PHILIPPINE BIDDING DOCUMENTS

For the

SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM WITH RELATED CIVIL WORKS FOR THE PHILIPPINE GENERAL HOSPITAL CANCER INSTITUTE

Project Reference No.: PUR21-07-0669

End-User: **DEPT. OF RADIOLOGY**

UPM – PHILIPPINE GENERAL HOSPITAL

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Goods through Competitive Bidding have been prepared by the Government of the Philippines for use by any branch, constitutional commission or office, agency, department, bureau, office, or instrumentality of the Government of the Philippines, National Government Agencies, including Government-Owned and/or Controlled Corporations, Government Financing Institutions, State Universities and Colleges, and Local Government Unit. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract or Framework Agreement, as the case may be; (ii) the eligibility requirements of Bidders; (iii) the expected contract or Framework Agreement duration, the estimated quantity in the case of procurement of goods, delivery schedule and/or time frame; and (iv) the obligations, duties, and/or functions of the winning bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Goods to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

a. All the documents listed in the Table of Contents are normally required for the procurement of Goods. However, they should be adapted as necessary to the circumstances of the particular Procurement Project.

b. Specific details, such as the "*name of the Procuring Entity*" and "*address for bid submission*," should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.

c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, Bid Data Sheet, General Conditions of Contract, Special Conditions of Contract, Schedule of Requirements, and Specifications are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.

d. The cover should be modified as required to identify the Bidding Documents as to the Procurement Project, Project Identification Number, and Procuring Entity, in addition to the date of issue.

e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.

f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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Glossary of Acronyms, Terms, and Abbreviations

ABC – Approved Budget for the Contract.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender*. (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

CDA - Cooperative Development Authority.

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

CIF – Cost Insurance and Freight.

CIP – Carriage and Insurance Paid.

CPI – Consumer Price Index.

DDP – Refers to the quoted price of the Goods, which means "delivered duty paid."

DTI – Department of Trade and Industry.

EXW – Ex works.

FCA – "Free Carrier" shipping point.

FOB – "Free on Board" shipping point.

Foreign-funded Procurement or Foreign-Assisted Project– Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

Framework Agreement – Refers to a written agreement between a procuring entity and a supplier or service provider that identifies the terms and conditions, under which specific purchases, otherwise known as "Call-Offs," are made for the duration of the agreement. It is in the nature of an option contract between the procuring entity and the bidder(s) granting the procuring entity the option to either place an order for any of the goods or services identified in the Framework Agreement List or not buy at all, within a minimum period of one (1) year to a maximum period of three (3) years. (GPPB Resolution No. 27-2019)

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term "related" or "analogous services" shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

GPPB – Government Procurement Policy Board.

INCOTERMS – International Commercial Terms.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national

buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

Supplier – refers to a citizen, or any corporate body or commercial company duly organized and registered under the laws where it is established, habitually established in business and engaged in the manufacture or sale of the merchandise or performance of the general services covered by his bid. (Item 3.8 of GPPB Resolution No. 13-2019, dated 23 May 2019). Supplier as used in these Bidding Documents may likewise refer to a distributor, manufacturer, contractor, or consultant.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;

b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;

c. The deadline for the submission and receipt of bids; and

d. Any important bid evaluation criteria (*e.g.*, the application of a margin of preference in bid evaluation).

The IB should be incorporated in the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.

University of the Philippines
The Health Sciences Center
BIDS & AWARDS COMMITTEE 1
BAC Office, PGH Compound
Taft Avenue, Manila
Tel. No. 554-8400 local 3014 / 3015

INVITATION TO BID FOR
SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM WITH RELATED SPECIALTY WORKS FOR THE PHILIPPINE GENERAL HOSPITAL CANCER INSTITUTE

1. The ***University of the Philippines Manila – Philippine General Hospital (UPM-PGH)***, through the ***General Appropriations Act CY 2021*** intends to apply the sum of **One Million Twenty Five Thousand Six hundred Forty Pesos & 00/100 (Php1,025,640.00)**, **inclusive of all taxes, such as, but not limited to, value added tax (VAT), income tax, local taxes, and other fiscal levies,** being the ABC to payments under the contract for ***Supply, Delivery, Installation, Testing and Commissioning of Brand-New Linear Accelerator System with Related Specialty Works for the Philippine General Hospital Cancer Institute under Project Reference No.: PUR21-07-0669***. Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The **UPM-PGH** now invites bids for the above Procurement Project. Delivery of the Goods is required by within the period stated in Section VI, Schedule of Requirements. Bidders should have completed, within two (2) years from the date of submission and receipt of bids, a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

3. Bidding will be conducted through open competitive bidding procedures using a non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

   Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA No. 5183.

4. Prospective Bidders may obtain further information from UPM-PGH BAC Secretariat and inspect the Bidding Documents at the address given below during office hours from 8:00AM to 4:30PM.

5. A complete set of Bidding Documents may be acquired by interested Bidders on **October 06, 2021** from the given address and website(s) below *upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of* ***Forty Thousand Pesos (Php40,000.00)***. The Procuring

Entity shall allow the bidder to present its proof of payment for the fees *in person or through electronic means.*

6. The **UPM-PGH** will hold a **Pre-Bid Conference** on **October 06, 2021, 9:00AM** at **Conference Room, BAC 1 Office, UPM–Philippine General Hospital, PGH Compound, Taft Avenue, Ermita, Manila** and/or through video conferencing or webcasting *via* ***ZOOM***, which shall be open to prospective bidders.

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address indicated below, on or before **9:00AM, October 29,2021**. Late bids shall not be accepted.

8. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 14.

9. Bid opening shall be on **October 29, 2021, 9:30AM** at the given address below. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. The UPM-PGH reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

11. For further information, please refer to:

ANNA LEAH G. VINLUAN
BAC 1 Secretary
UP-Philippine General Hospital
PGH Compound
Taft Avenue, Manila
Telephone No.: 554-8400 local 3014/3015
e-Mail Address: bac1pgh.upm@up.edu.ph / bac1.pgh@gmail.com

12. You may visit the following websites:

For downloading of Bidding Documents: *[www.philgeps.gov.ph] and [https://bidsandawards.upm.edu.ph/node/8557]*

Dean LEONARDO R. ESTACIO, Jr., PhD
Chairperson
Bids and Awards Committee (BAC) 1

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, UPM-PGH wishes to receive Bids for the ***Supply, Delivery, Installation, Testing and Commissioning of Brand-New Linear Accelerator System with Related Specialty Works for the Philippine General Hospital Cancer Institute***, with identification number ***PUR21-07-0669***.

The Procurement Project (referred to herein as "Project") is composed of **One (1)** ***item of Supply, Delivery, Installation, Testing and Commissioning of Brand-New Linear Accelerator System with Related Specialty Works for the Philippine General Hospital Cancer Institute*** the details of which are described in Section VII (Technical Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for ***General Appropriations Act CY 2021*** in the amount of **Two Hundred Thirty Million Pesos & 00/100 (Php230,000,000.00).**

2.2. The source of funding is:

a. NGA, the National Expenditure Program.

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manuals and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or **IB** by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have verified and accepted the general requirements of this Project, including other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, and Coercive Practices

The Procuring Entity, as well as the Bidders and Suppliers, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated

5.2. Foreign ownership exceeding those allowed under the rules may participate pursuant to:

i. When a Treaty or International or Executive Agreement as provided in Section 4 of the RA No. 9184 and its 2016 revised IRR allow foreign bidders to participate;

ii. Citizens, corporations, or associations of a country, included in the list issued by the GPPB, the laws or regulations of which grant reciprocal rights or privileges to citizens, corporations, or associations of the Philippines;

iii. When the Goods sought to be procured are not available from local suppliers; or

iv. When there is a need to prevent situations that defeat competition or restrain trade.

5.3. Pursuant to Section 23.4.1.3 of the 2016 revised IRR of RA No.9184, the Bidder shall have an SLCC that is at least one (1) contract similar to the Project the value of which, adjusted to current prices using the PSA's CPI, must be at least equivalent to:

a. For the procurement of Expendable Supplies: The Bidder must have completed a single contract that is similar to this Project, equivalent to at least twenty-five percent (25%) of the ABC.

5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.1 of the 2016 IRR of RA No. 9184.

6. Origin of Goods

There is no restriction on the origin of goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN, subject to Domestic Preference requirements under **ITB** Clause 18.

7. Subcontracts

7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than twenty percent (20%) of the Project.

The Procuring Entity has prescribed that:

a. Subcontracting is not allowed.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address at the **BAC1 Conference Room, BAC1 Office, PGH Compound, Taft Avenue, Ermita, Manila** and/or through {**ZOOM**} as indicated in paragraph 6 of the **IB.**

9. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

10. Documents comprising the Bid: Eligibility and Technical Components

10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.

10.2. The Bidder's SLCC as indicated in **ITB** Clause 5.3 should have been completed within *three (3) years* prior to the deadline for the submission and receipt of bids.

10.3. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. Similar to the required authentication above, for Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

11. Documents comprising the Bid: Financial Component

11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.

11.2. If the Bidder claims preference as a Domestic Bidder or Domestic Entity, a certification issued by DTI shall be provided by the Bidder in accordance with Section 43.1.3 of the 2016 revised IRR of RA No. 9184.

11.3. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

11.4. For Foreign-funded Procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Bid Prices

12.1. Prices indicated on the Price Schedule shall be entered separately in the following manner:

a. For Goods offered from within the Procuring Entity's country:

i. The price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable);

ii. The cost of all customs duties and sales and other taxes already paid or payable;

iii. The cost of transportation, insurance, and other costs incidental to delivery of the Goods to their final destination; and

iv. The price of other (incidental) services, if any, listed in e.

b. For Goods offered from abroad:

i. Unless otherwise stated in the **BDS**, the price of the Goods shall be quoted delivered duty paid (DDP) with the place of destination in the Philippines as specified in the **BDS**. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible source country.

ii. The price of other (incidental) services, if any, as listed in **Section VII (Technical Specifications).**

13. Bid and Payment Currencies

13.1. For Goods that the Bidder will supply from outside the Philippines, the bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies, shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

13.2. Payment of the contract price shall be made in:

a. Philippine Pesos.

14. Bid Security

14.1. The Bidder shall submit a Bid Securing Declaration[1] or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

14.2. The Bid and bid security shall be valid until *[indicate date]*. Any Bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

15. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

16. Deadline for Submission of Bids

16.1. The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB.**

17. Opening and Preliminary Examination of Bids

17.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

17.2. The preliminary examination of bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

18. Domestic Preference

18.1. The Procuring Entity will grant a margin of preference for the purpose of comparison of Bids in accordance with Section 43.1.2 of the 2016 revised IRR of RA No. 9184.

[1] In the case of Framework Agreement, the undertaking shall refer to entering into contract with the Procuring Entity and furnishing of the performance security or the performance securing declaration within ten (10) calendar days from receipt of Notice to Execute Framework Agreement.

19. Detailed Evaluation and Comparison of Bids

19.1. The Procuring BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*," using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of the 2016 revised IRR of RA No. 9184.

19.2. If the Project allows partial bids, bidders may submit a proposal on any of the lots or items, and evaluation will be undertaken on a per lot or item basis, as the case maybe. In this case, the Bid Security as required by **ITB** Clause 15 shall be submitted for each lot or item separately.

19.3. The descriptions of the lots or items shall be indicated in **Section VII (Technical Specifications)**, although the ABCs of these lots or items are indicated in the **BDS** for purposes of the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184. The NFCC must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder.

19.4. The Project shall be awarded as follows:

Option 1 – One Project having several items that shall be awarded as one contract.

19.5. Except for bidders submitting a committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation, all Bids must include the NFCC computation pursuant to Section 23.4.1.4 of the 2016 revised IRR of RA No. 9184, which must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder. For bidders submitting the committed Line of Credit, it must be at least equal to ten percent (10%) of the ABCs for all the lots or items participated in by the prospective Bidder.

20. Post-Qualification

20.2. Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS) and other appropriate licenses and permits required by law and stated in the **BDS**.

21. Signing of the Contract

21.1. The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Section III. Bid Data Sheet

Notes on the Bid Data Sheet

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

a. Information that specifies and complements provisions of the ITB must be incorporated.

b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

Bid Data Sheet

<table>
<tr><th>ITB Clause</th><td></td></tr>
<tr><td>5.3</td><td>For this purpose, contracts similar to the Project shall be:

a. Supply and Delivery of Linear Accelerator
b. Completed within 3 years prior to the deadline for the submission and receipt of bids.</td></tr>
<tr><td>7.1</td><td>Subcontracting is allowed</td></tr>
<tr><td>12</td><td>The price of the Goods shall be quoted DDP [state place of destination] or the applicable International Commercial Terms (INCOTERMS) for this Project.</td></tr>
<tr><td>14.1</td><td>The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts:

a. The amount of not less than _____ [Indicate the amount equivalent to two percent (2%) of ABC], if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or

b. The amount of not less than _____ [Indicate the amount equivalent to five percent (5%) of ABC] if bid security is in Surety Bond.</td></tr>
<tr><td>19.3</td><td>
<table>
<tr><th>ITEM NO.</th><th>Qty.</th><th>UNIT</th><th>ITEM DESCRIPTION</th><th>ABC PER UNIT (PhP)</th></tr>
<tr><td>1</td><td>1</td><td>Unit</td><td>Project: Acquisition/Purchase of One (1) Unit Linear Accelerator (Radiotherapeutic Unit) PGH, UP Manila
Project Profile: This project entails the supply, delivery, installation, testing, and commissioning of brand-new Linear Accelerator System with related civil works for the Philippine General Hospital - Cancer Institute
Project Design: Please see attached Proposed LINAC Bunker and Support Spaces</td><td>230,000,000.00</td></tr>
<tr><td></td><td></td><td></td><td>I. SCOPE OF WORK</td><td></td></tr>
<tr><td></td><td></td><td></td><td>I. Civil Works</td><td></td></tr>
<tr><td></td><td></td><td></td><td>A. Design Phase
B. Construction Phase</td><td></td></tr>
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					C. Fully integrated MV CBCT Imaging System D. Fully integrated kV CBCT Imaging System E. Immobilization Devices F. Oncology Information System (OIS) with Networking, Record and Verify System G. Treatment Planning System (TPS) H. LINAC Accessories I. Other requirements of the LINAC Machine J. Technical Specifications of the Dosimetry System K. Accessories and Supporting Equipment L. Provision for Future Remote Access to OIS and TPS M. Commissioning of the Linear Accelerator	
					A. Design Phase	
					1. The winning bidder shall prepare and submit signed and sealed complete Engineering Design Plans in 20" x 30" size of 3 copies, Scope of Works and Specifications of the Construction of Bunker and Facilities based on the PGH issued Schematic Architectural Plans and Engineering Brief Description of Works to be approved by to be approved by the OETS, the Chair of the Department of Radiology, the Deputy Director for Administration, and the Director. An electronic form shall also be submitted via e-mail to the end-user and the OETS. Engineering Design Plans shall include Structural Design, Architectural Design, Electrical Design, Mechanical (Airconditioning, Ventilation, Fire Pump System) Design, Telephone and LAN Design and Plumbing (Water, Sewer and Storm Drainage System) Design. Submission of complete electrical plans, signed and sealed by a professional electrical engineer and	

					for checking prior to endorsement by the OETS to the PGH Administration. Design for appropriate air-conditioning system (chiller type and split type) needed for Linac Bunker and Offices	
					B. Construction Phase	
					1. **Permits and Bonds.** The contractor shall apply for all Government permits such as Construction Permits and Occupancy Permit and shoulder the fees hereof. To protect the existing facilities the contractor shall submit Contractor's All-Risk Insurance (CARI).	
					2. **Demolition Works**. Demolition of the Nuclear Medicine Decay Room and Pump Room.	
					3. **Constructions and Relocation Works** a. Nuclear Medicine Decay Room i. Construction of Nuclear Medicine Decay Room with appropriate radiation shielding ii. Fabrication of Metal Shelving iii. Door shall be metal with radiation shielding iv. Ducted type exhaust fan with Hepa-filter	
					b. New Cistern Tank and Pump Room i. Construction of underground Cistern Tank for domestic water pump and fire engine turbine and waterproofing (same capacity of the existing tank) ii. Construction of Pump Room. This is to house motors, fire engine and its control panel.	
					c. Bunker and Facilities i. Construction of the linear accelerator bunker with	

