECOMMEND:

- ☒ APPROVAL
☐ DIS-APPROVAL
☐ SIGNATURE
☐ NOTATION

GUINID

CAMBA

APPROVED/DISAPPROVED

GALIDO

08 NOV 2023

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**HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE, G2, PA
Fort Andres Bonifacio, Taguig City**

TECHNICAL SPECIFICATIONS FOR SPECTRUM ANALYZER

GENERAL REQUIREMENTS:

The Spectrum Analyzer is a frequency scanner that allows Signals Intelligence (SIGINT) collectors and analysts to examine the radio frequency spectrum and helps them understand the different signals in the airwaves. It has the capability to detect faint signals to uncover concealed transmissions. Further, it can determine and distinguish signal types, as well as detect patterns over time, which in turn, aid analysts in prioritizing intercepted communications for analysis. The Spectrum Analyzer operates in real-time to enable timely analysis and threat identification. It can pinpoint signal directions and mask interference, while facilitating signals comparison.

L/I	Requirements
1	The service provider must have at least three (3) years' experience in delivering ICT Projects.
2	The service provider must have at least three (3) years' experience in delivering ICT Projects within the Government Sector.
3	The service provider must have certification from the manufacturer that they are authorized reseller/partner of the product being proposed.
4	The service provider must provide knowledge transfer and/or training on the technology delivered.
5	The equipment being offered should be interoperable to the existing spectrum analyzer of the procuring entity.

L/I	Description	Specifications
1	Spectrum Analyzer	<ul style="list-style-type: none"> Fully independent from any mobile phone providers; this system is also working when there is no network available. Fast GSM, 2G, 3G, 4G and 5G Scanner Allows to back haul or relay Voice Calls and SMS to the Commercial Cell Phone Operators Working range is up to 5 km in open field (up to 1 km in city / wreckage). Allow to build an own emergency mobile phone network which can provide 8 communications at the same time. Allow to build an own emergency mobile phone network which can provide SMS to registered users at the same time. Count and Map number of mobile phone located in a certain area. Send SMS broadcasting with the possibility to put any text in the "FROM" field, unlimited text size.



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	<ul style="list-style-type: none"> • Call targeted mobile phone directly with the possibility to put any text in the "FROM" field. • Localize targeted mobile phone with a precision of 0.5m (only with 2G / GSM, 3G / UMTS, 4G / LTE Direction Finder). • Can work only if the Target mobile phones is switched on. • Can identify all IMSI IMEI and Phone models in the Vector Area • Records voice sessions, supplementary service SMS messages and call related information to HDDH • Recording of Voice Calls - 2 Sides. • Recording of SMS Messages - in and out. • Calls and SMS censoring with network activity emulation. • Detects the change of SIM card or mobile phone. • Calls and SMS from system operator to any telephone number using targets Identity. • Tracking cell information. GPS positioning • Correlation tool to find actual targets IMSI IMEI identity. • Remotely activates GPS receiver on the targets mobile phone. • Secretly operates in real time with all types of encryptions (A5.1, A5.2 GSM networks). • Detects GSM mobile phones located within the area controlled by the system. • Manipulates the state of mobile phones registered within the system. • Calls and SMS censoring with network activity emulation. • Manual and automatic Public Numbers (PN) detection for registered mobile phones. • Calls and SMS from system operator to any telephone number using target's identity. • Allows marking the target's mobile phone with various icons that can't be removed manually. • Communication with networks globally via Back haul or Network Relay • Mapping of target position using a combination of internet BTS services and internal measurements of phones • Tunes the level of the searched mobile phone during "direction finding" procedure. • Real time verification and encryption key evaluation for selected targets. • Selective jamming for registered mobile phones. • Remotely activates GPS receiver on the targets mobile phone.
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		<ul style="list-style-type: none"> Targets microphone activation. Certain limitations may apply. Monitoring of GPRS traffic. Certain limitations may apply. Sending SMS to each registered mobile phone. Public Number Detector
2	Inclusions	<p>GSM/2G/3G/4G/5G SDR UNIT Casing: Aluminum Dimensions: 330x268x80mm Weight: 12 kg</p> <p>Network Relay Up to 2 frequencies band 4 CH/ Unit box Casing: Aluminum Dimensions: 330x268x55 mm Weight: 3.7 kg</p> <p>Network Scanner Portable Network Scanner</p> <p>Public Number Detector 4 Channel Public Number Detector 4 Modems</p> <p>Automatic channel analyzer</p> <p>2G / GSM, 3G / UMTS, 4G / LTE Direction Finder Casing: Aluminum Dimensions: 105x60x25 mm Weight: 0.2 kg Up to 2 frequency bands / unit box</p>
3	Advanced Applications	<p>Bi-directional (BIDI) interception (4Channels) – Interception of incoming & outgoing calls and SMS (Target's SIMCloning) <i>Note: the interception is functional in A5.1 networks for GSM/2G mobile phones.</i></p> <p>Phone Locator - "phone active" verification, Phone number matching to IMSI/IMEI</p> <p>Application (presenting the GPS coordinates per each interrogation)</p> <p>SMS Catcher (trapping Target's outgoing SMS) Faked SMS (sending faked SMS from the system to the target) SMS MASS NOTIFICATION SMS SENDING</p> <p>A5.3 Remote Decipher Access in 3G Bi-directional (BIDI) interception (2 Channels) – Interception of incoming & outgoing calls and SMS (Target's SIM Cloning)</p>
4	Training Package	Three (3)-day Operational Training and Commissioning

TEST AND ACCEPTANCE PROCEDURE

1. OBJECTIVES:

- 1.1. To determine the functional reliability of the Spectrum Analyzer.
- 1.2. To determine the stability of the Spectrum Analyzer when subjected to adverse field operational conditions.
- 1.3. To ascertain compliance to standards and specifications.

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2. GUIDELINES:

2.1. The supplier shall ensure that the complete quantity stated in the contract is packed prior to the inspection.

2.2. Technical inspection and test shall be done on all Spectrum Analyzer systems subject of the contract.

2.3. Functional Test will be done to determine the functional performance of the Spectrum Analyzer.

2.4. Results obtained shall be recorded and evaluated to determine the compliance of the items to technical specifications and as basis for acceptance or rejection of the goods.