						appropriate radiation shielding will follow IAEA or FDA-DOH specifications for a 6MV FFF stereotactic capability with a maximum dose rate of 800 MU/min as required by the IAEA standards.	
					ii.	Radiation survey results of the constructed LINAC Bunker (primary and secondary walls, doors and ceiling) should be below the regulatory/international standard radiation limits (instantaneous dose rate of at most 7.5μSv/h).	
					iii.	Bunker room dimensions shall be able to accommodate a machine with 6MV & 10 MV photon energy LINAC machine requirements.	
					iv.	Bunker design shall be duly evaluated and verified by the PGH in-house board-certified radiation oncology medical physicist (ROMP) and approved by the DOH-FDA before construction.	
					v.	Installation of radiation warning lights and radiation signage shall follow DOH-FDA recommendations.	
					vi.	The water chiller shall be connected to the existing water system of the hospital, with its accompanying water supply and plumbing.	
					vii.	Complete installation of all network cabling, conduits, wirings, switches, and circuit	

					breakers will be compatible with any winning bidder's requirement. viii. There will be installation of water sprinklers, smoke detectors, fire alarm system, proper signage and fire exits & clearances as required by the Bureau of Fire Protection. Room labels will be installed. ix. Establishment of connection to the Brachytherapy CT Scan & 16 Slice Somatom Emotion located in Cancer Institute Building. x. Essential Rooms will be constructed, as follows: 1) LINAC Treatment Room Construction of storage for the following: • Masks, breast boards, wing boards, cradles, belly board, abdomen and pelvis baseplates & thermoplastic, shoulder retractor, etc • Linen • Machine's spare parts and kit Provision for the following: • Overhead laser and lateral wall laser installation • Emergency-off switches on the walls of the treatment room • Base frame pit and installation, with appropriate	

					dimensions to accommodate any winning bidder's LINAC machine • LINAC machine's cooling system (pipes and chillers) • Beam on and x-ray warning lights in the treatment room and over the treatment door, which indicate beam-on condition • Dimmer switch for lights • Slanted holes/duct for LINAC machine cables and for Physics instrument cables into the treatment console room 2) LINAC Control Console Room Provision for the following: • countertop/customized computer counter for LINAC console and its accessories • built-in, wall-mounted cabinets for storage of patient charts 3) Treatment Planning Room Renovation of the existing treatment planning room, dosimetry room, and small consultation room of the existing LINAC1 facility to a new treatment planning room. Provision for the following:	

					• countertop with drawers for the treatment planning system computers • bookshelves and filing cabinets for storing patient charts and documents 4) Equipment & Supply Room Provision of built-in cabinets for storage of machine spare parts, engineer's tools, QA tools and dosimetry equipment Provision of built-in cabinet for storage of immobilization devices, styro, blocks, linens, patient gowns and office supplies 5) Electrical Room Provision for the main circuit breaker, electrical line and LINAC machine's air compressor. 6) Patient Waiting Area Will be able to accommodate a seating capacity of at least 30 at a given time with space for storage and transport of hospital beds and wheel chairs Provision for four (4) four-seater gang chairs xi. Renovation of Cancer Institute - Room 104 1) Renovation to become a consultation room (to be done ahead of other items) 2) Provision of the following: • Fours (4) desks	

					• Bookshelves and filing cabinets for storing patient charts and documents xii. Provision of appropriate fire protection system d. Relocation Works and Provision of Temporary Utilities i. Provision of temporary water supply line for SOJR building while construction of LINAC 3 is ongoing. This includes supply of 80 gallons pressure tank, 2HP water pumps, valves, fittings, electrical supply, and other needed materials to complete the installation. Electrical supply to be tapped to the nearest power source. ii. Transfer of Water Pumps and Fire Engines including all accessories and control panel. All piping works include suction, discharge pipe, valves, reducer coupling, etc. to complete the system. Scope also includes connection to the tapping line (water and sprinkler system) and transfer of electrical power supply. iii. Testing and commissioning of the newly transferred Water Pumps and Fire Engines e. Electrical Scope i. Supply, installation, testing and commissioning of required/appropriate main feeder lines (Conduit pipes with	

					cables) from designated tapping point at PGH powerhouse and LINAC control room including provision of required molded case circuit breaker at the source ii. Supply, installation, testing and commissioning of appropriate dry-type transformer for required hospital equipment including necessary circuit breakers at the high-voltage and low-voltage side including grounding rod and wires. iii. Supply, installation, testing and commissioning of necessary lightings, switches, duplex convenience outlets, conduits, panelboards and other materials for the necessary rooms/areas covered by this project. iv. Supply, installation, testing and commissioning of necessary wirings for all airconditioning units, exhaust fans, warning lights and exit signages v. Supply, installation, testing and commissioning of necessary controls needed for the operation and protection of equipment including uninterruptible power supply (UPS) vi. Provision of as-built electrical plan including load directory at electrical panel	

					vii. Facilitation of electrical permits f. Air-conditioning Scope i. Design for appropriate air-conditioning system (chiller type and split-type) needed for LINAC bunker and offices ii. Centralized air conditioning system within the facility, as well as separate back-up individual air-conditioners as cited in II.K.1., will be provided. iii. All aircon units are inverter type iv. All condensing units should be installed in the roof deck of the bunker and for chiller type will be aligned to the water source for easy tapping. v. Condensate drainpipe should be embedded and tapped to the nearest drainline vi. Aircon pipes should be insulated with rubber insulation ¾ inch wall thickness and wrapped by polyethylene tape color white. Provision of hangers for piping that will be laid above the ceiling vii. Ducting for chiller type aircon should be wrapped by silver insulator according to airconditioning standards. Ducting should be provided with appropriate hangers for protection against sagging inside the ceiling. g. Materials testing Testing of materials shall be shouldered by the contractor	

					II. SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM	
		1			**A. Installation and Testing of LINAC Machine**	
					To be reckoned upon issuance of certificate of inspection and work accomplished from OETS	
		1			**B. Technical Specifications of the Linear Accelerator**	
					1. Tight isocenter alignment, at least 1 mm isocenter accuracy for the following: a. Gantry isocenter accuracy b. Radiation beam axis with the rotation of the gantry 2. Fully/Completely digitally-controlled system 3. Waveguide and filter design allow at least one (1) photon energy 4. Allows for online remote diagnostic monitoring of the LINAC machine and treatment planning system during the warranty period; post warranty remote diagnostic monitoring will be the option of the procuring entity 5. Beam Energy: Photon Energy - 6MV 6. Power Source: Magnetron or Klystron as power source 7. Back-up Power Supply: Uninterrupted Power Supply (UPS) to support the Linear Accelerator Machine and all its accessories for at least 15 minutes in case of power failure (as provided by a third-party supplier) 8. Dose Rate and Beam Stability 6 MV Photon: Maximum dose rate of at least 800 MU/min at Dmax 9. Gantry a. Gantry Rotation Range: minimum of 0 ±185° b. Gantry Rotation Accuracy: at least 0.5°	

					c. Gantry Rotation Reproducibility: not greater than 0.5° d. Gantry Maximum Rotational Speed: at least 4.0 RPM e. Gantry Display: Digital Display f. Digital display must be visible inside the bunker and treatment console 10. Bore size: at least 85 cm in diameter 11. Multileaf Collimators (MLC): a. Number of leaves: At least 110 MLC leaves b. Leaf width resolution: not greater than 6.5 mm c. Maximum leaf extend position over the isocenter: at least 14 cm d. Maximum leaf retract position over the isocenter: at least 14 cm e. Leaf over travel: at least 14cm f. Maximum leaf travel speed: at least 5 cm/s g. Leaf beam transmission: ≤0.5% h. Leaf end position accuracy: ± 1mm i. Leaf end position repeatability: ± 1mm j. MLC control must be fully integrated with the digital control system; if not, an interface between MLC and existing network system shall be provided 12. Couch a. At least three (3) degrees of freedom (longitudinal/Y, lateral/X, vertical/Z) b. Electrical and mechanical control of couch motion c. Couch weight limit (supporting patient weight): at least 220 kilograms d. Couch travel range: i. Lateral: ±20cm ii. Vertical: at least -40cm	

					iii. Longitudinal: at least +160cm e. Couch travel range accuracy: ± 2mm f. Couch capable of the following treatment techniques: i. Intensity Modulated Radiation Therapy (IMRT) ii. Image Guided Radiation Therapy (IGRT) iii. Volumetric Modulated Arc Therapy (VMAT)/RapidArc/Helical g. With controls for manual motion and emergency off buttons on both sides of the couch h. Carbon fiber material; free of metal and radiation-opaque materials i. Two (2) lock bars (ordinary and MRI compatible) 13. Treatment Delivery Technique Capability a. Field in Field b. IMRT c. IGRT d. VMAT/RapidArc/Helical 14. Imaging Technique Capability a. MV Cone Beam Computed Tomography (MV CBCT) b. kV Cone Beam Computed Tomography (kV CBCT) c. Includes couch mount for imaging i. Adjustment for AP, lateral, and vertical movement ii. Locks for adjustments to ensure stability 15. Control Console a. The computerized control console, consisting of several workstations depending on the manufacturer.	

					i. All the functions and modes of the accelerator shall be software controlled. ii. Console shall provide controls that must be activated in order for the accelerator to become operational in any of its various modes of operation. iii. All modes and functions of the accelerator shall also be operated manually in case of any software malfunction. iv. There shall be UPS per computer system with at least 15-minute working time. b. Able to do auto-field sequencing integrated with oncology information system c. Integrated with oncology information system to display patient setup, treatment verification, and recording of treatment history into the OIS and file d. Integrated with oncology information system for imaging of treated fields before, during, and after the treatment for verification requirements e. Integrates use of the linear accelerator, MLC, MV imaging system, kV imaging system or separate workstations for MV imaging system and kV imaging system	
		1		**C. Fully integrated MV CBCT Imaging System**		
				1. Maximum planar imaging size: at least 28 x 28 cm2 2. Active imaging area: at least 40 x 40 cm2		

					3. Image and treatment coincidence: ≤ 1.0mm 4. MV CBCT reconstructed volume length: at least 25 cm 5. MV CBCT scan diameter: at least 25 cm 6. MV CBCT spatial linearity accuracy: ± 0.5mm 7. Viewable Pixels: at least 1280 x 1280 8. Dose per MV CBCT acquisition: maximum of 5 MU 9. Hounsfield Uniformity: ±50 HU 10. Full integration with Oncology Information system, network and database. Should also be compatible with other (3rd party) oncology information systems. 11. Includes application software and acquisition workspace a. Online and offline matching and image evaluation b. Match verification tools and image matching tools (blend, color blend, spyglass window, split window)" 12. Able to do portal dosimetry to record intensity patterns of IMRT fields for pre-treatment quality assurance of IMRT planning and delivery a. Able to do continuous imaging in single, multiple or movie-loop mode b. Includes image analysis software for field fluence evaluation and analysis	
		1			**D. Fully integrated kV CBCT Imaging System**	
					1. Maximum reconstruction scan range: at least 38 cm 2. Maximum scan diameter: at least 48 cm 3. Spatial linearity accuracy: ± 0.5mm 4. Image and treatment coincidence: ≤ 1.0mm 5. Hounsfield Uniformity: ±50 HU 6. Acquisition kV range: 80 kV - 140 kV 7. Acquisition exposure time range: 10 - 25 ms	

					8. kV Source/X Ray tube: Fan cooled x ray tube 9. Has kV CBCT mode for different anatomical programs (i.e. Head, Breast, Thorax, Pelvis) 10. Ability to export images via DICOM for image analysis a. OIS integration and connectivity (2D, 3D, and 4D systems) b. TPS configuration and connectivity (2D, 3D, and 4D systems) 11. Imported DICOM image analysis and evaluation software includes: a. Auto-matching tools b. Image match verification tools c. Other tools that measure distance and angles 12. Images acquired from CBCT (cone beam computed tomography) can be used for adaptive treatment planning 13. Quality Assurance and calibration phantoms (as supplied by a third party) a. Isocenter cube phantom i. Composed of PMMA or material equivalent in density ii. At least 4 x 4 x 4 cm3 in size b. Marker phantom to check for imaging-treatment isocenter coincidence for 2D and 3D imaging system or MV isocenter determination and kV system calibration (ball bearing, fiducial, or commercial device) c. Phantom to quantify uniformity, spatial resolution and contrast: i. Contrast and spatial resolution 2D kV system; phantom with low-contrast and high contrast objects (such as Leeds Phantom)	

					ii. Contrast 3D system: an appropriate volumetric image quality phantom (such as a CT phantom) iii. Volumetric Image Quality Phantom with the following modules: 1) geometry, sensitometry module 2) high resolution module with 1- to 30-line pairs per cm gauge 3) low contrast module with supra-slice and sub-slice contrast targets 4) wave ramp and bead module or wave insert 5) image uniformity module d. CBCT Phantom for the evaluation of the image quality of 3D CBCT, includes various inserts and can be used to measure different aspects of CBCT image quality i. CBCT body normalization phantom (polyurethane foam) ii. CBCT head normalization phantom (high density polyethylene foam) iii. CBCT geometry calibration phantom iv. CT image quality phantom	
				E. Immobilization Devices		
		1		1. Head, neck and shoulder devices a. Baseplate i. Standard angulation		

		1 1		1) Carbon fiber material 2) MRI compatible ii. Tilting angulation: Carbon fiber material	
		30 20		b. Thermoplastic mask i. Head and neck masks ii. Head, neck, and shoulder masks	
		6 1 1 1		c. Head rest i. Head rests, with standard sizes of A-F with comprehensive range of neck angulations ii. Adult prone iii. Pediatric sets 1) prone 2) supine iv. No transmission correction needed for high energy beams	
		20 5		d. Bite Block i. Standard bite blocks ii. Large bite blocks	
		1		e. Shoulder retractor	
		2 2 10 10 1 20		2. Chest and breast immobilizer a. Breast board; carbon fiber material b. Wing board: carbon fiber material c. Vacuum Cushion Immobilizer i. Whole/full body ii. Half body iii. Vacuum/compressor pump iv. Breast Thermoplastic Mask compatible with the breast board and needed accessories as prescribed for use by the manufacturer	
		1 2		3. Abdomen and pelvis immobilizers a. Belly board: carbon fiber material b. Abdomen and pelvis immobilization system with abdomen and pelvis	

				baseplate: carbon fiber material	
		20		c. Reinforced thermoplastics compatible with the abdomen and pelvis baseplate	
				4. Other devices	
		1		a. Patient transfer board	
				b. Tungsten eye shields	
		1		i. Pair of small	
		1		ii. Pair of medium	
		1		iii. Pair of large	
				c. Testicle shields	
		1		i. Small	
		1		ii. Medium	
		1		iii. Large	
		2		d. Patient restraint belts	
		2		e. Calipers: stainless steel with parallel arms and calibrated in cm	
		1		f. Set of multipurpose support cushions and wedges	
				g. Bolus/tissue equivalent build up material, at least 30 cm x 30 cm	
		2		i. 0.5 cm thickness	
		2		ii. 1 cm thickness	
		2		iii. 1.5cm thickness	
				F. Oncology Information System with Networking, Record and Verify System	
		1		1. LINAC Server a. High storage capacity server that can store at least 10000 patients' data b. Monitor: not smaller than 20" LCD monitor c. Uninterrupted power supply with at least 15 minutes working capacity d. With appropriate port hubs and all necessary network connections as prescribed by the manufacturer e. To be placed in the proposed Treatment Planning Room f. Must be of the latest model and latest software version by the manufacturer.	
		3		2. Workstations	