3. PROCEDURES:

3.1. COMPLETENESS INSPECTION:

The Technical Inspection and Acceptance Committee (TIAC) for shall check the completeness of the systems delivered. All systems shall be accounted and properly packed with appropriate markings.

3.2. TEST AND ACCEPTANCE TRIAL PROCEDURES:

The following test and trial procedures shall guide both the PA TIAC in ensuring that the equipment delivered are compliant with all technical specifications. These procedures shall be conducted after delivery of the system in the presence of both the Philippine Army and the Supplier or their duly designated representatives.

3.2.1. VISUAL INSPECTION:

3.2.1.1. FOR THE PACKAGING:

3.2.1.1.1. **Purpose:** This non-destructive test shall be performed to determine the overall workmanship, conformity to technical specifications of the packaging and its markings to ensure that the inspected item shall be free defects and meet the requirements of the Philippine Army.

3.2.1.1.2. Procedures:

3.2.1.1.2.1. Visually check the packaging.

3.2.1.1.2.2. Inspect the presence and appropriateness of the markings.

3.2.1.1.2.3. Inspect for signs of deterioration, condition of handles, loose, missing, or incorrect positioned parts.

3.2.1.1.2.4. Check for the compliance of the packaging material using appropriate instruments that will precisely identify the composition of the materials. In the absence of facility or equipment, a certification or manufacturing test result shall be provided.

3.2.1.1.2.5. Record all observations.

3.2.1.1.3. **Standards:** The packaging shall be free from defects as stated in the **types and Classifications of Defects- Visual Inspection- Packaging.**

L/I	Description		Pass/Fail
1		Spectrum Analyzer	
2	Inclusions	GSM/2G/3G/4G/5G SDR UNIT	

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	Network Relay	
	Network Scanner	
	Public Number Detector	
	Automatic channel analyzer	
	2G / GSM, 3G / UMTS, 4G / LTE	
	Direction Finder	

3.2.2. PERFORMANCE TESTS:

A series of tests shall be performed to ensure that the Spectrum Analyzer will efficiently function and perform accordingly based on the established standards and specifications when subjected to various operational conditions.

3.2.2.1. HARDWARE SPECIFICATION:

3.2.2.1.1. Purpose: This test shall be performed to ascertain the compliance to the hardware components of the system.

3.2.2.1.2. Procedures:

3.2.2.1.2.1. Verify mechanical completeness of units (switches, indicators and displays are not bent or broken).

3.2.2.1.2.2. Verify that the racks include the items as listed in the results table and record their serial numbers.

3.2.2.1.2.3. Power-up the Spectrum Analyzer and other inclusions and read the application software version and record.

3.2.2.1.2.4. Record all observations.

3.2.2.1.3. Standard: The Spectrum Analyzer shall be free from defects as stated in the **Types and Classifications of Defects- Performance Defects.**

L/I	Description	Specifications	Pass/Fail
1	Spectrum Analyzer	• Fully independent from any mobile phone providers; this system is also working when there is no network available.	
		• Fast GSM,2G,3G,4G and 5G Scanner	
		• Allows to back haul or relay Voice Calls and SMS to the Commercial Cell Phone Operators	
		• Working range is up to 5 km in open field (up to 1 km in city / wreckage).	
		• Allow to build an own emergency mobile phone network which can provide 8 communications at the same time.	
		• Allow to build an own emergency mobile phone network which can provide SMS to registered users at the same time.	
		• Count and Map number of mobile phone located in a certain area.	
		• Send SMS broadcasting with the possibility to put any text in the "FROM" field, unlimited text size.	
		• Call targeted mobile phone directly with the possibility to put any text in the "FROM" field.	

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	<ul style="list-style-type: none"> • Localize targeted mobile phone with a precision of 0.5m (only with 2G / GSM, 3G / UMTS, 4G / LTE Direction Finder). 	
	<ul style="list-style-type: none"> • Can work only if the Target mobile phones is switched on. 	
	<ul style="list-style-type: none"> • Can identify all IMSI IMEI and Phone models in the Vector Area 	
	<ul style="list-style-type: none"> • Records voice sessions, supplementary service SMS messages and call related information to HDDH 	
	<ul style="list-style-type: none"> • Recording of Voice Calls - 2 Sides. 	
	<ul style="list-style-type: none"> • Recording of SMS Messages - in and out. 	
	<ul style="list-style-type: none"> • Calls and SMS censoring with network activity emulation. 	
	<ul style="list-style-type: none"> • Detects the change of SIM card or mobile phone. 	
	<ul style="list-style-type: none"> • Calls and SMS from system operator to any telephone number using targets Identity. 	
	<ul style="list-style-type: none"> • Tracking cell information. GPS positioning 	
	<ul style="list-style-type: none"> • Correlation tool to find actual targets IMSI IMEI identity. 	
	<ul style="list-style-type: none"> • Remotely activates GPS receiver on the targets mobile phone. 	
	<ul style="list-style-type: none"> • Secretly operates in real time with all types of encryptions (A5.1, A5.2 GSM networks). 	
	<ul style="list-style-type: none"> • Detects GSM mobile phones located within the area controlled by the system. 	
	<ul style="list-style-type: none"> • Manipulates the state of mobile phones registered within the system. 	
	<ul style="list-style-type: none"> • Calls and SMS censoring with network activity emulation. 	
	<ul style="list-style-type: none"> • Manual and automatic Public Numbers (PN) detection for registered mobile phones. 	
	<ul style="list-style-type: none"> • Calls and SMS from system operator to any telephone number using target's identity. 	
	<ul style="list-style-type: none"> • Allows marking the target's mobile phone with various icons that can't be removed manually. 	
	<ul style="list-style-type: none"> • Communication with networks globally via Back haul or Network Relay 	
	<ul style="list-style-type: none"> • Mapping of target position using a combination of internet BTS services and internal measurements of phones 	
	<ul style="list-style-type: none"> • Tunes the level of the searched mobile phone during "direction finding" procedure. 	
	<ul style="list-style-type: none"> • Real time verification and encryption key evaluation for selected targets. 	
	<ul style="list-style-type: none"> • Selective jamming for registered mobile phones. 	
	<ul style="list-style-type: none"> • Remotely activates GPS receiver on the targets mobile phone. 	
	<ul style="list-style-type: none"> • Targets microphone activation. Certain limitations may apply. 	