					a. To be placed at Treatment Control Room, CT Console at Brachytherapy Facility, and Consultation Room b. Processor: Current generation of at least Intel i5 c. Current generation chipset d. Memory: not smaller than 16GB, DDR4 RAM e. Has the current generation Intel HD graphics f. Has keyboard, mouse, and USB terminals g. Storage: not smaller than 1TB h. Optical drive DVD – writer i. Display 23" LED j. Has Wi-Fi card for wireless connectivity k. Must be of the latest model by the manufacturer. l. UPS with at least 15 minutes working time capacity for every workstation 3. OIS Software includes the following: a. Patient data administration and electronic medical record b. Independent treatment verification c. Treatment and port image review d. Time planner/scheduler e. Electronic patient RT chart f. Chart audit and checking/assessment g. Capable to archive and restore Patient data h. Must be of the latest software version by the manufacturer. 4. Provision for remote access to the distributor for remote service and diagnosis; including cabled high-speed internet connection.	
					G. Treatment Planning System	
					1. Contouring a. Supports contouring templates that list structures of interest b. Boolean operations (such as AND, OR, XOR, AND NOT) with	

					structures to create complex structure definitions or equivalent contouring tools (margin, subtraction and addition) c. Advanced contouring tools with patient identity information should be available d. Automatic segmentation/contouring based on electron density values for different organs should be included 2. Image Registration a. Image registration support includes CT scan, MRI, and PET via DICOM b. Able to do image fusion c. Patient data acquisition through DICOM import facility from CT Scan, CBCT, MRI and PET 3. Planning, Dose Calculation, and Optimization a. Treatment planning for photon and electron beam of all energies in the therapeutic range b. Able to do treatment plans for conventional, 3D-conformal, IMRT, VMAT/RapidArc/Helical (licenses to compute included) i. IMRT Planning License: utilizing sliding window, large field, and step and shoot technique ii. VMAT/RapidArc/Helical Planning License with multi-arc fields capabilities c. Includes advanced dose calculation algorithms for Monte Carlo equivalent photon calculation (such as Monte Carlo, AcurosXB	

					enhancement) and Monte Carlo algorithm for electron. d. Inverse planning software for IMRT and VMAT/RapidArc/Helical e. Can utilize graphics processing unit for plan optimization f. Capable of multi-criteria optimization g. Able to display target and critical structure motions using 4D tools for respiratory-gated treatment plans for IMRT and VMAT/RapidArc/Helical i. 4D image series are displayed as movie loops and as blended or blinking images ii. 4D image displays supports CT, PET/CT, PET and images from the kV imaging system attached to the machine h. Capable of adaptive treatment planning i. Support regular and irregular fields for all types of beam modifiers such as bolus, MLCs, tissue compensator, and asymmetric beam j. Capable of making tissue inhomogeneity correction (as per electron density), irregular point dose calculation and auto contouring as per CT data. k. Able to provide enhance organ at risks (OARs) and target overlap and small structure management. 4. Plan Evaluation and Analysis a. Side by side plan comparison b. DVH for multiple plans in one plot, DVH for any multiple structure volumes in one plot	

				c. Differential or cumulative dose volume histogram d. Absolute or relative scale for the structure volume axis of DVH plot e. Plan summation/subtraction for external beam plans, can store summed plans f. Electronic plan approval 5. Quality Assurance a. Able to do portal dosimetry calculation for VMAT/RapidArc/Helical and IMRT fields on electronic portal imaging device/MV system b. Supports In-Vivo Estimation Dosimetry for IMRT/VMAT/RapidArc/Helical treatment plans i. Capable of automatic accumulation and evaluation of recalculated daily delivered doses ii. Can qualitatively assess areas of over-dosing and under-dosing due to anatomical changes and imperfect set up iii. Can provide DVH comparison of actual delivered dose to planned delivered dose 6. System administration utilities including back-up, archive, and restore	
		3 5		7. Workstations a. Calculation workstation/treatment planning system with physics license and UPS with at least 15 minutes working time capacity for every workstation with licenses. With medical grade display not smaller than 23”.	

			1 1 1		b. Non calculation workstation/contouring station with contouring license and UPS with at least 15 minutes working time capacity for every workstation with licenses. With medical grade display not smaller than 23". c. Must be of the latest model and latest software version by the manufacturer. 8. Printers a. Heavy duty laser monochromatic printer with two (2) additional sets of ink b. Heavy duty laser colored printer with two (2) additional sets of ink 9. Automated Plan Conversion If the machine is not of the same brand and model of the existing LINAC machine the following conditions shall be met: a. Winning bidder shall provide connectivity to the offered treatment planning system (TPS). It shall be connected to the existing OIS, and be able to store contoured DICOM images and convert or translate it to an acceptable file for treatment planning on the existing and new TPS storage capacity. b. Computer storage capacity shall be able to store at least 4000 patient treatment data. c. Performance of beam data gathering and commissioning of the existing LINAC machine shall comply with the beam data requirements of the new TPS to be done by the in-house medical physicist. d. Beam data gathering of the new LINAC machine shall comply with the beam data requirements of the existing	

					TPS to be done by the in-house medical physicist. 10. Able to import/export patient image, contours, and plan data to/from the existing Treatment Planning System of the Division of Radiation of Oncology 11. Supports DICOM-RT import/export of at least DICOM images or higher and radiotherapy images, structures, plans, dose matrix, dose points, fluence, dMLC for IMRT, blocks, compensators, etc. 12. Import filters include image transfer via LAN, CD-ROM, film scanner, digitizer for non-CT based patients (brachytherapy films and irregular images) and dosimetric beam data from all brand name water phantoms (e.g. Sun Nuclear, IBA, PTW, etc.)	
				H. LINAC Accessories	
		1		Laser Alignment System for the LINAC Machine (Four Cross Laser System)	
				I. Other requirements of the LINAC Machine	
		1 1 1 1 1 2 1		1. Leaded door (borated polyethylene) for the LINAC bunker 2. Set of patient intercom system in the treatment room and control console 3. CCTV Camera system: High resolution six (6)-piece camera system (two cameras for the main treatment area, one for the maze, 2 for the reception/waiting area, and one for the corridor) with three (3) views 4. Intercom in the Treatment Console shall be connected to the existing Intercom system (i.e. connection to Reception Area, CT Console Rooms (at LINAC and brachytherapy facilities), Treatment Planning Room) 5. Set of radiation warning lights above the LINAC room door connected to the treatment machine 6. Water chillers; specifications as prescribed by the manufacturer	

			5		7. Air compressor if required by the manufacturer; specifications as prescribed by the manufacturer 8. Dehumidifiers (three for the treatment room, one for the treatment planning room, and one for the equipment dosimetry room) a. 20 Liter capacity b. Wheel-mounted c. Automatic adjustable humidistat d. Water tank full indicator with auto shut-off e. Ozone friendly refrigerant, frost-free f. 100% CFC g. At least ¼ hp, 220-240 V	
					J. Technical Specifications of the Dosimetry System	
			1		1. Radiation Field Analyzer or Beam Scanner a. Advanced 3D computer-controlled radiation scanning system to measure dose distribution comprised of: i. 3D mechanics with scanning volume of not smaller than 40 cm x 65 cm x 330° ii. Calibrated high-precision mechanics with built-in levelling frame iii. Can fit inside the Linear Accelerator Bore iv. Calibrated high-precision mechanics with built-in leveling frame v. Water phantom carriage with electrically operated telescopic lift vi. Water reservoir carriage with bi-directional pump (fill and drain water)	

					vii. Control unit with built in two channel electrometer and with TNC connector viii. Hand-held control	
		1			ix. Set of detector holders for use of Farmer, parallel plate and field/reference Ionization Chambers (IC)	
					b. Fast, accurate, simple and easy setup scanning system c. Storage case and dust cover	
		1			2. Advanced acquisition and analysis software with laptop computer system a. Support of all international and industry protocol (such as IAEA, AAPM, etc) b. Compatible with all commercial radiation treatment planning systems c. License for installation of the software on up to (3) three additional workstations d. Can measure electron and photon profiles, depth dose curves and TMR/TPR e. Flexible ASCII tables including export to MS Excel f. Capability for radiation treatment planning software specific measurement queue creation and data conversion to the treatment planning system	
		1			3. Farmer Type Ion Chamber a. Farmer type ionization chamber 0.6 cc with plastic walls, Co-60 build-up cap, waterproof and fully guarded, calibrated in a standards laboratory in terms of absorbed dose to water b. Ionization chamber model must be included in IAEA TRS 277/382/398 protocols	

					c. With ion chamber holder or adapter for absolute measurements in water phantom and existing check source	
					4. Ionization Chambers for Small Field Dosimetry a. Ion chambers with the following volume, cylindrical, waterproof and fully guarded: i. Not bigger than 0.015 cc Cavity Volume with graphite central electrode ii. Not bigger than 0.04 cc Cavity Volume iii. Not bigger than 0.125 cc Cavity Volume b. With ion chamber holder or adapter for absolute measurements in water phantom and existing check source	
		1 1 2				
		1			5. Therapy Dose Meter (Electrometer) a. Must be compatible with the delivered ionization chambers, calibrated in a standards laboratory i. Power supply is 220-240 V, stable and high accuracy in the measurements, with display of accumulated charge and dose, varying bias voltage with V1/V2 ratio equal or greater than 3, dose rate, exposure time, leakage and other important information that ensure validity of the instruments and with possibility of reverse polarity b. With calibration certificate, electrometer technical and user manual c. Complete with necessary accessories and carrying case	

			1 2		6. Detector Extension Cables a. Low noise triaxial cable on reel not shorter than 20 meters b. Low noise triaxial cable on reel not shorter than 10 meters c. Low radiation leakage cable and resistant against radiation damage	
			1		7. Barometer Digital, with selectable unit of pressure, 1 hPa or 0.5 mm Hg minimum scale, calibrated in a standard laboratory, with calibration certificate, technical data and user manuals in English	
			1		8. Thermometer Digital, with selectable unit of temperature, 0.5°C min scale calibrated in Standards Laboratory, with calibration certificate, technical data and user manual in English	
			1		9. Hygrometer Digital calibrated in SI units in a Standards Laboratory, with calibration certificate, technical data and user manuals in English	
			1		10. Desiccator cabinet, at least 4 levels, with at least 114 Liters Capacity with humidity and temperature indicators and controls, calibrated to SI units, 220-240V	
			2		11. Radiotherapy Area Monitor a. Radiation area monitoring system installed inside the treatment room and at the control area b. Flashing red lights alarm with 180° field of view, with aural alarm switch ON/OFF and with battery back-up for at least 24 hours	
			100 100		12. Ready Pack radiotherapy verification films a. Size 20 x 20 cm2 b. Size 35 x 35 cm2	
			50		13. Gafchromic verification films: at least 35 x 35 cm2	

		1		14. Digital level: magnetic horizontal, vertical and diagonal bubble level; durable	
		1		15. 4D Patient Plan Verification Dosimetry System a. For volumetric modulated RT patient treatment plan verification b. Matrix detector grid c. Able to do the following analyse: i. 2D dose analysis: compare data or absolute dose data using Distance to Agreement (DTA), Gamma (Ɣ) and Gradient Compensation ii. Control point analysis (VMAT/RapidArc/Helical): individual control points and user-defined arc sections can be analyzed for a full arc or sub arc. iii. Equivalent VMAT/RapidArc/Helical Analysis system: verification of VMAT/RapidArc/Helical plans using densities of ROIs from a TPS to calculate SSD, geometric and effective depth automatically for VMAT/RapidArc/Helical and IMRT plans iv. MLC analysis: evaluate the difference between the planned and delivered MLC pattern d. Include detector array, compatible phantom and software capable of DVH QA analysis	
		1		16. Chamber matrix for measurement of radiotherapy beam	

					a. Measure fields up to a size of at least 20 cm x 20 cm2 b. Analysis parameters shall include dose output, flatness, symmetry, field size, light-radiation field coincidence, penumbra, dose rate and beam center	
		1			17. Radiation Survey Meter a. Battery-operated ionization radiation survey meter b. Digital, accurate, auto ranging, zeroing with warm up of less than 2 minutes c. Units of measurement are indicated at all times and capable of showing messages for unit operating conditions d. Radiation detected: alpha, beta, gamma and x-ray, 0-2 Sv/hr e. Calibrated in SI units f. With calibration certificates and user manual	
		1			18. Water phantom for absolute dose measurement a. One dimensional, stand-alone water phantom for absolute dose measurements according to IAEA TRS-398 dosimetry protocols b. Minimum of 25cm x 35cm x 25cm volume, with PMMA wall c. With Farmer ion chamber and plane parallel plate chamber adapters and holding device on a vertical beam measurement for waterproof Farmer ion chamber and Parallel Plate Chamber d. The measurement depth can be manually adjusted with 0.1mm steps and read out on the incremental encoder with integrated digital display	
		1			19. Independent Monitor Units (MU) Check Software Software for accurate and independent verification of monitor	

					units, dose, and overall validity of standard, IMRT, VMAT/RapidArc/Helical	
					K. Accessories and Supporting Equipment	
					1. Air Conditioning System a. Centralized Air Conditioning System (inverter-type) in all areas of the facility b. Back-up Air Conditioning Units i. 1.5 T Air Conditioning Unit 1) To be placed in the following rooms: a. Treatment Planning Room & Server Room b. Treatment Console c. LINAC Bunker d. Equipment Dosimetry Room e. Patient Waiting Area 2) Wall-mounted or ceiling-mounted 3) Inverter-type compressor	
			3 1 2 1 2 2			
					ii. 3T Air Conditioning Unit 1) To be placed in the LINAC Bunker 2) Ceiling-mounted or wall-mounted 3) Inverter-type compressor	

			1		iii. 2 HP Air Conditioning Unit to placed in Cancer Institute Room 104	
					2. Fire Extinguisher: a. To be placed in the following areas:	
			1		i. LINAC Bunker	
			1		ii. Treatment Console	
					b. Green Type HCFC	
			10		3. Fire Alarm & Detector: a. Battery-type and with audio alarm b. To be placed in areas as recommended by Bureau of Fire Protection	
			2		4. Foot Stools a. Stainless steel b. With skid-resistant rubber mat c. Two-step	
			1		5. Thermometer with Hygrometer (combined) for the LINAC Bunker a. Digital b. Wall-mounted c. Measurement range humidity: 5%-95% RH or better d. Measurement range temperature: 0°-55.0°C or better	
			10		6. Electrical Extension Cord a. Heavy duty 8 ft cord b. Provides protection from power surges, spikes and AC contamination c. At least four (4) surge-protected outlets	
			4		7. Emergency Lights: to be placed in areas as required by Bureau of Fire a. Heavy duty b. Automatic c. LED type d. Fire-retardant casing	
					8. Exhaust Fan	
			1		a. To be placed in the LINAC bunker	
			5		b. To be placed in areas recommended by the Hospital Infection Control Unit	

			1		9. MRI-Compatible Wheeled Stretcher a. Manual backrest with 1 mm thick stainless-steel top b. Fixed height c. Rubber bumper on all sides d. Sliding side rails e. Fixed IV pole f. With two sets patient restraints g. Heavy duty 8” caster wheels with brakes and ball bearing h. Diagonal oxygen tank holder	
			2		10. MRI-Compatible Wheelchair a. Non-ferrous wheelchair b. With IV pole and E-cylinder	
			4		11. Computer Set Desktops a. Current generation i7 or higher b. Current generation chipset c. Memory 16GB, DDR4 RAM or higher d. Intel HD graphics; keyboard, mouse, USB terminals e. Local Storage of at least 1 TB. Hard disk drive and solid-state drive are both acceptable f. Optical drive DVD – writer g. Has wifi card for wireless connectivity h. Monitor should be at least 21” LED i. Network interface 10/100/1000 MB ethernet j. Operating System: Current generation Windows Professional 64bit k. Microsoft Office lifetime license	
			1		12. Anesthesia Machine with Multiparameter Patient Monitor a. Anesthesia Machine i. Must have Three Gas Systems (O2, Med. Air and N2O) ii. Must have dual tubes (Macro and Micro) for each gas; Min oxygen	

						flow for micro must be 50ml or below iii. With separate auxiliary outlet of oxygen with own flow meter for nasal cannula/face mask use iv. Must have auxiliary common gas outlet for non-rebreathing system (NRBS) v. Can provide nominal 21% concentration of oxygen in O2/N2O mixture (hypoxia guard proportioning system) vi. Must have at least two (2) Vaporizer Mounts: One (1) Isoflurane and One (1) Sevoflurane vaporizer compatible with the machine vii. Must be equiped with standard pin index yoke for gases (for oxygen only); May have yoke for N2O also viii. Must have reusable breathing circuit natural latex-free and autoclavable at 134°C for up to 10 mins. or settings prescribed by manufacturer ix. Breathing system must be fully integrated in the workstation x. One step bag-vent switch turns ventilator on/off xi. Adjustable pressure limiting valve with tactile indicator xii. Circuit volume of 2.6 L maximun including canister capable of low-flow anesthesia	

					xiii. Easy to remove/no tools needed for assembly/disassembly of breathing system xiv. Quick-change CO2 absorber with water tap (CO2 cannister, 1500G or lower) xv. Must have active gas scavenging system xvi. Must be equipped with gas pressure gauges (pipeline & cylinder) xvii. Must be equipped with oxygen flush valve xviii. Re-usable breathing head corrugated tubings must have universal adaptors/coupling xix. High-pressure tubings/adapter/connector/coupling for pipeine gases: Machine side: DISS; Gas pipeline outlet side: Medstart/OxequipTM type or DISS xx. Medical grade Electrical outlets wilh circuit breaker fuse in AM anesthesia machine base unit xxi. Anesthesia Machine Base Unit- standard for equipment model (trolley, drawers, mounts, electricals, pneumatics) b. Ventilator Specifications i. Operating Modes: 1) Volume Controlled Ventilation 2) Pressure Controlled Ventilation 3) Pressure Support	

					4) Synchronized Intermittent Mandatory Ventilation 5) Manual Ventilation 6) Spontaneous Breathing ii. Monitored Parameters 1) Expired Volume 2) Expired Flow 3) Respiratory Rate 4) Airway Pressure with Pressure waveform display 5) Allows Alarm Management iii. Control Input Ranges: 1) Breathing Frequency (rate) 4 to 100 bpm (VCV, PCV) 2) Positive End Expiratory Pressure (PEEP) 0 to 20 cmH2O or OFF, 4 to 30 cm H2O. Up to 30 cm H2O PEEP is acceptable. 3) Inspiration/Expiration Ratio (Ti:Te) 4:1 to 1:8 4) Pressure Limiting (Plimit) 10 to 100 cmH2O (hPa). 5) Tidal Volume (Vt) 20 to 1500 mL in Volume Control	

			1		6) Compliance Compensation on Delivered TV 7) Low-flow compensation iv. Other Requirements 1) Fresh Gas Decoupling or Dynamic Fresh Gas Compensation 2) One bellows for all patient range (neonate to adult) 3) Allows direct access to ventilator parameters c. Multiparameter Patient Monitor Specifications: i. Must be able to monitor the following basic parameters: 1) 5-lead ECG (with ST and arrhythmia analysis; ESU cable; lead wire set-grabber/squeeze/alligator clip or snap style) 2) SpO2 (reusable probes/sensors: 1 adult, 1 pedia, and 1 neonate) 3) NIBP (At least two (2) of the following cuff size must be provided: Adult, Large Adult, Thigh and Child/Infant 4) Temperature (2 reusable core/esophageal cable-probes -	

					One (1) for adult and One (1) for pediatric patients 5) Respiration 6) Invasive Blood Pressure: At least 2 channels ii. Monitor: At least 19-inch high-resolution TFT LCD Color Display; 10-12 channels iii. Must be able to monitor the following advanced parameters: 1) IBP (at least 2 channels and 2 cables/machine each either Biosensor/Utah System transducer compatible) 2) End Tidal CO2. End tidal CO2 can be integrated into the anesthesia machine display through a gas analyzer module. iv. Other Required Module: 1) Neuromuscular Transmission (with adult and pediatric mechanosensors for blockade monitoring modes: single twitch, TOF, DBS, tetanus, PTC; nerve localization mode with electrosensor optional).	

					Stand-alone NMT module is also acceptable. v. Other accessories for the cardiac monitor: 1) Auto volts (100-240 V) 2) Back-up rechargeable battery for at least one (1) hour 3) One (1) unit AVR appropriate for the machine (Third Party) 4) Resistant to AC and high-frequency electro surgical interference from devices (e.g. cautery, defibrillators, etc.) 5) Capable of displaying all parameter information (waveform and numeric values) with high-capacity data storage for review 6) With visual and audible (at least 3-level) alarms that can be set by the user 7) Control via capacitive touchscreen 8) Monitors network-ready (wired/wireless)	

		1		9) Multiparameter monitor must be compatible and connected to the anesthesia machine with mount	
		30		13. Stretcher a. length: 2000 mm at least b. width: 550 mm at least c. lightweight with IV stand and collapsible railing d. working load: at least 160 kg	
		1		14. Office chairs a. Ergonomic b. Adjustable arms c. Pneumatic seat height adjustmant d. Built-in lumbar support e. Seat swivel f. Weight rated up to 250 lbs	
				15. Stool bar chair a. Cushioned seat b. Armless c. Pneumatic seat height adjustment d. Weight rated up to 250 lbs.	
				L. Provision for Future Remote Access to OIS and TPS	
				Provision for future remote access to the Oncology Information System and Treatment Planning System with full functionality from any location on multiple devices for 25 users, as provided by a third-party supplier authorized by the distributor, in accordance with the Republic Act 10173/Data Privacy Act	
				M. Commissioning of the Linear Accelerator	
				To be reckoned after the winning bidder has issued the acceptance certificate indicating that all applicable and required tests have been satisfactorily met.	
TOTAL APPROVED BUDGET FOR THE CONTRACT:					**Php230,000,000.00**

TERMS & CONDITIONS:

A. The lifespan of the Linear Accelerator power source must be least three (3) years. If a lifespan of less than three (3) years, the power source should be replaced without additional cost to the institution in case of failure.

B. Compatibility with the existing machines and equipment of Division of Radiation Oncology Department of Radiology

1. Couch
   Fully compatible with the existing immobilization devices and accessories
2. Immobilization Devices
   Lock bars must be compatible with all immobilization devices, the treatment couch, and the CT simulator couch
3. Dosimetry System
   All chambers and electrometer must be of the same connector design with the existing dosimetry system

C. Connectivity with the existing machines and equipment of Division of Radiation Oncology Department of Radiology

1. Oncology Information System:
   a. Should be connected to the IGRT device and to should be able to import MV, kV, and volumetric DICOM images
   b. Able to accept and read DICOM CT images from the existing 16 Slice Somatom Emotion of Radiation Oncology Division of UP-PGH from external devices (such as CD, DVD, or Flash Drive)
   c. Should be connected to the purchased linear accelerator (to verify that the machine is set up according to plan and automatically records actual set-up parameters)
   d. Should be connected the treatment planning system
   e. Should be connected with the existing OIS of the LINAC at CI

2. Treatment Planning System
   a. Workstations integrated to the LINAC console through the OIS network/record and verify system

D. Requirements to be submitted by the bidder for bid opening:

1. Brochures and Technical Specifications for the following:
   a. Linear Accelerator Machine
   b. Fully integrated MV CBCT Imaging System
   c. Fully integrated kV CBCT Imaging System
   d. Immobilization Devices
   e. Oncology Information System with Networking, Record and Verify System
   f. Treatment Planning System
2. SEC registration to prove that the supplier is in the business of importing and supplying medical equipment for the past 10 years

	3. Certification that the manufacturer has been in the business of manufacturing Linear Accelerator Machines for at least 20 years. 4. Certified true copy of the Certificate of Distributorship for the last 5 years. The principal and the local distributor must have been in business partnership for the past 5 years. 5. Guarantee letter from the manufacturer and local distributor to ensure availability of supplies, parts and accessories for at least ten (10) years after expiration of the warranty period. 6. Certification by the principal that service engineers are factory trained on service and repair. 7. Certification by the supplier that at least one service engineer is available locally to provide quick on-site support. 8. Manufacturer's Office in the USA, Canada, Western Europe, and Japan 9. Must submit service record history indicating 95% uptime for the past 5 years from any Tertiary government or private hospital in the Philippines. 10. Must submit at least three (3) certificates of Performance Evaluation with a rating of at least Very Satisfactory within the past ten (10) years from any Tertiary government or private hospital in the Philippines. 11. Submit a service record history indicating 95% uptime for the last five (5) years from any Tertiary government or private hospital in the Philippines. 12. Required Licenses of Certification: License from the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR) 13. Certification issued by the equipment manufacturer that the medical LINAC in its present condition is compliant with the performance and safety requirements of the International Atomic Energy Agency and the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 14. Notarized affidavit of Site Inspection **E. Requirements to be submitted by the bidder for bid opening:** Product presentation in an institution with the same brand and model of the following: 1. Technical Specifications of the Linear Accelerator Machine 2. Fully integrated MV CBCT Imaging System 3. Fully integrated kV CBCT Imaging System 4. Treatment Planning System 5. Immobilization Devices 6. Oncology Information System with Networking, Record and Verify System **F. Requirement/s if awarded the contract**

	1. Project Completion date: Delivery, installation, testing and commissioning of the Linear Accelerator Machine and accessories, including design and construction of related infrastructure work in 500 calendar days upon receipt of the Notice to Proceed. An extension shall be allowed, equivalent to the number of calendar days between the submission of the Architectural and Engineering Design Proposal and its approval by the in-house certified radiation oncology medical physicist, the OETS, the Chair of the Department of Radiology, the Deputy Director for Administration, and the Director. 2. Delivery Place: Philippine General Hospital, Taft Avenue, Manila 3. Installation Place: Cancer Institute, Philippine General Hospital 4. Warranty At least five (5) year warranty on all parts and service of all equipment purchased (to start after the performance and acceptance testing), as follows: a. Linear Accelerator (LINAC) Machine including: i. Radiation Oncology Information System (OIS) ii. Treatment Planning System iii. Immobilization Equipment iv. LINAC Accessories b. Dosimetry Equipment and Accessories Complete set of Dosimetry System c. Guarantee for availability of after sales service and spare parts for ten (10) years after warranty period d. LINAC MACHINE i. Maximum downtime of twenty-four (24) working days in a year and not exceeding two days in a month; with corresponding penalty for delays (Php 200,000.00/day – based on approximate equivalent daily income of 50 IMRT patients using a computed rate of Php 4,000), which shall be compensated by extending the warranty equivalent to the amount computed from the accumulated downtime exceeding the maximum duration stated above. ii. Definition of Machine Downtime: Start of downtime: once reported to the winning bidder - End of downtime: once the winning bidder has given clearance to resume operations e. Warranty period shall commence from the date of acceptance by the end-user after installation, acceptance testing and commissioning of the of the LINAC machine, LINAC accessories, and treatment planning system. 5. Manuals of all equipment and accessories: The supplier must provide original hard copy and soft copy of operators and service manuals in English Language upon delivery. 6. Requirements on Dosimetry System

a. Calibration certificates and technical specifications of all dosimetry equipment, including survey meters and ionization chambers
b. All dosimeters for absolute dosimetry must be included in IAEA TRS 277/382/398 protocols

7. Users' Training

   Users' training for Radiotherapy Personnel on all unit systems delivered by the supplier's foreign physicists and application specialists, which include the following:

   a. Data gathering and encoding/uploading of data to the TPS to be done by the in-house medical physicists shall be guided by the unit manufacturer application specialist/physicist.
   b. Manufacturer application specialists/physicists who can speak English fluently. The in-house medical physicist reserves the right to refuse the presence of manufacturer's physicist if he/she cannot be understood. The supplier is obliged to send another one.
   c. Notarized undertaking from the supplier that they will provide training for five (5) radiation oncologists and two (2) medical physicists in USA, Canada, Western Europe for at least 3 days; training/s shall be provided no later than the duration of the warranty period. Permit to travel and to conduct training must be approved by public health officials of both countries.
   d. Four months training for four (4) radiologic technologists in a radiation therapy facility with the same or higher model and capabilities of the equipment purchased; if the same or higher model is not available in the country, the Applications Specialist should be present and assist during the first month of actual clinical operations.
   e. Training of radiologic technologists should be conducted before the acceptance of the machine.
   f. One (1) hospital engineer (on-site) to be provided before the acceptance testing of the purchased equipment.
   g. Two-week on-site applications training for the Radiology Staff and OETS Technical Personnel.

8. Quotation of the Annual Preventive Maintenance Cost after the warranty period expires shall be provided.
9. Supplier will indicate brand, model, country of origin, and manufacturing date of the all equipment to be delivered.
10. All equipment and accessories to be delivered and to be supplied must be of the latest model by the manufacturer. All software must be of the latest version by the manufacturer.
11. One manufacturer application specialist/physicist assistance for one month during the commissioning.
12. Free upgrades of all software (i.e. console version, TPS version) shall be included in the preventive maintenance of the machine by the supplier.

G. Acceptance Parameters

	1. Passed the performance testing of Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR) 2. Licensing a. Satisfactorily complied with licensing requirements of the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR) b. To be reckoned upon issuance of commissioning report by the PGH in-house certified Radiation Oncology Medical Physicist. 3. Initial Clinical Use: a. To be reckoned upon receipt of the license to operate issued by the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR) b. Completed treatment of the following: i. At least six (6) IMRT procedures ii. At least six (6) VMAT/RapidArc/Helical procedures c. Duration: 30 calendar days **H. For infrastructure projects, the following maybe required as applicable:** 1. PCAB License (as applicable to the projects) 2. Bill of Quantities/Materials (as applicable)
20.2	1. Latest Income and Business Tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS) 2. License to Operate (LTO) if applicable.
21.2	Not applicable

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Supplier, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special Conditions of Contract.

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

Additional requirements for the completion of this Contract shall be provided in the **Special Conditions of Contract** (**SCC).**

2. Advance Payment and Terms of Payment

2.1. Advance payment of the contract amount is provided under Annex "D" of the revised 2016 IRR of RA No. 9184.

2.2. The Procuring Entity is allowed to determine the terms of payment on the partial or staggered delivery of the Goods procured, provided such partial payment shall correspond to the value of the goods delivered and accepted in accordance with prevailing accounting and auditing rules and regulations. The terms of payment are indicated in the **SCC**.

3. Performance Security

Within ten (10) calendar days from receipt of the Notice of Award by the Bidder from the Procuring Entity but in no case later than prior to the signing of the Contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR of RA No. 9184.

4. Inspection and Tests

The Procuring Entity or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Project. In addition to tests in the **SCC**, **Section IV (Technical Specifications)** shall specify what inspections and/or tests the Procuring Entity requires, and where they are to be conducted. The Procuring Entity shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

All reasonable facilities and assistance for the inspection and testing of Goods, including access to drawings and production data, shall be provided by the Supplier to the authorized inspectors at no charge to the Procuring Entity.

5. Warranty

6.1. In order to assure that manufacturing defects shall be corrected by the Supplier, a warranty shall be required from the Supplier as provided under Section 62.1 of the 2016 revised IRR of RA No. 9184.

6.2. The Procuring Entity shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, repair or replace the defective Goods or parts thereof without cost to the Procuring Entity, pursuant to the Generic Procurement Manual.