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		<ul style="list-style-type: none"> Monitoring of GPRS traffic. Certain limitations may apply. Sending SMS to each registered mobile phone. Public Number Detector 	
2	Inclusions	GSM/2G/3G/4G/5G SDR UNIT Casing: Aluminum Dimensions: 330x268x80mm Weight: 12 kg	
		Network Relay Up to 2 frequencies band 4 CH/ Unit box Casing: Aluminum Dimensions: 330x268x55 mm Weight: 3.7 kg	
		Network Scanner Portable Network Scanner GLOBE - SMART - DITTO	
		Public Number Detector 4 Channel Public Number Detector 4 Modems	
		Automatic channel analyzer	
		2G / GSM, 3G / UMTS, 4G / LTE Direction Finder Casing: Aluminum Dimensions: 105x60x25 mm Weight: 0.2 kg Up to 2 frequency bands / unit box	
3	Advanced Applications	Bi-directional (BIDI) interception (4Channels) – Interception of incoming & outgoing calls and SMS (Target's SIM Cloning) <i>Note: the interception is functional in A5.1 networks for GSM/2G mobile phones.</i>	
		Phone Locator - "phone active" verification, Phone number matching to IMSI/IMEI	
		Application (presenting the GPS coordinates per each interrogation)	
		SMS Catcher (trapping Target's outgoing SMS) Faked SMS (sending faked SMS from the system to the target) SMS MASS NOTIFICATION SMS SENDING	
		A5.3 Remote Decipher Access in 3G Bi-directional (BIDI) interception (2 Channels) – Interception of incoming & outgoing calls and SMS (Target's SIM Cloning)	

3.2.2.2. ANALYSIS TEST:

3.2.2.2.1. Purpose: The purpose of this test is to conduct a comprehensive performance evaluation to ensure that the Spectrum Analyzer meets the required standards of the Philippine Army in terms of functionality and reliability.

3.2.2.2.2. Procedures:

3.2.2.2.2.1. Conduct test to retrieve IMSI and IMEI numbers from a sample of captured mobile devices.

3.2.2.2.2.2. Attempt to manipulate a subset of target devices to transmit on silent frequencies.

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- 3.2.2.2.2.3. Assessment of ability to degrade or redirect communications of selected targets.
- 3.2.2.2.2.4. Test the resilience of test targets against denial-of-service attacks.
- 3.2.2.2.2.5. Conduct SMS spoofing attempts on specific targets.
- 3.2.2.2.2.6. Generate calls to predetermined targets using designated numbers.
- 3.2.2.2.2.7. Record and analyze test data, including success rates, response times, and system behavior.

4. ACCEPTANCE AND REJECTION:


The supplier shall comply with all certifications and documentary requirements. Failure shall cause rejection.

Acceptability of goods shall be determined by using the parameters based on Completeness, Visual Inspection, Performance, and Analysis Test.

5. RESULT:

The result of the test based on the above criteria shall be the basis of the Philippine Army Technical Inspection and Acceptance Committee (PA-TIAC) in the acceptance or rejection of the goods/items. The Spectrum Analyzer tested shall manifest compliance to each of the parameters indicated in the technical specification.

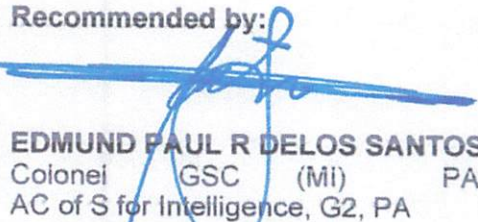
Prepared by:


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Noted by:


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Recommended by:


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AC of S for Intelligence, G2, PA

Approved by:


ROY M. GALIDO
Lieutenant General PA
Commanding General Philippine Army

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HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE, G2
Fort Andres Bonifacio, Taguig City

MARKET RESEARCH: SPECTRUM ANALYZER

I. CAPABILITY SHORTFALL

Signals Intelligence (SIGINT) is an intelligence gathering discipline using electronic communications. It is a significant Intelligence discipline for the Philippine Army, as it will enable the PA Intelligence Community (PAIC) to intercept, decrypt, and analyze communication signals, which in turn, will reveal vital information into the plans, intentions, and strategies of adversaries.

Spectrum Analyzer is an indispensable equipment in SIGINT operations. It is a specialized scanner that allows SIGINT collectors and analysts to examine the radio frequency spectrum and helps them understand the different signals in the airwaves. Furthermore, it has the capability to detect faint signals, enhancing the PAIC's ability to uncover concealed transmissions. As such, the Office of the Assistant Chief of Staff for Intelligence, OG2, PA proposes the procurement of Spectrum Analyzer to address the capability shortfall on SIGINT equipment, and more importantly, to support its vision of attaining a multidiscipline and network-integrated Army Intelligence.

II. MAJOR OBJECTIVES

The acquisition of the Spectrum Analyzer shall attain the following capability goals:

- A. Enhance the SIGINT capability of the PA by improving its capability to measure the power of the spectrum of known and unknown signals.
- B. Enhance data collection in modern communication technologies in accordance with existing policies.
- C. Ensure stealth operations of SIGINT operators by procuring untraceable and passive SIGINT equipment.

III. ASSESSMENT

In order to address the capability shortfalls and achieve the desired objectives, the potential approach is through the acquisition of the Spectrum Analyzer. The System is capable of processing comprehensive Radio Frequencies (RF) allowing interception and monitoring of voice and SMS traffic, directly off the air in a passive manner without interfering with the operation of cellular network. It supports production of all the cellular GSM Frequency Bands, GSM traffic monitoring, filtering, tracking of specific target and support off-line exploitation.