6. Liability of the Supplier

The Supplier's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Supplier is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Goods purchased. In preparing this Section, the following aspects should be checked:

a. Information that complements provisions of the GCC must be incorporated.

b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
1	**Delivery and Documents –** For purposes of the Contract, "EXW," "FOB," "FCA," "CIF," "CIP," "DDP" and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of INCOTERMS published by the International Chamber of Commerce, Paris. The Delivery terms of this Contract shall be as follows: *[For Goods supplied from abroad, state:]* "The delivery terms applicable to the Contract are DDP delivered [*indicate place of destination*]. In accordance with INCOTERMS." *[For Goods supplied from within the Philippines, state:*] "The delivery terms applicable to this Contract are delivered *[indicate place of destination].* Risk and title will pass from the Supplier to the Procuring Entity upon receipt and final acceptance of the Goods at their final destination." Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in Section VI (Schedule of Requirements). For purposes of this Clause the Procuring Entity's Representative at the Project Site is the assigned staff. **Incidental Services –** The Supplier is required to provide all of the following services, including additional services, if any, specified in Section VI. Schedule of Requirements: a. performance or supervision of on-site assembly and/or start-up of the supplied Goods; b. furnishing of tools required for assembly and/or maintenance of the supplied Goods; c. furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods; d. training of the Procuring Entity's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
	Spare Parts – The Supplier is required to provide all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:
	a. such spare parts as the Procuring Entity may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under this Contract; and

	b. in the event of termination of production of the spare parts: i. advance notification to the Procuring Entity of the pending termination, in sufficient time to permit the Procuring Entity to procure needed requirements; and ii. following such termination, furnishing at no cost to the Procuring Entity, the blueprints, drawings, and specifications of the spare parts, if requested. The spare parts and other components required are listed in **Section VI (Schedule of Requirements)** and the cost thereof are included in the contract price. The Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spare parts or components for the Goods for a period of [*indicate here the time period specified. If not used indicate a time period of three times the warranty period*]. Spare parts or components shall be supplied as promptly as possible, but in any case, within [*insert appropriate time period*] months of placing the order.
	Packaging – The Supplier shall provide such packaging of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in this Contract. The packaging shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packaging case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit. The packaging, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified below, and in any subsequent instructions ordered by the Procuring Entity.
	The outer packaging must be clearly marked on at least four (4) sides as follows: Name of the Procuring Entity Name of the Supplier Contract Description Final Destination Gross weight Any special lifting instructions Any special handling instructions Any relevant HAZCHEM classifications

	A packaging list identifying the contents and quantities of the package is to be placed on an accessible point of the outer packaging if practical. If not practical the packaging list is to be placed inside the outer packaging but outside the secondary packaging. **Transportation –** Where the Supplier is required under Contract to deliver the Goods CIF, CIP, or DDP, transport of the Goods to the port of destination or such other named place of destination in the Philippines, as shall be specified in this Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price. Where the Supplier is required under this Contract to transport the Goods to a specified place of destination within the Philippines, defined as the Project Site, transport to such place of destination in the Philippines, including insurance and storage, as shall be specified in this Contract, shall be arranged by the Supplier, and related costs shall be included in the contract price.
	Where the Supplier is required under Contract to deliver the Goods CIF, CIP or DDP, Goods are to be transported on carriers of Philippine registry. In the event that no carrier of Philippine registry is available, Goods may be shipped by a carrier which is not of Philippine registry provided that the Supplier obtains and presents to the Procuring Entity certification to this effect from the nearest Philippine consulate to the port of dispatch. In the event that carriers of Philippine registry are available but their schedule delays the Supplier in its performance of this Contract the period from when the Goods were first ready for shipment and the actual date of shipment the period of delay will be considered force majeure.
	Intellectual Property Rights – The Supplier shall indemnify the Procuring Entity against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof.
4	The inspections and tests that will be conducted are: *[Indicate the applicable inspections and tests]*

Section VI. Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery to the project site.

Item Number	Description	Qty.	Total	Delivered, Weeks/Months
1	Project: Acquisition/Purchase of One (1) Unit Linear Accelerator (Radiotherapeutic Unit) PGH, UP Manila Project Profile: This project entails the supply, delivery, installation, testing, and commissioning of brand-new Linear Accelerator System with related civil works for the Philippine General Hospital - Cancer Institute Project Design: Please see attached Proposed LINAC Bunker and Support Spaces	1	230,000,000.00	Delivery should be done within Five Hundred (500) calendar days commencing on the 3rd working day of notification through confirmed fax that the approved Purchase order/Contract is already available for pick-up.
	I. SCOPE OF WORK			
	I. Civil Works			
	A. Design Phase B. Construction Phase			
	II. Supply, Delivery, Installation, Testing, and Commissioning of Brand-New Linear Accelerator System			
	A. Installation of LINAC Machine B. Technical Specifications of the LINAC Machine C. Fully integrated MV CBCT Imaging System D. Fully integrated kV CBCT Imaging System E. Immobilization Devices F. Oncology Information System (OIS) with Networking, Record and Verify System G. Treatment Planning System (TPS) H. LINAC Accessories I. Other requirements of the LINAC Machine J. Technical Specifications of the Dosimetry System K. Accessories and Supporting Equipment L. Provision for Future Remote Access to OIS and TPS M. Commissioning of the Linear Accelerator			
	A. Design Phase			

	1. The winning bidder shall prepare and submit signed and sealed complete Engineering Design Plans in 20" x 30" size of 3 copies, Scope of Works and Specifications of the Construction of Bunker and Facilities based on the PGH issued Schematic Architectural Plans and Engineering Brief Description of Works to be approved by to be approved by the OETS, the Chair of the Department of Radiology, the Deputy Director for Administration, and the Director. An electronic form shall also be submitted via e-mail to the end-user and the OETS. Engineering Design Plans shall include Structural Design, Architectural Design, Electrical Design, Mechanical (Airconditioning, Ventilation, Fire Pump System) Design, Telephone and LAN Design and Plumbing (Water, Sewer and Storm Drainage System) Design. Submission of complete electrical plans, signed and sealed by a professional electrical engineer and for checking prior to endorsement by the OETS to the PGH Administration. Design for appropriate air-conditioning system (chiller type and split type) needed for Linac Bunker and Offices			
	B. Construction Phase			
	1. **Permits and Bonds.** The contractor shall apply for all Government permits such as Construction Permits and Occupancy Permit and shoulder the fees hereof. To protect the existing facilities the contractor shall submit Contractor's All-Risk Insurance (CARI).			
	2. **Demolition Works**. Demolition of the Nuclear Medicine Decay Room and Pump Room.			
	3. **Constructions and Relocation Works** a. Nuclear Medicine Decay Room i. Construction of Nuclear Medicine Decay Room with			

	appropriate radiation shielding ii. Fabrication of Metal Shelving iii. Door shall be metal with radiation shielding iv. Ducted type exhaust fan with Hepa-filter			
	b. New Cistern Tank and Pump Room i. Construction of underground Cistern Tank for domestic water pump and fire engine turbine and waterproofing (same capacity of the existing tank) ii. Construction of Pump Room. This is to house motors, fire engine and its control panel.			
	c. Bunker and Facilities i. Construction of the linear accelerator bunker with appropriate radiation shielding will follow IAEA or FDA-DOH specifications for a 6MV FFF stereotactic capability with a maximum dose rate of 800 MU/min as required by the IAEA standards. ii. Radiation survey results of the constructed LINAC Bunker (primary and secondary walls, doors and ceiling) should be below the regulatory/international standard radiation limits (instantaneous dose rate of at most 7.5μSv/h). iii. Bunker room dimensions shall be able to accommodate a machine with 6MV & 10 MV photon energy LINAC machine requirements. iv. Bunker design shall be duly evaluated and verified by the PGH in-house board-certified radiation oncology medical physicist (ROMP) and approved by the DOH-FDA before construction.			

	v. Installation of radiation warning lights and radiation signage shall follow DOH-FDA recommendations. vi. The water chiller shall be connected to the existing water system of the hospital, with its accompanying water supply and plumbing. vii. Complete installation of all network cabling, conduits, wirings, switches, and circuit breakers will be compatible with any winning bidder's requirement. viii. There will be installation of water sprinklers, smoke detectors, fire alarm system, proper signage and fire exits & clearances as required by the Bureau of Fire Protection. Room labels will be installed. ix. Establishment of connection to the Brachytherapy CT Scan & 16 Slice Somatom Emotion located in Cancer Institute Building. x. Essential Rooms will be constructed, as follows: 1) LINAC Treatment Room Construction of storage for the following: • Masks, breast boards, wing boards, cradles, belly board, abdomen and pelvis baseplates & thermoplastic, shoulder retractor, etc • Linen • Machine's spare parts and kit Provision for the following: • Overhead laser and lateral wall laser installation • Emergency-off switches on the walls of the treatment room			

	• Base frame pit and installation, with appropriate dimensions to accommodate any winning bidder's LINAC machine • LINAC machine's cooling system (pipes and chillers) • Beam on and x-ray warning lights in the treatment room and over the treatment door, which indicate beam-on condition • Dimmer switch for lights • Slanted holes/duct for LINAC machine cables and for Physics instrument cables into the treatment console room 2) LINAC Control Console Room Provision for the following: • countertop/customized computer counter for LINAC console and its accessories • built-in, wall-mounted cabinets for storage of patient charts 3) Treatment Planning Room Renovation of the existing treatment planning room, dosimetry room, and small consultation room of the existing LINAC1 facility to a new treatment planning room. Provision for the following: • countertop with drawers for the treatment planning system computers • bookshelves and filing cabinets for storing			

	patient charts and documents 4) Equipment & Supply Room Provision of built-in cabinets for storage of machine spare parts, engineer's tools, QA tools and dosimetry equipment Provision of built-in cabinet for storage of immobilization devices, styro, blocks, linens, patient gowns and office supplies 5) Electrical Room Provision for the main circuit breaker, electrical line and LINAC machine's air compressor. 6) Patient Waiting Area Will be able to accommodate a seating capacity of at least 30 at a given time with space for storage and transport of hospital beds and wheel chairs Provision for four (4) four-seater gang chairs xi. Renovation of Cancer Institute - Room 104 1) Renovation to become a consultation room (to be done ahead of other items) 2) Provision of the following: • Fours (4) desks • Bookshelves and filing cabinets for storing patient charts and documents xii. Provision of appropriate fire protection system d. Relocation Works and Provision of Temporary Utilities i. Provision of temporary water supply line for SOJR building while construction of LINAC 3 is ongoing. This includes			

	supply of 80 gallons pressure tank, 2HP water pumps, valves, fittings, electrical supply, and other needed materials to complete the installation. Electrical supply to be tapped to the nearest power source. ii. Transfer of Water Pumps and Fire Engines including all accessories and control panel. All piping works include suction, discharge pipe, valves, reducer coupling, etc. to complete the system. Scope also includes connection to the tapping line (water and sprinkler system) and transfer of electrical power supply. iii. Testing and commissioning of the newly transferred Water Pumps and Fire Engines e. Electrical Scope i. Supply, installation, testing and commissioning of required/appropriate main feeder lines (Conduit pipes with cables) from designated tapping point at PGH powerhouse and LINAC control room including provision of required molded case circuit breaker at the source ii. Supply, installation, testing and commissioning of appropriate dry-type transformer for required hospital equipment including necessary circuit breakers at the high-voltage and low-voltage side including grounding rod and wires. iii. Supply, installation, testing and commissioning of necessary lightings, switches, duplex convenience outlets, conduits, panelboards and other materials for the necessary rooms/areas covered by this project.			

	iv. Supply, installation, testing and commissioning of necessary wirings for all airconditioning units, exhaust fans, warning lights and exit signages v. Supply, installation, testing and commissioning of necessary controls needed for the operation and protection of equipment including uninterruptible power supply (UPS) vi. Provision of as-built electrical plan including load directory at electrical panel vii. Facilitation of electrical permits f. Air-conditioning Scope i. Design for appropriate air-conditioning system (chiller type and split-type) needed for LINAC bunker and offices ii. Centralized air conditioning system within the facility, as well as separate back-up individual air-conditioners as cited in II.K.1., will be provided. iii. All aircon units are inverter type iv. All condensing units should be installed in the roof deck of the bunker and for chiller type will be aligned to the water source for easy tapping. v. Condensate drainpipe should be embedded and tapped to the nearest drainline vi. Aircon pipes should be insulated with rubber insulation ¾ inch wall thickness and wrapped by polyethylene tape color white. Provision of hangers for piping that will be laid above the ceiling vii. Ducting for chiller type aircon should be wrapped by silver insulator according to			

	airconditioning standards. Ducting should be provided with appropriate hangers for protection against sagging inside the ceiling. g. Materials testing Testing of materials shall be shouldered by the contractor			
	II. SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM			
	A. Installation and Testing of LINAC Machine	1		
	To be reckoned upon issuance of certificate of inspection and work accomplished from OETS			
	B. Technical Specifications of the Linear Accelerator	1		
	1. Tight isocenter alignment, at least 1 mm isocenter accuracy for the following: a. Gantry isocenter accuracy b. Radiation beam axis with the rotation of the gantry 2. Fully/Completely digitally-controlled system 3. Waveguide and filter design allow at least one (1) photon energy 4. Allows for online remote diagnostic monitoring of the LINAC machine and treatment planning system during the warranty period; post warranty remote diagnostic monitoring will be the option of the procuring entity 5. Beam Energy: Photon Energy - 6MV 6. Power Source: Magnetron or Klystron as power source 7. Back-up Power Supply: Uninterrupted Power Supply (UPS) to support the Linear Accelerator Machine and all its accessories for at least 15 minutes in case of power failure (as provided by a third-party supplier) 8. Dose Rate and Beam Stability 6 MV Photon: Maximum dose rate of at least 800 MU/min at Dmax 9. Gantry			

	a. Gantry Rotation Range: minimum of 0 ±185° b. Gantry Rotation Accuracy: at least 0.5° c. Gantry Rotation Reproducibility: not greater than 0.5° d. Gantry Maximum Rotational Speed: at least 4.0 RPM e. Gantry Display: Digital Display f. Digital display must be visible inside the bunker and treatment console 10. Bore size: at least 85 cm in diameter 11. Multileaf Collimators (MLC): a. Number of leaves: At least 110 MLC leaves b. Leaf width resolution: not greater than 6.5 mm c. Maximum leaf extend position over the isocenter: at least 14 cm d. Maximum leaf retract position over the isocenter: at least 14 cm e. Leaf over travel: at least 14cm f. Maximum leaf travel speed: at least 5 cm/s g. Leaf beam transmission: ≤0.5% h. Leaf end position accuracy: ± 1mm i. Leaf end position repeatability: ± 1mm j. MLC control must be fully integrated with the digital control system; if not, an interface between MLC and existing network system shall be provided 12. Couch a. At least three (3) degrees of freedom (longitudinal/Y, lateral/X, vertical/Z) b. Electrical and mechanical control of couch motion c. Couch weight limit (supporting patient weight): at least 220 kilograms d. Couch travel range: i. Lateral: ±20cm ii. Vertical: at least -40cm iii. Longitudinal: at least +160cm e. Couch travel range accuracy: ± 2mm			

	f. Couch capable of the following treatment techniques: i. Intensity Modulated Radiation Therapy (IMRT) ii. Image Guided Radiation Therapy (IGRT) iii. Volumetric Modulated Arc Therapy (VMAT)/RapidArc/Helical g. With controls for manual motion and emergency off buttons on both sides of the couch h. Carbon fiber material; free of metal and radiation-opaque materials i. Two (2) lock bars (ordinary and MRI compatible) 13. Treatment Delivery Technique Capability a. Field in Field b. IMRT c. IGRT d. VMAT/RapidArc/Helical 14. Imaging Technique Capability a. MV Cone Beam Computed Tomography (MV CBCT) b. kV Cone Beam Computed Tomography (kV CBCT) c. Includes couch mount for imaging i. Adjustment for AP, lateral, and vertical movement ii. Locks for adjustments to ensure stability 15. Control Console a. The computerized control console, consisting of several workstations depending on the manufacturer. i. All the functions and modes of the accelerator shall be software controlled. ii. Console shall provide controls that must be activated in order for the accelerator to become operational in any of its various modes of operation. iii. All modes and functions of the accelerator shall also be operated manually in case of any software malfunction.			

	iv. There shall be UPS per computer system with at least 15-minute working time. b. Able to do auto-field sequencing integrated with oncology information system c. Integrated with oncology information system to display patient setup, treatment verification, and recording of treatment history into the OIS and file d. Integrated with oncology information system for imaging of treated fields before, during, and after the treatment for verification requirements e. Integrates use of the linear accelerator, MLC, MV imaging system, kV imaging system or separate workstations for MV imaging system and kV imaging system			
	C. Fully integrated MV CBCT Imaging System	1		
	1. Maximum planar imaging size: at least 28 x 28 cm2 2. Active imaging area: at least 40 x 40 cm2 3. Image and treatment coincidence: ≤ 1.0mm 4. MV CBCT reconstructed volume length: at least 25 cm 5. MV CBCT scan diameter: at least 25 cm 6. MV CBCT spatial linearity accuracy: ± 0.5mm 7. Viewable Pixels: at least 1280 x 1280 8. Dose per MV CBCT acquisition: maximum of 5 MU 9. Hounsfield Uniformity: ±50 HU 10. Full integration with Oncology Information system, network and database. Should also be compatible with other (3rd party) oncology information systems. 11. Includes application software and acquisition workspace a. Online and offline matching and image evaluation			

	b. Match verification tools and image matching tools (blend, color blend, spyglass window, split window)" 12. Able to do portal dosimetry to record intensity patterns of IMRT fields for pre-treatment quality assurance of IMRT planning and delivery a. Able to do continuous imaging in single, multiple or movie-loop mode b. Includes image analysis software for field fluence evaluation and analysis			
	D. Fully integrated kV CBCT Imaging System	1		
	1. Maximum reconstruction scan range: at least 38 cm 2. Maximum scan diameter: at least 48 cm 3. Spatial linearity accuracy: ± 0.5mm 4. Image and treatment coincidence: ≤ 1.0mm 5. Hounsfield Uniformity: ±50 HU 6. Acquisition kV range: 80 kV - 140 kV 7. Acquisition exposure time range: 10 - 25 ms 8. kV Source/X Ray tube: Fan cooled x ray tube 9. Has kV CBCT mode for different anatomical programs (i.e. Head, Breast, Thorax, Pelvis) 10. Ability to export images via DICOM for image analysis a. OIS integration and connectivity (2D, 3D, and 4D systems) b. TPS configuration and connectivity (2D, 3D, and 4D systems) 11. Imported DICOM image analysis and evaluation software includes: a. Auto-matching tools b. Image match verification tools c. Other tools that measure distance and angles 12. Images acquired from CBCT (cone beam computed tomography) can be used for adaptive treatment planning 13. Quality Assurance and calibration phantoms (as supplied by a third party) a. Isocenter cube phantom			

	i. Composed of PMMA or material equivalent in density ii. At least 4 x 4 x 4 cm3 in size b. Marker phantom to check for imaging-treatment isocenter coincidence for 2D and 3D imaging system or MV isocenter determination and kV system calibration (ball bearing, fiducial, or commercial device) c. Phantom to quantify uniformity, spatial resolution and contrast: i. Contrast and spatial resolution 2D kV system; phantom with low-contrast and high contrast objects (such as Leeds Phantom) ii. Contrast 3D system: an appropriate volumetric image quality phantom (such as a CT phantom) iii. Volumetric Image Quality Phantom with the following modules: 1) geometry, sensitometry module 2) high resolution module with 1- to 30-line pairs per cm gauge 3) low contrast module with supra-slice and sub-slice contrast targets 4) wave ramp and bead module or wave insert 5) image uniformity module d. CBCT Phantom for the evaluation of the image quality of 3D CBCT, includes various inserts and can be used to measure different aspects of CBCT image quality i. CBCT body normalization phantom (polyurethane foam)			

	ii. CBCT head normalization phantom (high density polyethylene foam) iii. CBCT geometry calibration phantom iv. CT image quality phantom			
	E. Immobilization Devices			
	1. Head, neck and shoulder devices a. Baseplate i. Standard angulation 1) Carbon fiber material 2) MRI compatible ii. Tilting angulation: Carbon fiber material	 1 1 1		
	b. Thermoplastic mask i. Head and neck masks ii. Head, neck, and shoulder masks	 30 20		
	c. Head rest i. Head rests, with standard sizes of A-F with comprehensive range of neck angulations ii. Adult prone iii. Pediatric sets 1) prone 2) supine iv. No transmission correction needed for high energy beams	 6 1 1 1		
	d. Bite Block i. Standard bite blocks ii. Large bite blocks	 20 5		
	e. Shoulder retractor	1		
	2. Chest and breast immobilizer a. Breast board; carbon fiber material b. Wing board: carbon fiber material c. Vacuum Cushion Immobilizer i. Whole/full body ii. Half body iii. Vacuum/compressor pump iv. Breast Thermoplastic Mask compatible with the breast board and needed accessories as prescribed for use by the manufacturer	 2 2 10 10 1 20		

		1 2		
	3. Abdomen and pelvis immobilizers a. Belly board: carbon fiber material b. Abdomen and pelvis immobilization system with abdomen and pelvis baseplate: carbon fiber material c. Reinforced thermoplastics compatible with the abdomen and pelvis baseplate	20		
	4. Other devices a. Patient transfer board b. Tungsten eye shields i. Pair of small ii. Pair of medium iii. Pair of large c. Testicle shields i. Small ii. Medium iii. Large d. Patient restraint belts e. Calipers: stainless steel with parallel arms and calibrated in cm f. Set of multipurpose support cushions and wedges g. Bolus/tissue equivalent build up material, at least 30 cm x 30 cm i. 0.5 cm thickness ii. 1 cm thickness iii. 1.5cm thickness	1 1 1 1 1 1 1 2 2 1 2 2 2		
	F. Oncology Information System with Networking, Record and Verify System			
	1. LINAC Server a. High storage capacity server that can store at least 10000 patients' data b. Monitor: not smaller than 20" LCD monitor c. Uninterrupted power supply with at least 15 minutes working capacity	1		

	d. With appropriate port hubs and all necessary network connections as prescribed by the manufacturer e. To be placed in the proposed Treatment Planning Room f. Must be of the latest model and latest software version by the manufacturer.			
	2. Workstations a. To be placed at Treatment Control Room, CT Console at Brachytherapy Facility, and Consultation Room b. Processor: Current generation of at least Intel i5 c. Current generation chipset d. Memory: not smaller than 16GB, DDR4 RAM e. Has the current generation Intel HD graphics f. Has keyboard, mouse, and USB terminals g. Storage: not smaller than 1TB h. Optical drive DVD – writer i. Display 23" LED j. Has Wi-Fi card for wireless connectivity k. Must be of the latest model by the manufacturer. l. UPS with at least 15 minutes working time capacity for every workstation 3. OIS Software includes the following: a. Patient data administration and electronic medical record b. Independent treatment verification c. Treatment and port image review d. Time planner/scheduler e. Electronic patient RT chart f. Chart audit and checking/assessment g. Capable to archive and restore Patient data h. Must be of the latest software version by the manufacturer. 4. Provision for remote access to the distributor for remote service and	3		

	diagnosis; including cabled high-speed internet connection.			
	G. Treatment Planning System			
	1. Contouring a. Supports contouring templates that list structures of interest b. Boolean operations (such as AND, OR, XOR, AND NOT) with structures to create complex structure definitions or equivalent contouring tools (margin, subtraction and addition) c. Advanced contouring tools with patient identity information should be available d. Automatic segmentation/contouring based on electron density values for different organs should be included 2. Image Registration a. Image registration support includes CT scan, MRI, and PET via DICOM b. Able to do image fusion c. Patient data acquisition through DICOM import facility from CT Scan, CBCT, MRI and PET 3. Planning, Dose Calculation, and Optimization a. Treatment planning for photon and electron beam of all energies in the therapeutic range b. Able to do treatment plans for conventional, 3D-conformal, IMRT, VMAT/RapidArc/Helical (licenses to compute included) i. IMRT Planning License: utilizing sliding window, large field, and step and shoot technique ii. VMAT/RapidArc/Helical Planning License with multi-arc fields capabilities c. Includes advanced dose calculation algorithms for Monte Carlo equivalent photon calculation (such as Monte Carlo, AcurosXB enhancement) and Monte Carlo algorithm for electron.			

	d. Inverse planning software for IMRT and VMAT/RapidArc/Helical e. Can utilize graphics processing unit for plan optimization f. Capable of multi-criteria optimization g. Able to display target and critical structure motions using 4D tools for respiratory-gated treatment plans for IMRT and VMAT/RapidArc/Helical i. 4D image series are displayed as movie loops and as blended or blinking images ii. 4D image displays supports CT, PET/CT, PET and images from the kV imaging system attached to the machine h. Capable of adaptive treatment planning i. Support regular and irregular fields for all types of beam modifiers such as bolus, MLCs, tissue compensator, and asymmetric beam j. Capable of making tissue inhomogeneity correction (as per electron density), irregular point dose calculation and auto contouring as per CT data. k. Able to provide enhance organ at risks (OARs) and target overlap and small structure management. 4. Plan Evaluation and Analysis a. Side by side plan comparison b. DVH for multiple plans in one plot, DVH for any multiple structure volumes in one plot c. Differential or cumulative dose volume histogram d. Absolute or relative scale for the structure volume axis of DVH plot e. Plan summation/subtraction for external beam plans, can store summed plans f. Electronic plan approval 5. Quality Assurance a. Able to do portal dosimetry calculation for			

	VMAT/RapidArc/Helical and IMRT fields on electronic portal imaging device/MV system b. Supports In-Vivo Estimation Dosimetry for IMRT/VMAT/RapidArc/Helical treatment plans i. Capable of automatic accumulation and evaluation of recalculated daily delivered doses ii. Can qualitatively assess areas of over-dosing and under-dosing due to anatomical changes and imperfect set up iii. Can provide DVH comparison of actual delivered dose to planned delivered dose 6. System administration utilities including back-up, archive, and restore 7. Workstations a. Calculation workstation/treatment planning system with physics license and UPS with at least 15 minutes working time capacity for every workstation with licenses. With medical grade display not smaller than 23". b. Non calculation workstation/contouring station with contouring license and UPS with at least 15 minutes working time capacity for every workstation with licenses. With medical grade display not smaller than 23". c. Must be of the latest model and latest software version by the manufacturer. 8. Printers a. Heavy duty laser monochromatic printer with two (2) additional sets of ink b. Heavy duty laser colored printer with two (2) additional sets of ink 9. Automated Plan Conversion			

	If the machine is not of the same brand and model of the existing LINAC machine the following conditions shall be met: a. Winning bidder shall provide connectivity to the offered treatment planning system (TPS). It shall be connected to the existing OIS, and be able to store contoured DICOM images and convert or translate it to an acceptable file for treatment planning on the existing and new TPS storage capacity. b. Computer storage capacity shall be able to store at least 4000 patient treatment data. c. Performance of beam data gathering and commissioning of the existing LINAC machine shall comply with the beam data requirements of the new TPS to be done by the in-house medical physicist. d. Beam data gathering of the new LINAC machine shall comply with the beam data requirements of the existing TPS to be done by the in-house medical physicist. 10. Able to import/export patient image, contours, and plan data to/from the existing Treatment Planning System of the Division of Radiation of Oncology 11. Supports DICOM-RT import/export of at least DICOM images or higher and radiotherapy images, structures, plans, dose matrix, dose points, fluence, dMLC for IMRT, blocks, compensators, etc. 12. Import filters include image transfer via LAN, CD-ROM, film scanner, digitizer for non-CT based patients (brachytherapy films and irregular images) and dosimetric beam data from all brand name water phantoms (e.g. Sun Nuclear, IBA, PTW, etc.)	3 5 1 1 1		
	H. LINAC Accessories			
	Laser Alignment System for the LINAC Machine (Four Cross Laser System)	1		

	I. Other requirements of the LINAC Machine			
	1. Leaded door (borated polyethylene) for the LINAC bunker	1		
	2. Set of patient intercom system in the treatment room and control console			
	3. CCTV Camera system: High resolution six (6)-piece camera system (two cameras for the main treatment area, one for the maze, 2 for the reception/waiting area, and one for the corridor) with three (3) views	1		
	4. Intercom in the Treatment Console shall be connected to the existing Intercom system (i.e. connection to Reception Area, CT Console Rooms (at LINAC and brachytherapy facilities), Treatment Planning Room)	1		
	5. Set of radiation warning lights above the LINAC room door connected to the treatment machine	1		
	6. Water chillers; specifications as prescribed by the manufacturer			
	7. Air compressor if required by the manufacturer; specifications as prescribed by the manufacturer			
	8. Dehumidifiers (three for the treatment room, one for the treatment planning room, and one for the equipment dosimetry room)	1		
	a. 20 Liter capacity			
	b. Wheel-mounted			
	c. Automatic adjustable humidistat	2		
	d. Water tank full indicator with auto shut-off	1		
	e. Ozone friendly refrigerant, frost-free			
	f. 100% CFC	5		
	g. At least ¼ hp, 220-240 V			
	J. Technical Specifications of the Dosimetry System			
	1. Radiation Field Analyzer or Beam Scanner	1		
	a. Advanced 3D computer-controlled radiation scanning system to measure dose distribution comprised of:			
	i. 3D mechanics with scanning volume of not smaller than 40 cm x 65 cm x 330°			

	ii. Calibrated high-precision mechanics with built-in levelling frame iii. Can fit inside the Linear Accelerator Bore iv. Calibrated high-precision mechanics with built-in leveling frame v. Water phantom carriage with electrically operated telescopic lift vi. Water reservoir carriage with bi-directional pump (fill and drain water) vii. Control unit with built in two channel electrometer and with TNC connector viii. Hand-held control			
	ix. Set of detector holders for use of Farmer, parallel plate and field/reference Ionization Chambers (IC)	1		
	b. Fast, accurate, simple and easy setup scanning system c. Storage case and dust cover			
	2. Advanced acquisition and analysis software with laptop computer system a. Support of all international and industry protocol (such as IAEA, AAPM, etc) b. Compatible with all commercial radiation treatment planning systems c. License for installation of the software on up to (3) three additional workstations d. Can measure electron and photon profiles, depth dose curves and TMR/TPR e. Flexible ASCII tables including export to MS Excel f. Capability for radiation treatment planning software specific measurement queue creation and data conversion to the treatment planning system	1		
	3. Farmer Type Ion Chamber a. Farmer type ionization chamber 0.6 cc with plastic walls, Co-60	1		

	build-up cap, waterproof and fully guarded, calibrated in a standards laboratory in terms of absorbed dose to water b. Ionization chamber model must be included in IAEA TRS 277/382/398 protocols c. With ion chamber holder or adapter for absolute measurements in water phantom and existing check source			
	4. Ionization Chambers for Small Field Dosimetry a. Ion chambers with the following volume, cylindrical, waterproof and fully guarded: i. Not bigger than 0.015 cc Cavity Volume with graphite central electrode ii. Not bigger than 0.04 cc Cavity Volume iii. Not bigger than 0.125 cc Cavity Volume b. With ion chamber holder or adapter for absolute measurements in water phantom and existing check source	1 1 2		
	5. Therapy Dose Meter (Electrometer) a. Must be compatible with the delivered ionization chambers, calibrated in a standards laboratory i. Power supply is 220-240 V, stable and high accuracy in the measurements, with display of accumulated charge and dose, varying bias voltage with V1/V2 ratio equal or greater than 3, dose rate, exposure time, leakage and other important information that ensure validity of the instruments and with possibility of reverse polarity b. With calibration certificate, electrometer technical and user manual	1		

	c. Complete with necessary accessories and carrying case			
	6. Detector Extension Cables a. Low noise triaxial cable on reel not shorter than 20 meters b. Low noise triaxial cable on reel not shorter than 10 meters c. Low radiation leakage cable and resistant against radiation damage	1 2		
	7. Barometer Digital, with selectable unit of pressure, 1 hPa or 0.5 mm Hg minimum scale, calibrated in a standard laboratory, with calibration certificate, technical data and user manuals in English	1		
	8. Thermometer Digital, with selectable unit of temperature, 0.5°C min scale calibrated in Standards Laboratory, with calibration certificate, technical data and user manual in English	1		
	9. Hygrometer Digital calibrated in SI units in a Standards Laboratory, with calibration certificate, technical data and user manuals in English	1		
	10. Desiccator cabinet, at least 4 levels, with at least 114 Liters Capacity with humidity and temperature indicators and controls, calibrated to SI units, 220-240V	1		
	11. Radiotherapy Area Monitor a. Radiation area monitoring system installed inside the treatment room and at the control area b. Flashing red lights alarm with 180° field of view, with aural alarm switch ON/OFF and with battery back-up for at least 24 hours	2		
	12. Ready Pack radiotherapy verification films a. Size 20 x 20 cm2 b. Size 35 x 35 cm2	100 100		
	13. Gafchromic verification films: at least 35 x 35 cm2	50		
	14. Digital level: magnetic horizontal, vertical and diagonal bubble level; durable	1		
	15. 4D Patient Plan Verification Dosimetry System	1		