This project aims to acquire the following:



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Particulars	End-Users	Current Inventory	Qty
Passive GSM Interceptor Drawer	14AIB, AIR PA	0	1
A5-1 Decipher Unit		0	1
Basic Antenna Set		0	1 set
Temporary Tactical Housing		0	1
On-site Training		0	1

IV. MARKET RESEARCH

A. PICSIX

The company is an Israel-based manufacturer and developer of off-the-shelf solutions and custom-tailored alternatives for interception, counter-interception, and other tactical intelligence needs. Additionally, it also produces enclosures such as vehicular installations, pelicans, covert backpacks, military-grade backpacks, among others. PICSIX is currently successfully servicing many authorized agencies in the world.

Among its products, the PICSIX Passive Interception System is considered as a Spectrum Analyzer because it monitors GSM channels for activity without transmitting, which deems the system to be undetectable. Such transmissions may be used to create Black/Whitelists without making use of Man-in-the-Middle active fake cell systems, cancellation of encryption, and more. Further, this product can monitor several dozens of cells at a time and can intercept the entire traffic initiated in the cells monitored. The table below summarizes the electrical and mechanical specifications and descriptions of the PICSIX Passive Interception System:

Feature	Description
Power	<ul style="list-style-type: none"> Can be mounted on walls and powered by regular power outlets of 110 or 220 volts. When carried in backpacks or side-bags, it can be equipped with rechargeable battery packs permitting for up to several hours of continuous operation.
P6FE Power	110/220 or optional rechargeable 5V/12V
Redundant Power supply	Available in 19" rack enclosures and in Pelican Case type installations.
Typical Power consumption of a P6FE	Max 50 watts at 12Vdc
System Dimension	37.3 X 14.5 X 8.3 cm 48CH - 3kg Battery - 2.5kg
Training	Three (3)-day training at the site of client/customer
Maintenance	First year of support and maintenance is included in the package, to include system updates.

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On payment terms, PICSIX requires a down payment of 40% of the system price, which shall be paid within ten (10) working days from the date of the contract signing by both parties. The next payment shall be made before the system shipping, which shall be at 50% of the system price. Finally, the remaining 10% shall be paid within ten (10) working days from the end of the training session. The table below shows the price of the system:

Unit	Particulars	Price	Quantity	Total
P6 Passive	64 Channels DU Cloud Packaged	12,500,000	1	PhP25,000,000.00
SW Features		12,500,000	1	

B. NeoSOFT

The company is an ISO-certified global IT consulting and software solutions provider established in 1996. NeoSOFT is headquartered in Mumbai, India with offices in USA, UK, Dubai, Italy, Germany, Japan, and Australia.

One of its solutions that satisfies the requirements of a Spectrum Analyzer is the Semi-Active Monitoring System, which allows to track required information for governmental needs and are widely used for detection and recovery during various acts of terrorism. The system also has a feature to change its operational mode from active into passive, depending on the need in receiving decrypting keys from the network. The table below summarizes the electrical and mechanical specifications and descriptions of the NeoSOFT Semi-Active Monitoring System (Manpack System):

Feature	Description
GSM/2G/3G/4G/5G SDR UNIT	<ul style="list-style-type: none"> Aluminum Casing 330x268x80 mm Weight: 12 kg
Network Relay	<ul style="list-style-type: none"> Up to 2 frequencies band 4 CH/Unit box Casing: Aluminum Dimensions: 330x268x55 mm Weight: 3.7 kg
Decipher Unit	<ul style="list-style-type: none"> Available with AC 90-264V or DC 9-36V input power Aluminum Casing 330x268x55 mm
Network Scanner	<ul style="list-style-type: none"> Portable Network Scanner Globe – Smart – Ditto
Public Channel Detector	<ul style="list-style-type: none"> 4 Channel Public Number 4 Modems
Channel Analyzer	<ul style="list-style-type: none"> Automatic

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Training	<ul style="list-style-type: none"> Three (3)-day Operational Training and Commissioning
----------	--

On payment terms, NeoSOFT requires the completion of down payment as a pre-requisite to delivery. Moreover, the acceptance shall when the earliest of the following occurs: (a) Site Acceptance Test; (b) Operational Use of the System; or (3) 120 days from delivery. The table below shows the price of the system:

Unit	Particulars	Quantity	Total Price
NeoSOFT Semi Active Monitoring System	GSM/2G/3G/4G/5G SDR UNIT	1	PhP18,000,000.00
	Network Relay	1	
	Decipher Unit	1	
	Network Scanner	1	
	Public Channel Detector	1	
	Channel Analyzer	8	
	Training	1	

C. ROHDE & SCHWARZ

Rohde and Schwarz is a global company, headquartered in Germany and has research and development hubs in Singapore, USA, Africa, and several European countries.

Among its extensive portfolio of products, the R&S GAPM Modular Full-band Passive GSM Monitoring Solution satisfies the requirements of a Spectrum Analyzer. The R&S GAPM is a modular full-band passive GSM monitoring solution that enables the operator to intercept voice calls and short messages. Within the monitored area, the R&S GAPM receives all GSM channels including handover and hopping signals over the air. Additionally, the R&S GAPM deployable as a stationary or a semi-mobile solution, allowing the sensor to be powered either with an AC or a DC supply voltage. Overall, the solution can be used to establish a long-range surveillance of GSM network, can provide sets of metadata, and can also pinpoint specific target actions in the network. The table below briefly summarizes the specifications of the R&S GAPM:

Frequencies in MHz (bands)		
GSM	850, 900, 1800, 1900	
Monitored Channels		
GSM850	124 Channels	992 Timeslots
GSM900	174 Channels	1392 Timeslots
GSM1800	374 Channels	2992 Timeslots
GSM1900	299 Channels	2392 Timeslots
General Data		
Size, weight, and power consumption	Depending on the configuration	
Operating Temperature Range	+5 degrees C to + 45 degrees C	
Mechanical Resistance	In line with MIL-STD-810G	

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In terms of pricing, the following table shows the breakdown of the system and its total price:

Description	Quantity	Price
GAPM Passive GSM Monitoring system including broadband receiver MBR200, client computer, and accessories from PE100 and starter kit	1	PhP64,000,000.00
Multiband Receiver – 80MHz Receiver with two (2) RF channels	1	
1HU R&S GAPM Server	1	
GAF900 uplink filter for GAPM	1	
19" adapter, 4 HU, 1/1	4	
19" adapter, 2 HU, 1/1	1	
PRISMA Calculation Unit 4Kc/sec.	1	
Accessories (mobile rack, antennas, etc.)	1	
Training	2	

V. OVERALL ASSESSMENT

PICSIX, NeoSOFT, and Rohde & Schwarz are promising companies who have presented promising products. The companies were able to offer the needed equipment for the Spectrum Analyzer and the price of the equipment are the same for both companies. The differences of the products lie on the pricing and on the particulars of the product.

Each of the products offered has demonstrated their capability to fulfill the Spectrum Analyzer requirement. The product features and technical specifications between NeoSOFT, PICSIX, and Rohde & Schwarz provides the Philippine Army with a various range of choices. The decision should be based on an evaluation of how each option will achieve the project objectives, how the product will be compatible with Intelligence operation strategies in the long run. Furthermore, other factors such as the reputation of the companies, their availability to provide information and support in terms of maintenance services, and the potential ease of integration into existing systems, could provide a competitive edge should also be considered.

After conducting a thorough assessment of the available options, NeoSoft has emerged as the most promising alternative, providing a comprehensive set of equipment necessary for the acquisition of Spectrum Analyzer. Taking into account various factors, NeoSoft's Semi-Active Monitoring System (Manpack System) has the features and pricing option that satisfy the requirements of the PAIC.

VI. CONCLUSION AND RECOMMENDATION

PICSIX, NeoSOFT, and Rohde & Schwarz has revealed a range of viable options for the acquisition of the Spectrum Analyzer, each presenting advantages in terms of features and technical specifications. Considering the alignment of NeoSOFT's offering with the PA's SIGINT enhancement objectives, its adaptability,


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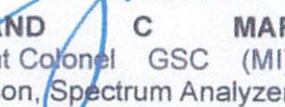
comprehensive equipment set, and viable pricing option, it stands as the most promising option.

Thus, recommend the approval of NeoSoft as the most promising alternative for the acquisition of Spectrum Analyzer.

Recommended by:


RENE G. DATUGAN JR
Major (MI) PA
Commodity Manager, Spectrum Analyzer TWG

Validated by:


FERDINAND C. MARIANO
Lieutenant Colonel GSC (MI) PA
Chairperson, Spectrum Analyzer TWG

DISPOSITION FORM

Security Classification
RESTRICTED

FILE C:\Users\IT1\Desktop\MJCH 2023\01.
Drafts\DF

SUBJECT: Submission of Necessary
Documents for Conduct of EPA 2024

TO: G1, G2, G6, G9, G10 FROM: G4
INFO: PMO

DATE: SEP 01 2023 CMT NR
MAJ RENTUTAR/JCMB/mjch/6014

1. References:

- Radio Message from this Command with Cite Number: 4/8-100-14-02-23;
- DF from G10 dated 10 August 2023 with subject: Conduct of the early Procurement Activities (EA) of Big-Ticket Projects Considered in FY 2024 NEP;
- Conference conducted on 16 August 2023 through VTC; and
- Memorandum Circular 2022-01 dated 26 March 2022.

2. Reference a pertains to the submission of Indicative APP FY 2024 to this Office (Attn: SAMB) NLT 07 July 2023 for further deliberation by the respective PA Bids and Awards Committees (PABAC). Non-compliance with the set target date may cause delay on the review and validation by the PABACs prior approval of the Commanding General, Philippine Army as the HoPE.

3. In reference b, OG10 reiterated to the Program Directors (PD) the completion of necessary documentary requirements of all projects included in the PA's FY 2024 budget per NEP amounting to **PhP14,197,137,000.00** broken down as follows:

PD	PS	MOOE	CO
G1	3,125,084,000.00	1,761,000.00	1,069,072,000.00
G2		22,088,000.00	369,415,000.00
G6		72,352,000.00	1,836,823,000.00
G9	179,796,000.00		103,000,000.00
Total	PhP3,860,531,000.00	PhP3,203,710,000.00	PhP7,132,896,000.00

4. In reference c, OG4 reminded program directors to facilitate the submission of necessary documents for the conduct of Early Procurement Activities (EPA) FY 2024.

5. In this regard, request submit the following to this Office (Attn: SAMB) NLT 04 September 2023:

- Indicative APP/PPMP FY 2024;
- Program of Expenditure;
- Proposed Technical Working Group and Technical Specifications of new projects;
- Tariff Sizes and Distribution List for ICIE;
- Terms of Reference/Terms of Condition (if applicable);
- Timeline of Implementation;
- Program of Works, Bill of Materials and Cost Estimate; and
- CAF/ASA with specific Name of Projects.

6. Further, in reference d, all PDs are reminded that 50% of the projects should be implemented during EPA. Otherwise, PDs who will fail to implement said projects of at least 50% will be recommended for isolation in the granting of PBB FY 2023.

7. For information and appropriate action.

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Intelligence Capability Enhancement Program
Amount in Thousand Pesos

Particulars	MOE	CO	Total
Radio Monitoring and Direction Finder Acquisition Project		1,206	52,74
Spectrum Analyzer		1,800	17,94
UAV Tool Set		1,400	1,00
Special Purpose Camera		1,400	1,50
Analysis Software		1,400	1,00
Computerized lie detector Machine		1,400	1,00
Laser Microphone		1,400	2,00
GBRDF Sustainment	2,800		4,08
14AIB and 15AIB Capability Enhancement Program	2,800	1,400	9,21
Total	1,106	3,806	3,91

DISPOSITION FORM

SECURITY CLASSIFICATION:

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FILE: Z/PBB Files/2022 PBB/SDF-DF/OCG/
Procurement of Radio Monitoring Direction
Finder System.doc

SUBJECT: Procurement of Radio Monitoring
Direction Finder System 1439

TO: CG
THRU: AVC

FROM: ACS

Date: JUL 27 2022 CMT Nr.
LTC ELORETA/jgb/6171

G2 20 JUL 2022

SUMMARY:

1. References:

- a. OG2, PA approved Annual Procurement Plan (APP) FY 2022; and
- b. Approved Technical Specifications for RMDF dated 22 Apr 22.