	a. For volumetric modulated RT patient treatment plan verification b. Matrix detector grid c. Able to do the following analyse: i. 2D dose analysis: compare data or absolute dose data using Distance to Agreement (DTA), Gamma (Ɣ) and Gradient Compensation ii. Control point analysis (VMAT/RapidArc/Helical): individual control points and user-defined arc sections can be analyzed for a full arc or sub arc. iii. Equivalent VMAT/RapidArc/Helical Analysis system: verification of VMAT/RapidArc/Helical plans using densities of ROIs from a TPS to calculate SSD, geometric and effective depth automatically for VMAT/RapidArc/Helical and IMRT plans iv. MLC analysis: evaluate the difference between the planned and delivered MLC pattern d. Include detector array, compatible phantom and software capable of DVH QA analysis			
	16. Chamber matrix for measurement of radiotherapy beam a. Measure fields up to a size of at least 20 cm x 20 cm2 b. Analysis parameters shall include dose output, flatness, symmetry, field size, light-radiation field coincidence, penumbra, dose rate and beam center	1		
	17. Radiation Survey Meter a. Battery-operated ionization radiation survey meter b. Digital, accurate, auto ranging, zeroing with warm up of less than 2 minutes	1		

	c. Units of measurement are indicated at all times and capable of showing messages for unit operating conditions d. Radiation detected: alpha, beta, gamma and x-ray, 0-2 Sv/hr e. Calibrated in SI units f. With calibration certificates and user manual			
	18. Water phantom for absolute dose measurement a. One dimensional, stand-alone water phantom for absolute dose measurements according to IAEA TRS-398 dosimetry protocols b. Minimum of 25cm x 35cm x 25cm volume, with PMMA wall c. With Farmer ion chamber and plane parallel plate chamber adapters and holding device on a vertical beam measurement for waterproof Farmer ion chamber and Parallel Plate Chamber d. The measurement depth can be manually adjusted with 0.1mm steps and read out on the incremental encoder with integrated digital display	1		
	19. Independent Monitor Units (MU) Check Software Software for accurate and independent verification of monitor units, dose, and overall validity of standard, IMRT, VMAT/RapidArc/Helical	1		
	K. Accessories and Supporting Equipment			
	1. Air Conditioning System a. Centralized Air Conditioning System (inverter-type) in all areas of the facility b. Back-up Air Conditioning Units i. 1.5 T Air Conditioning Unit 1) To be placed in the following rooms: a. Treatment Planning Room & Server Room b. Treatment Console	 3 1 2		

	c. LINAC Bunker d. Equipment Dosimetry Room e. Patient Waiting Area 2) Wall-mounted or ceiling-mounted 3) Inverter-type compressor ii. 3T Air Conditioning Unit 1) To be placed in the LINAC Bunker 2) Ceiling-mounted or wall-mounted 3) Inverter-type compressor iii. 2 HP Air Conditioning Unit to placed in Cancer Institute Room 104 2. Fire Extinguisher: a. To be placed in the following areas: i. LINAC Bunker ii. Treatment Console b. Green Type HCFC 3. Fire Alarm & Detector: a. Battery-type and with audio alarm b. To be placed in areas as recommended by Bureau of Fire Protection 4. Foot Stools a. Stainless steel b. With skid-resistant rubber mat c. Two-step 5. Thermometer with Hygrometer (combined) for the LINAC Bunker a. Digital b. Wall-mounted c. Measurement range humidity: 5%-95% RH or better d. Measurement range temperature: 0°-55.0°C or better 6. Electrical Extension Cord a. Heavy duty 8 ft cord b. Provides protection from power surges, spikes and AC contamination c. At least four (4) surge-protected outlets	1 2 2 1 1 1 1 10 2 1		

	7. Emergency Lights: to be placed in areas as required by Bureau of Fire a. Heavy duty b. Automatic c. LED type d. Fire-retardant casing 8. Exhaust Fan a. To be placed in the LINAC bunker b. To be placed in areas recommended by the Hospital Infection Control Unit 9. MRI-Compatible Wheeled Stretcher a. Manual backrest with 1 mm thick stainless-steel top b. Fixed height c. Rubber bumper on all sides d. Sliding side rails e. Fixed IV pole f. With two sets patient restraints g. Heavy duty 8" caster wheels with brakes and ball bearing h. Diagonal oxygen tank holder 10. MRI-Compatible Wheelchair a. Non-ferrous wheelchair b. With IV pole and E-cylinder 11. Computer Set Desktops a. Current generation i7 or higher b. Current generation chipset c. Memory 16GB, DDR4 RAM or higher d. Intel HD graphics; keyboard, mouse, USB terminals e. Local Storage of at least 1 TB. Hard disk drive and solid-state drive are both acceptable f. Optical drive DVD – writer g. Has wifi card for wireless connectivity h. Monitor should be at least 21" LED i. Network interface 10/100/1000 MB ethernet j. Operating System: Current generation Windows Professional 64bit k. Microsoft Office lifetime license 12. Anesthesia Machine with Multiparameter Patient Monitor a. Anesthesia Machine	10 4 1 5 1 2 4		

		i. Must have Three Gas Systems (O2, Med. Air and N2O) ii. Must have dual tubes (Macro and Micro) for each gas; Min oxygen flow for micro must be 50ml or below iii. With separate auxiliary outlet of oxygen with own flow meter for nasal cannula/face mask use iv. Must have auxiliary common gas outlet for non-rebreathing system (NRBS) v. Can provide nominal 21% concentration of oxygen in O2/N2O mixture (hypoxia guard proportioning system) vi. Must have at least two (2) Vaporizer Mounts: One (1) Isoflurane and One (1) Sevoflurane vaporizer compatible with the machine vii. Must be equiped with standard pin index yoke for gases (for oxygen only); May have yoke for N2O also viii. Must have reusable breathing circuit natural latex-free and autoclavable at 134°C for up to 10 mins. or settings prescribed by manufacturer ix. Breathing system must be fully integrated in the workstation x. One step bag-vent switch turns ventilator on/off xi. Adjustable pressure limiting valve with tactile indicator xii. Circuit volume of 2.6 L maximun including canister capable of low-flow anesthesia xiii. Easy to remove/no tools needed for	1		

	assembly/disassembly of breathing system xiv. Quick-change CO2 absorber with water tap (CO2 cannister, 1500G or lower) xv. Must have active gas scavenging system xvi. Must be equipped with gas pressure gauges (pipeline & cylinder) xvii. Must be equipped with oxygen flush valve xviii. Re-usable breathing head corrugated tubings must have universal adaptors/coupling xix. High-pressure tubings/adapter/connector /coupling for pipeine gases: Machine side: DISS; Gas pipeline outlet side: Medstart/OxequipTM type or DISS xx. Medical grade Electrical outlets wilh circuit breaker fuse in AM anesthesia machine base unit xxi. Anesthesia Machine Base Unit- standard for equipment model (trolley, drawers, mounts, electricals, pneumatics) b. Ventilator Specifications i. Operating Modes: 1) Volume Controlled Ventilation 2) Pressure Controlled Ventilation 3) Pressure Support 4) Synchronized Intermittent Mandatory Ventilation 5) Manual Ventilation 6) Spontaneous Breathing ii. Monitored Parameters 1) Expired Volume 2) Expired Flow			

	3) Respiratory Rate 4) Airway Pressure with Pressure waveform display 5) Allows Alarm Management iii. Control Input Ranges: 1) Breathing Frequency (rate) 4 to 100 bpm (VCV, PCV) 2) Positive End Expiratory Pressure (PEEP) 0 to 20 cmH2O or OFF, 4 to 30 cm H2O. Up to 30 cm H2O PEEP is acceptable. 3) Inspiration/Expiration Ratio (Ti:Te) 4:1 to 1:8 4) Pressure Limiting (Plimit) 10 to 100 cmH2O (hPa). 5) Tidal Volume (Vt) 20 to 1500 mL in Volume Control 6) Compliance Compensation on Delivered TV 7) Low-flow compensation iv. Other Requirements 1) Fresh Gas Decoupling or Dynamic Fresh Gas Compensation 2) One bellows for all patient range (neonate to adult) 3) Allows direct access to ventilator parameters c. Multiparameter Patient Monitor Specifications: i. Must be able to monitor the following basic parameters: 1) 5-lead ECG (with ST and arrhythmia analysis; ESU cable; lead wire set-			

	grabber/squeeze/alligator clip or snap style) 2) SpO2 (reusable probes/sensors: 1 adult, 1 pedia, and 1 neonate) 3) NIBP (At least two (2) of the following cuff size must be provided: Adult, Large Adult, Thigh and Child/Infant 4) Temperature (2 reusable core/esophageal cable-probes - One (1) for adult and One (1) for pediatric patients 5) Respiration 6) Invasive Blood Pressure: At least 2 channels ii. Monitor: At least 19-inch high-resolution TFT LCD Color Display; 10-12 channels iii. Must be able to monitor the following advanced parameters: 1) IBP (at least 2 channels and 2 cables/machine each either Biosensor/Utah System transducer compatible) 2) End Tidal CO2. End tidal CO2 can be integrated into the anesthesia machine display through a gas analyzer module. iv. Other Required Module: 1) Neuromuscular Transmission (with adult and pediatric mechanosensors for			

		blockade monitoring modes: single twitch, TOF, DBS, tetanus, PTC; nerve localization mode with electrosensor optional). Stand-alone NMT module is also acceptable.			
		v. Other accessories for the cardiac monitor:	1		
		1) Auto volts (100-240 V)			
		2) Back-up rechargeable battery for at least one (1) hour	30		
		3) One (1) unit AVR appropriate for the machine (Third Party)			
		4) Resistant to AC and high-frequency electro surgical interference from devices (e.g. cautery, defibrillators, etc.)	1		
		5) Capable of displaying all parameter information (waveform and numeric values) with high-capacity data storage for review			
		6) With visual and audible (at least 3-level) alarms that can be set by the user			
		7) Control via capacitive touchscreen			
		8) Monitors network-ready (wired/wireless)			
		9) Multiparameter monitor must be compatible and connected to the anesthesia machine with mount			

	13. Stretcher a. length: 2000 mm at least b. width: 550 mm at least c. lightweight with IV stand and collapsible railing d. working load: at least 160 kg 14. Office chairs a. Ergonomic b. Adjustable arms c. Pneumatic seat height adjustmant d. Built-in lumbar support e. Seat swivel f. Weight rated up to 250 lbs 15. Stool bar chair a. Cushioned seat b. Armless c. Pneumatic seat height adjustment d. Weight rated up to 250 lbs.			
	L. Provision for Future Remote Access to OIS and TPS			
	Provision for future remote access to the Oncology Information System and Treatment Planning System with full functionality from any location on multiple devices for 25 users, as provided by a third-party supplier authorized by the distributor, in accordance with the Republic Act 10173/Data Privacy Act			
	M. Commissioning of the Linear Accelerator			
	To be reckoned after the winning bidder has issued the acceptance certificate indicating that all applicable and required tests have been satisfactorily met.			

Total Approved Budget for the Contract: PhP230,000,000.00

TERMS & CONDITIONS:

A. The lifespan of the Linear Accelerator power source must be least three (3) years. If a lifespan of less than three (3) years, the power source should be replaced without additional cost to the institution in case of failure.

B. Compatibility with the existing machines and equipment of Division of Radiation Oncology Department of Radiology

1. Couch
   Fully compatible with the existing immobilization devices and accessories
2. Immobilization Devices

Lock bars must be compatible with all immobilization devices, the treatment couch, and the CT simulator couch

3. Dosimetry System
   All chambers and electrometer must be of the same connector design with the existing dosimetry system

C. Connectivity with the existing machines and equipment of Division of Radiation Oncology Department of Radiology

1. Oncology Information System:
   a. Should be connected to the IGRT device and to should be able to import MV, kV, and volumetric DICOM images
   b. Able to accept and read DICOM CT images from the existing 16 Slice Somatom Emotion of Radiation Oncology Division of UP-PGH from external devices (such as CD, DVD, or Flash Drive)
   c. Should be connected to the purchased linear accelerator (to verify that the machine is set up according to plan and automatically records actual set-up parameters)
   d. Should be connected the treatment planning system
   e. Should be connected with the existing OIS of the LINAC at CI

2. Treatment Planning System
   a. Workstations integrated to the LINAC console through the OIS network/record and verify system

D. Requirements to be submitted by the bidder for bid opening:

1. Brochures and Technical Specifications for the following:
   a. Linear Accelerator Machine
   b. Fully integrated MV CBCT Imaging System
   c. Fully integrated kV CBCT Imaging System
   d. Immobilization Devices
   e. Oncology Information System with Networking, Record and Verify System
   f. Treatment Planning System
2. SEC registration to prove that the supplier is in the business of importing and supplying medical equipment for the past 10 years
3. Certification that the manufacturer has been in the business of manufacturing Linear Accelerator Machines for at least 20 years.
4. Certified true copy of the Certificate of Distributorship for the last 5 years. The principal and the local distributor must have been in business partnership for the past 5 years.
5. Guarantee letter from the manufacturer and local distributor to ensure availability of supplies, parts and accessories for at least ten (10) years after expiration of the warranty period.
6. Certification by the principal that service engineers are factory trained on service and repair.
7. Certification by the supplier that at least one service engineer is available locally to provide quick on-site support.

8. Manufacturer's Office in the USA, Canada, Western Europe, and Japan
9. Must submit service record history indicating 95% uptime for the past 5 years from any Tertiary government or private hospital in the Philippines.
10. Must submit at least three (3) certificates of Performance Evaluation with a rating of at least Very Satisfactory within the past ten (10) years from any Tertiary government or private hospital in the Philippines.
11. Submit a service record history indicating 95% uptime for the last five (5) years from any Tertiary government or private hospital in the Philippines.
12. Required Licenses of Certification: License from the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR)
13. Certification issued by the equipment manufacturer that the medical LINAC in its present condition is compliant with the performance and safety requirements of the International Atomic Energy Agency and the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC)
14. Notarized affidavit of Site Inspection

E. Requirements to be submitted by the bidder for bid opening:

Product presentation in an institution with the same brand and model of the following:

1. Technical Specifications of the Linear Accelerator Machine
2. Fully integrated MV CBCT Imaging System
3. Fully integrated kV CBCT Imaging System
4. Treatment Planning System
5. Immobilization Devices
6. Oncology Information System with Networking, Record and Verify System

F. Requirement/s if awarded the contract

1. Project Completion date: Delivery, installation, testing and commissioning of the Linear Accelerator Machine and accessories, including design and construction of related infrastructure work in Five hundred (500) calendar days upon receipt of the Notice to Proceed.

   An extension shall be allowed, equivalent to the number of calendar days between the submission of the Architectural and Engineering Design Proposal and its approval by the in-house certified radiation oncology medical physicist, the OETS, the Chair of the Department of Radiology, the Deputy Director for Administration, and the Director.
2. Delivery Place: Philippine General Hospital, Taft Avenue, Manila
3. Installation Place: Cancer Institute, Philippine General Hospital
4. Warranty

   At least five (5) year warranty on all parts and service of all equipment purchased (to start after the performance and acceptance testing), as follows:

   a. Linear Accelerator (LINAC) Machine including:
      i. Radiation Oncology Information System (OIS)
      ii. Treatment Planning System

iii. Immobilization Equipment
iv. LINAC Accessories

b. Dosimetry Equipment and Accessories Complete set of Dosimetry System
c. Guarantee for availability of after sales service and spare parts for ten (10) years after warranty period
d. LINAC MACHINE
    i. Maximum downtime of twenty-four (24) working days in a year and not exceeding two days in a month; with corresponding penalty for delays (Php 200,000.00/day – based on approximate equivalent daily income of 50 IMRT patients using a computed rate of Php 4,000), which shall be compensated by extending the warranty equivalent to the amount computed from the accumulated downtime exceeding the maximum duration stated above.
    ii. Definition of Machine Downtime: Start of downtime: once reported to the winning bidder - End of downtime: once the winning bidder has given clearance to resume operations
e. Warranty period shall commence from the date of acceptance by the end-user after installation, acceptance testing and commissioning of the of the LINAC machine, LINAC accessories, and treatment planning system.