2. In references, the Technical Working Group (TWG) for the Radio Monitoring and Direction Finder (RMDF) System during the TWG conference in preparation for Pre-Procurement Conference for RMDF found out that some of the specifications are now obsolete due to latest technology development. Hence, the TWG after reviewing the technical specifications revised the previously approved technical specifications to ensure that the RMDF to be procured will have the latest technology specifically on radio receivers, antenna and direction finding processor.

3. G2 recommends approval of the revised Technical Specifications of RMDF.

RECOMMENDATION:

4. Approval of and signature on the attached RMDF Technical Specifications.

GALIDO
CA

BRAWNER JR

DATE: 29 JUL 2022



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RN:HPAG2/PB/RMDF/18-07-22

**HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ASSISTANT CHIEF OF STAFF FOR INTELLIGENCE, G2, PA
Fort Andres Bonifacio, Metro Manila**

TECHNICAL SPECIFICATIONS

Radio Monitoring Direction Finder (RMDF) System

General Requirements:

The Radio Monitoring Direction Finder System can search, intercept, detect and monitor, analyze and classify, demodulate, record, and decode and identify radio communication networks. It classifies, demodulate, and decodes signals and displays the results in real-time. The system also takes bearings on emitters and visualizes their locations on a digital map. Furthermore, it is possible to perform surveillance on known emitters and record digital audio.

Logistics Requirements:

A. Wideband Receiver and DF Processor Specifications (For Both Fixed and Mobile Stations)

1. Wideband Receiver		
PARTICULARS	MINIMUM REQUIREMENTS	
Frequency Coverage:	0.010000-821.999999, 851.000000-866.999999, 896.000000-3000.000000 MHz	
Antenna Connector	Multiple (Type-N 50 ohms – 0.01-3000 MHz; PL-259 50 ohms – 0.01-30 MHz; RCA 50 ohms – 0.01-30 MHz)	
Modes	USB, LSB, CW, FSK, AM, FM, WFM, Digital ((D-STAR, P25 Phase 1, NXDN, dPMR, DCR)	
Number of Channels	At least 2000 regular channels	
Scan Types	Programmed, memory, selected memory, selected mode, auto memory write, priority scan	
Receiver System	0.010–29.999 MHz	Direct sampling
	30.000–499.999 MHz	Double superheterodyne (IF: 778.7, 46.35 MHz)
	500.000–1099.999 MHz	Double superheterodyne (IF: 278.7, 46.35 MHz)
	1100.000–1499.999 MHz	Triple superheterodyne (IF: 900–500.000001, 278.7, 46.35 MHz)
	1500.000–3000.000 MHz	Triple superheterodyne (IF: 1000–500, 278.7, 46.35 MHz)
Selectivity	LSB/USB/FSK (BW: 2.4 KHz)	More than 2.4 kHz/–3 dB Less than 3.6 kHz/–60 dB
	CW (BW: 500 Hz)	More than 500 Hz/–3 dB Less than 700 Hz/–60 dB

	AM (BW: 6 kHz)	More than 6.0 kHz/−3 dB Less than 15.0 kHz/−60 dB
	FM (BW: 15 kHz)	More than 12.0 kHz/−6 dB Less than 25.0 kHz/−60 dB
	WFM	More than 180 kHz/−6 dB
Audio Output Power:	At least 2.0 watts (8 ohms load)	
Power Requirements:	100V-240V AC, 50/60Hz (with power supply unit for other Voltages on DC)	
Over and Reverse Voltage Protection	Zenner Diode with resettable fuse	
Operating temperature range	At least −10 °C to +60 °C; 14 °F to 140 °F	
Dimension:	Not more than 9"x5"x10" (22.86cm x 12.7cm x 25.4cm) (Width x Height x Depth)	
Weight:	Not more than 10lbs (4.53kg)	
2. Direction Finder (DF) Processor		
PARTICULARS	MINIMUM REQUIREMENTS	
DF Technique	Single Channel Watson-Watt	
DF Processing	Software defined	
Frequency Coverage	Dependent on the Receiver and DF Antenna	
Bearing Accuracy	0.5° RMS	
Bearing Resolution:	0.1°	
Receiver Signal Interface Format	10.7 MHz IF (standard) 3.5-52.0 MHz (programmable)	
IF Bandwidths:	6/15/30/200 kHz	
Bearing Integration:	35/50/80/160/200/275/400 ms	
Track and Hold	At least 3 sec nominal holding time	
Interface (to host computer)	At least 100 Mbps (UDP I/Q, TCP for ctrl) IP embedded gateway for receiver, GPS, & compass	
Power Requirements:	100V-240V AC, 50/60Hz (with power supply unit for other Voltages on DC)	
Over and Reverse Voltage Protection	Zenner Diode with resettable fuse	
Durability	MILSTD-810	
Dimension:	Not more than 3"x7"x7" (7.62cm x 17.78cm x 17.78cm) (Height x Width x Depth)	
Weight:	Not more than 4lbs (1.81kg)	

B. Antenna Specification for Fixed Mobile Stations

1. Fixed DF Antenna	
PARTICULARS	MINIMUM REQUIREMENTS
DF Technique:	Single-channel 2-phase Adcock
Frequency Coverage:	75-300/300-520 MHz
Bearing Accuracy:	2° RMS (VHF) 2.5° RMS (UHF)
Polarization:	Vertical
Output Impedance:	50 ohms nominal

TEST AND ACCEPTANCE PROCEDURE

1. OBJECTIVES:

- 1.1. To determine the functional reliability of the RMDF.
- 1.2. To determine the stability of the RMDF when subjected to adverse field operational conditions.
- 1.3. To ascertain compliance to standards and specifications.

2. GUIDELINES:

- 2.1. The supplier shall ensure the completeness of the quantity of items stated in the contract.
- 2.2. Technical inspection and test shall be done on all RMDF systems.
- 2.3. Functional Test will be done to determine the functional performance of the RMDF.
- 2.4. Results obtained shall be recorded and evaluated to determine the compliance of the items to technical specifications and as basis for acceptance or rejection of the goods.

3. PROCEDURES:

3.1. COMPLETENESS INSPECTION:

The Technical Inspection and Acceptance Committee (TIAC) shall check the completeness of the systems delivered. All systems shall be accounted and properly packed with appropriate markings.

3.2. TEST AND ACCEPTANCE TRIAL PROCEDURES:

The following test and trial procedures shall guide both the PA TIAC in ensuring that the equipment delivered are compliant with all technical specifications. These procedures shall be conducted after delivery of the system in the presence of both the Philippine Army and the Supplier or their duly designated representatives.

3.2.1. VISUAL INSPECTION:

3.2.1.1. FOR THE PACKAGING:

3.2.1.1.1. Purpose: This non-destructive test shall be performed to determine the overall workmanship, conformity to technical specifications of the packaging and its markings to ensure that the inspected item shall be free from defects and meet the requirements of the Philippine Army.

3.2.1.1.2. Procedures:

- 3.2.1.1.2.1. Visually check the packaging.
- 3.2.1.1.2.2. Inspect the presence and appropriateness of the markings.
- 3.2.1.1.2.3. Inspect for signs of deterioration, condition of handles, loose, missing, or incorrect positioned parts.

3.2.1.1.2.4. Check for the compliance of the packaging material using appropriate instruments that will precisely identify the composition of the materials. In the absence of facility or equipment, a certification or manufacturing test result shall be provided.

3.2.1.1.2.5. Record all observations.

3.2.1.1.3. Standards: The packaging shall be free from defects as stated in the **Visual Inspection – Packaging - Procedures**.

3.2.2. WEIGHT AND DIMENSIONAL INSPECTION:

3.2.2.1. Purpose: This test shall be performed to determine compliance of the RDMF equipment to the provided weight and dimensional requirement in the technical specifications of the Philippine Army.

3.2.2.2. Procedures:

3.2.2.2.1. Measurement of equipment through physical means.

3.2.2.2.2. Record the weight and dimensions.

3.2.2.3. Standard: The RDMF equipment shall be free from defects as stated in the **Weight and Dimensional Inspection – Procedures**.

3.2.3. PERFORMANCE TESTS:

A series of tests shall be performed to ensure that the RDMF equipment will efficiently function and perform accordingly based on the established standards and specifications when subjected to various operational conditions.

3.2.3.1. HARDWARE SPECIFICATION:

3.2.3.1.1. Purpose: This test shall be performed to ascertain the compliance to the hardware components of the system which includes the Monitoring Systems, DF System, Antenna and Workstations.

3.2.3.1.2. Procedures:

3.2.3.1.2.1. Verify mechanical completeness of units (switches, indicators and displays are not bent or broken).

3.2.3.1.2.2. Power-up the Monitoring System, DF Processor and Operator Workstation/Computer and read the application software version and record.

3.2.3.1.2.3. Record all observations.

3.2.3.1.3. Standard: The RDMF equipment shall be free from defects as stated in the **Hardware Specification – Procedures**.

3.2.3.2. DIRECTION FINDING TEST:

3.2.3.2.1. Purpose: This test shall be performed to determine and verify proper detection and direction finding. The test is performed by injecting signal to the system and using a Direction of Arrival (DOA) simulator. The DOA simulator is built for simulating reception from a known direction.

Test equipment.

- Signal Generator
- DOA Simulator, 4 channels
- DF RFU
- DF Controller

3.2.3.2.2. Procedures:

3.2.3.2.2.1. Ensure all devices are in working status.

3.2.3.2.2.2. Verify that the following scan missions table is empty and create new missions for following search table as following:

Mission Number	Start Frequency	Stop Frequency	Pass	Fail
1	50 MHz	60 MHz		
2	175 MHz	1850 MHz		
3	285 MHz	295 MHz		
4	315 MHz	325 MHz		
5	875 MHz	885 MHz		
6	1295 MHz	1305 MHz		
7	2095 MHz	2105 MHz		
8	2985 MHz	2995 MHz		
9	30 MHz	3000 MHz		

3.2.3.2.2.3. Activate following mission #1 to #9 while Signal Generator is OFF.

3.2.3.2.2.4. Activate following mission #1 to #9 while Signal Generator is set to different frequency, signal level and strength (dBm).

3.2.3.2.2.5. Record all observations.

3.2.3.2.2.6. This test shall be carried out simultaneously with the Monitoring and Recording Tests.

3.2.3.2.3. Standard: The RMDF equipment shall be free from defects as stated in the **Direction Finding Test - Procedures**.

3.2.3.3. MONITORING AND RECORDING TEST:

3.2.3.3.1. Purpose: This test shall be performed to ascertain the ability of the RMDF equipment to monitor, record and replay audio produced from fixed frequency transmissions.

Test equipment.

- SIGNAL Generator
- COMINT RFU
- COMINT Computer
- Speakers & Operator Computer

3.2.3.3.2. Procedures:

3.2.3.3.2.1. Ensure all equipment are in working status.

3.2.3.3.2.2. Set the following mission:

Mission#	Frequency (MHz)	Priority	MOD	Signal	BW	Pass	Fail
1	31.25	Medium	FM	1 KHz tone	12.5		
2	299.025	Medium	AM	1 KHz tone	25		
3	499.025	Medium	FM	White noise	50		
4	509.025	Medium	AM	1 KHz tone	100		
5	999.025	Medium	FM	White noise	200		

3.2.3.3.2.3. Set the signal generator based on the mission, frequency, modulation, signal, and bandwidth. Monitor and record accuracy of the given mission.

3.2.3.3.2.4. Record all observations.

3.2.3.3.3. Standard: The RMDF equipment shall be free from defects as stated in the **Monitoring and Recording Test – Procedures**.

4. Functional Testing Parameters and Procedures:

4.1 Functionality

4.1.1 Purpose: To determine if the system specifications and functionality of the RMDF and its interface on laptop.

4.1.2 Equipment Needed: Laptop

4.1.3 Procedures:

4.1.3.1 Switch on the RMDF

4.1.3.2 Check the RMDF equipment's general information

4.1.3.3 Perform RMDF equipment's test/operations.

4.1.3.4 Features in the functional test checklist must all be enabled

A. Sensor Specifications (For Both Fixed and Mobile Stations)

PARTICULARS	MINIMUM REQUIREMENTS	Pass	Fail
DF Technique:	Single-channel Watson-Watt		
Frequency Coverage:	0.04-3,150MHz (subject to frequency limitations of attached DF antenna)		
RF Input Impedance:	50 ohms nominal		
IF Bandwidths:	6/15/30/200 kHz		
Audio Output Power:	1.5 watts into 8 ohms		
Audio Frequency Response:	250-3300 Hz nom. @-3 dB (measured at headset jack)		
Bearing Displays:	Real-time 360° polar TFT and 3 1/2-digit numeric displays		
Bearing Accuracy:	0.5° RMS (using 160 milli-second bearing integration)		

Bearing Resolution:	0.5°/0.1°		
Bearing Integration:	35/50/80/160/200/275/400 ms		
Interface (to host computer)	data string includes embedded data from receiver, GPS, & compass		
Power Requirements:	100V-240V AC, 50/60Hz (with power supply unit for other Voltages on DC)		
Over and Reverse Voltage Protection	Zener Diode with resettable fuse		
Operating Temp:	0°C to +50°C		
Storage Temp:	-20°C to +60°C		
Humidity:	0-95% (no condensation)		
Dimensions:	Not more than 7"x21"x15" (17.78cm x 53.34cm x 38.1cm) (Width x Height x Length)		
Weight:	Not more than 15lb (6.80kg)		

B. Antenna Specification (For Both Fixed and Mobile Stations)

PARTICULARS	MINIMUM REQUIREMENTS	Pass	Fail
DF Technique:	Single-channel 2-phase Adcock		
Frequency Coverage:	20-75/75-200/200-512/512-1,000 MHz		
Bearing Accuracy:	3° RMS (VHF) 5° RMS (UHF)		
Polarization:	Vertical		
Output Impedance:	50 ohms nominal +25 dBm (20-75 MHz) +40 dBm (75-200 MHz) +36 dBm (200-512 MHz) +25 dBm (512-1,000 MHz)		
2 nd Order Intercept:	+15 dBm (20-75 MHz) +25 dBm (75-200 MHz) +25 dBm (200-512 MHz) +12 dBm (512-1,000 MHz)		
3 rd Order Intercept:	11-16 VDC @440 mA		
Operating Temperature:	-40°C to +70°C		
Humidity:	0-100%		
Dimensions:	Not more than 27"x23"x23" (68.58cm x 58.42cm x 58.42cm) (Less cables)		
Weight:	Not more than 14lbs (6.35kgs) (Less Cables)		

C. Workstation Specification for the Mobile and Fixed RDF Stations

PARTICULARS	MINIMUM REQUIREMENTS	Pass	Fail
Durability	MIL-STD-810G certified		
Display	At least 14" HD		

Battery	At least Up to 10hrs		
Processor	At least Intel Core i7		
RAM	At least 16GB		
Storage	At least 512GB		
Operating System	Windows 10 Pro		

5. ACCEPTANCE AND REJECTION:

The supplier shall comply with all certifications and documentary requirements. Failure shall cause rejection.

Acceptability of goods shall be determined by using the parameters based on Visual Inspection, Weight and Dimensional Inspection, Performance Test and Functionality Test.

6. RESULT:

The result of the test based on the above criteria shall be the basis of the Philippine Army Technical Inspection and Acceptance Committee (PA-TIAC) in the acceptance or rejection of the goods/items. The RMDF tested shall manifest compliance to each of the parameters indicated in the technical specification.


Prepared by:


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TWG Technical Officer


Noted by:


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Lieutenant General PA
Commanding General
Philippine Army

R E S T R I C T E D

HEADQUARTERS
PHILIPPINE ARMY
Fort Andres Bonifacio, Taguig City

AAR/ysy/mda/6041

AAPD

4 September 2023

LETTER ORDERS
NUMBER 317

SUBJECT: Detail

TO: All Concerned

1. Following-named Officers are detailed to compose the Technical Working Groups (TWGs) for Radio Monitoring Direction Finder (RMDF) and Spectrum Analyzer:

RADIO MONITORING DIRECTION FINDER (RMDF) TECHNICAL WORKING GROUP (TWG)

<u>Name</u>	<u>Unit/Office</u>	<u>Designation</u>
LTC FERDINAND C MARIANO GSC (MI) PA	OG2, PA	Chairperson
LTC FRANCIS N LIWAG (MI) PA	AIR	Vice-Chairperson
MAJ RENE G DATUGAN JR (MI) PA	OG2, PA	Commodity Manager
CPT ED BRYAN Z HERMOSURA (MI) PA	OG2, PA	Technical Officer
CPT JERMAINE A GENTILES (SC) PA	ASR	Technical Officer
CPT JAYVAN ROD T NARAG (JAGS) PA	OAJA	Legal Officer
MAJ GERALYN F AGUILAR (OS) PA	ASCOM	Logistics Officer
MAJ RUDY P ESICO JR (FS) PA	OG2, PA	Finance Officer

SPECTRUM ANALYZER TECHNICAL WORKING GROUP (TWG)

<u>Name</u>	<u>Unit/Office</u>	<u>Designation</u>
LTC FERDINAND C MARIANO GSC (MI) PA	OG2, PA	Chairperson
LTC FRANCIS N LIWAG (MI) PA	AIR	Vice-Chairperson
MAJ JOHN DERRICK D VIGO (MI) PA	OG2, PA	Commodity Manager
MAJ IVY M PILONES (MI) PA	OG2, PA	Technical Officer
CPT JERMAINE A GENTILES (SC) PA	ASR	Technical Officer
CPT JAYVAN ROD T NARAG (JAGS) PA	OAJA	Legal Officer
MAJ GERALYN F AGUILAR (OS) PA	ASCOM	Logistics Officer
MAJ RUDY P ESICO JR (FS) PA	OG2, PA	Finance Officer

2. For information.

BY COMMAND OF LIEUTENANT GENERAL GALIDO:


NELICAR E CORSINO
Lieutenant Colonel GSC (AGS) PA
Acting Army Adjutant

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"C"