5. Manuals of all equipment and accessories: The supplier must provide original hard copy and soft copy of operators and service manuals in English Language upon delivery.
6. Requirements on Dosimetry System
    a. Calibration certificates and technical specifications of all dosimetry equipment, including survey meters and ionization chambers
    b. All dosimeters for absolute dosimetry must be included in IAEA TRS 277/382/398 protocols
7. Users' Training

    Users' training for Radiotherapy Personnel on all unit systems delivered by the supplier's foreign physicists and application specialists, which include the following:
    a. Data gathering and encoding/uploading of data to the TPS to be done by the in-house medical physicists shall be guided by the unit manufacturer application specialist/physicist.
    b. Manufacturer application specialists/physicists who can speak English fluently. The in-house medical physicist reserves the right to refuse the presence of manufacturer's physicist if he/she cannot be understood. The supplier is obliged to send another one.
    c. Notarized undertaking from the supplier that they will provide training for five (5) radiation oncologists and two (2) medical physicists in USA, Canada, Western Europe for at least 3 days; training/s shall be provided no later than the duration of the warranty period. Permit to travel and to conduct training must be approved by public health officials of both countries.
    d. Four months training for four (4) radiologic technologists in a radiation therapy facility with the same or higher model and capabilities of the equipment purchased; if the same or higher model is not available in the country, the

Applications Specialist should be present and assist during the first month of actual clinical operations.

e. Training of radiologic technologists should be conducted before the acceptance of the machine.
f. One (1) hospital engineer (on-site) to be provided before the acceptance testing of the purchased equipment.
g. Two-week on-site applications training for the Radiology Staff and OETS Technical Personnel.

8. Quotation of the Annual Preventive Maintenance Cost after the warranty period expires shall be provided.
9. Supplier will indicate brand, model, country of origin, and manufacturing date of the all equipment to be delivered.
10. All equipment and accessories to be delivered and to be supplied must be of the latest model by the manufacturer. All software must be of the latest version by the manufacturer.
11. One manufacturer application specialist/physicist assistance for one month during the commissioning.
12. Free upgrades of all software (i.e. console version, TPS version) shall be included in the preventive maintenance of the machine by the supplier.

G. Acceptance Parameters

1. Passed the performance testing of Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR)
2. Licensing
   a. Satisfactorily complied with licensing requirements of the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR)
   b. To be reckoned upon issuance of commissioning report by the PGH in-house certified Radiation Oncology Medical Physicist.
3. Initial Clinical Use:
   a. To be reckoned upon receipt of the license to operate issued by the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR)
   b. Completed treatment of the following:
      i. At least six (6) IMRT procedures
      ii. At least six (6) VMAT/RapidArc/Helical procedures
   c. Duration: 30 calendar days

H. For infrastructure projects, the following maybe required as applicable:

1. PCAB License (as applicable to the projects)
2. Bill of Quantities/Materials (as applicable)

I hereby certify to comply and deliver all the above requirements

_____
Name of Company/ Bidder

_____
Signature over Printed Name of Representative

_____
Date

Section VII. Technical Specifications

Notes for Preparing the Technical Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying their Bids. In the context of Competitive Bidding, the specifications (*e.g.* production/delivery schedule, manpower requirements, and after-sales service/parts, descriptions of the lots or items) must be prepared to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of transparency, equity, efficiency, fairness , and economy in procurement be realized, responsiveness of bids be ensured, and the subsequent task of bid evaluation and post-qualification facilitated. The specifications should require that all items, materials and accessories to be included or incorporated in the goods be new, unused, and of the most recent or current models, and that they include or incorporate all recent improvements in design and materials unless otherwise provided in the Contract.

Samples of specifications from previous similar procurements are useful in this respect. The use of metric units is encouraged. Depending on the complexity of the goods and the repetitiveness of the type of procurement, it may be advantageous to standardize the General Technical Specifications and incorporate them in a separate subsection. The General Technical Specifications should cover all classes of workmanship, materials, and equipment commonly involved in manufacturing similar goods. Deletions or addenda should then adapt the General Technical Specifications to the particular procurement.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for equipment, materials, and workmanship, recognized Philippine

and international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that equipment, materials, and workmanship that meet other authoritative standards, and which ensure at least a substantially equal quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the Special Conditions of Contract or the Technical Specifications.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Technical Specifications to specific standards and codes to be met by the goods and materials to be furnished or tested, the provisions of the latest edition or revision of the relevant standards and codes shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or relate to a particular country or region, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

Reference to brand name and catalogue number should be avoided as far as possible; where unavoidable they should always be followed by the words "*or at least equivalent*." References to brand names cannot be used when the funding source is the GOP.

Where appropriate, drawings, including site plans as required, may be furnished by the Procuring Entity with the Bidding Documents. Similarly, the Supplier may be requested to provide drawings or samples either with its Bid or for prior review by the Procuring Entity during contract execution.

Bidders are also required, as part of the technical specifications, to complete their statement of compliance demonstrating how the items comply with the specification.

Technical Specifications

Item	Specification	Statement of Compliance
		[Bidders must state here either "Comply" or "Not Comply" against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]

Item Number	Description	Qty.	Total	STATEMENT OF COMPLIANCE (COMPLY/ DID NOT COMPLY)
1	Project: Acquisition/Purchase of One (1) Unit Linear Accelerator (Radiotherapeutic Unit) PGH, UP Manila Project Profile: This project entails the supply, delivery, installation, testing, and commissioning of brand-new Linear Accelerator System with related civil works for the Philippine General Hospital - Cancer Institute Project Design: Please see attached Proposed LINAC Bunker and Support Spaces	1	230,000,000.00	
	I. SCOPE OF WORK			
	I. Civil Works			
	A. Design Phase B. Construction Phase			
	II. Supply, Delivery, Installation, Testing, and Commissioning of Brand-New Linear Accelerator System			
	A. Installation of LINAC Machine B. Technical Specifications of the LINAC Machine C. Fully integrated MV CBCT Imaging System D. Fully integrated kV CBCT Imaging System E. Immobilization Devices F. Oncology Information System (OIS) with Networking, Record and Verify System G. Treatment Planning System (TPS) H. LINAC Accessories I. Other requirements of the LINAC Machine J. Technical Specifications of the Dosimetry System K. Accessories and Supporting Equipment L. Provision for Future Remote Access to OIS and TPS			

	M. Commissioning of the Linear Accelerator			
	A. Design Phase			
	1. The winning bidder shall prepare and submit signed and sealed complete Engineering Design Plans in 20" x 30" size of 3 copies, Scope of Works and Specifications of the Construction of Bunker and Facilities based on the PGH issued Schematic Architectural Plans and Engineering Brief Description of Works to be approved by to be approved by the OETS, the Chair of the Department of Radiology, the Deputy Director for Administration, and the Director. An electronic form shall also be submitted via e-mail to the end-user and the OETS. Engineering Design Plans shall include Structural Design, Architectural Design, Electrical Design, Mechanical (Airconditioning, Ventilation, Fire Pump System) Design, Telephone and LAN Design and Plumbing (Water, Sewer and Storm Drainage System) Design. Submission of complete electrical plans, signed and sealed by a professional electrical engineer and for checking prior to endorsement by the OETS to the PGH Administration. Design for appropriate air-conditioning system (chiller type and split type) needed for Linac Bunker and Offices			
	B. Construction Phase			
	1. **Permits and Bonds.** The contractor shall apply for all Government permits such as Construction Permits and Occupancy Permit and shoulder the fees hereof. To			

	protect the existing facilities the contractor shall submit Contractor's All-Risk Insurance (CARI).			
	2. **Demolition Works**. Demolition of the Nuclear Medicine Decay Room and Pump Room.			
	3. **Constructions and Relocation Works** a. Nuclear Medicine Decay Room i. Construction of Nuclear Medicine Decay Room with appropriate radiation shielding ii. Fabrication of Metal Shelving iii. Door shall be metal with radiation shielding iv. Ducted type exhaust fan with Hepa-filter			
	b. New Cistern Tank and Pump Room i. Construction of underground Cistern Tank for domestic water pump and fire engine turbine and waterproofing (same capacity of the existing tank) ii. Construction of Pump Room. This is to house motors, fire engine and its control panel.			
	c. Bunker and Facilities i. Construction of the linear accelerator bunker with appropriate radiation shielding will follow IAEA or FDA-DOH specifications for a 6MV FFF stereotactic capability with a maximum dose rate of 800 MU/min as			

	required by the IAEA standards. ii. Radiation survey results of the constructed LINAC Bunker (primary and secondary walls, doors and ceiling) should be below the regulatory/international standard radiation limits (instantaneous dose rate of at most 7.5μSv/h). iii. Bunker room dimensions shall be able to accommodate a machine with 6MV & 10 MV photon energy LINAC machine requirements. iv. Bunker design shall be duly evaluated and verified by the PGH in-house board-certified radiation oncology medical physicist (ROMP) and approved by the DOH-FDA before construction. v. Installation of radiation warning lights and radiation signage shall follow DOH-FDA recommendations. vi. The water chiller shall be connected to the existing water system of the hospital, with its accompanying water supply and plumbing. vii. Complete installation of all network cabling, conduits, wirings, switches, and circuit breakers will be compatible with any winning bidder's requirement.			

	viii. There will be installation of water sprinklers, smoke detectors, fire alarm system, proper signage and fire exits & clearances as required by the Bureau of Fire Protection. Room labels will be installed. ix. Establishment of connection to the Brachytherapy CT Scan & 16 Slice Somatom Emotion located in Cancer Institute Building. x. Essential Rooms will be constructed, as follows: 1) LINAC Treatment Room Construction of storage for the following: • Masks, breast boards, wing boards, cradles, belly board, abdomen and pelvis baseplates & thermoplastic, shoulder retractor, etc • Linen • Machine's spare parts and kit Provision for the following: • Overhead laser and lateral wall laser installation • Emergency-off switches on the walls of the treatment room • Base frame pit and installation, with appropriate dimensions to			

		accommodate any winning bidder's LINAC machine • LINAC machine's cooling system (pipes and chillers) • Beam on and x-ray warning lights in the treatment room and over the treatment door, which indicate beam-on condition • Dimmer switch for lights • Slanted holes/duct for LINAC machine cables and for Physics instrument cables into the treatment console room 2) LINAC Control Console Room Provision for the following: • countertop/customized computer counter for LINAC console and its accessories • built-in, wall-mounted cabinets for storage of patient charts 3) Treatment Planning Room Renovation of the existing treatment planning room,			

		dosimetry room, and small consultation room of the existing LINAC1 facility to a new treatment planning room. Provision for the following: • countertop with drawers for the treatment planning system computers • bookshelves and filing cabinets for storing patient charts and documents 4) Equipment & Supply Room Provision of built-in cabinets for storage of machine spare parts, engineer's tools, QA tools and dosimetry equipment Provision of built-in cabinet for storage of immobilization devices, styro, blocks, linens, patient gowns and office supplies 5) Electrical Room Provision for the main circuit breaker, electrical line and LINAC machine's air compressor. 6) Patient Waiting Area Will be able to accommodate a seating capacity of at least 30 at a given time with space for storage and			

	transport of hospital beds and wheel chairs Provision for four (4) four-seater gang chairs xi. Renovation of Cancer Institute - Room 104 1) Renovation to become a consultation room (to be done ahead of other items) 2) Provision of the following: • Fours (4) desks • Bookshelves and filing cabinets for storing patient charts and documents xii. Provision of appropriate fire protection system d. Relocation Works and Provision of Temporary Utilities i. Provision of temporary water supply line for SOJR building while construction of LINAC 3 is ongoing. This includes supply of 80 gallons pressure tank, 2HP water pumps, valves, fittings, electrical supply, and other needed materials to complete the installation. Electrical supply to be tapped to the nearest power source. ii. Transfer of Water Pumps and Fire Engines including all accessories and control panel. All piping works			

	include suction, discharge pipe, valves, reducer coupling, etc. to complete the system. Scope also includes connection to the tapping line (water and sprinkler system) and transfer of electrical power supply. iii. Testing and commissioning of the newly transferred Water Pumps and Fire Engines e. Electrical Scope i. Supply, installation, testing and commissioning of required/appropriate main feeder lines (Conduit pipes with cables) from designated tapping point at PGH powerhouse and LINAC control room including provision of required molded case circuit breaker at the source ii. Supply, installation, testing and commissioning of appropriate dry-type transformer for required hospital equipment including necessary circuit breakers at the high-voltage and low-voltage side including grounding rod and wires. iii. Supply, installation, testing and commissioning of necessary lightings, switches, duplex convenience outlets,			

	conduits, panelboards and other materials for the necessary rooms/areas covered by this project. iv. Supply, installation, testing and commissioning of necessary wirings for all airconditioning units, exhaust fans, warning lights and exit signages v. Supply, installation, testing and commissioning of necessary controls needed for the operation and protection of equipment including uninterruptible power supply (UPS) vi. Provision of as-built electrical plan including load directory at electrical panel vii. Facilitation of electrical permits f. Air-conditioning Scope i. Design for appropriate air-conditioning system (chiller type and split-type) needed for LINAC bunker and offices ii. Centralized air conditioning system within the facility, as well as separate back-up individual air-conditioners as cited in II.K.1., will be provided. iii. All aircon units are inverter type iv. All condensing units should be installed in the roof deck of the bunker and for chiller			

	type will be aligned to the water source for easy tapping. v. Condensate drainpipe should be embedded and tapped to the nearest drainline vi. Aircon pipes should be insulated with rubber insulation ¾ inch wall thickness and wrapped by polyethylene tape color white. Provision of hangers for piping that will be laid above the ceiling vii. Ducting for chiller type aircon should be wrapped by silver insulator according to airconditioning standards. Ducting should be provided with appropriate hangers for protection against sagging inside the ceiling. g. Materials testing Testing of materials shall be shouldered by the contractor			
	II. SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM			
	A. Installation and Testing of LINAC Machine	1		
	To be reckoned upon issuance of certificate of inspection and work accomplished from OETS			
	B. Technical Specifications of the Linear Accelerator	1		
	1. Tight isocenter alignment, at least 1 mm isocenter accuracy for the following: a. Gantry isocenter accuracy b. Radiation beam axis with the rotation of the gantry			

	2. Fully/Completely digitally-controlled system 3. Waveguide and filter design allow at least one (1) photon energy 4. Allows for online remote diagnostic monitoring of the LINAC machine and treatment planning system during the warranty period; post warranty remote diagnostic monitoring will be the option of the procuring entity 5. Beam Energy: Photon Energy - 6MV 6. Power Source: Magnetron or Klystron as power source 7. Back-up Power Supply: Uninterrupted Power Supply (UPS) to support the Linear Accelerator Machine and all its accessories for at least 15 minutes in case of power failure (as provided by a third-party supplier) 8. Dose Rate and Beam Stability 6 MV Photon: Maximum dose rate of at least 800 MU/min at Dmax 9. Gantry a. Gantry Rotation Range: minimum of 0 ±185° b. Gantry Rotation Accuracy: at least 0.5° c. Gantry Rotation Reproducibility: not greater than 0.5° d. Gantry Maximum Rotational Speed: at least 4.0 RPM e. Gantry Display: Digital Display f. Digital display must be visible inside the bunker and treatment console 10. Bore size: at least 85 cm in diameter 11. Multileaf Collimators (MLC): a. Number of leaves: At least 110 MLC leaves b. Leaf width resolution: not greater than 6.5 mm			

	c. Maximum leaf extend position over the isocenter: at least 14 cm d. Maximum leaf retract position over the isocenter: at least 14 cm e. Leaf over travel: at least 14cm f. Maximum leaf travel speed: at least 5 cm/s g. Leaf beam transmission: ≤0.5% h. Leaf end position accuracy: ± 1mm i. Leaf end position repeatability: ± 1mm j. MLC control must be fully integrated with the digital control system; if not, an interface between MLC and existing network system shall be provided 12. Couch a. At least three (3) degrees of freedom (longitudinal/Y, lateral/X, vertical/Z) b. Electrical and mechanical control of couch motion c. Couch weight limit (supporting patient weight): at least 220 kilograms d. Couch travel range: i. Lateral: ±20cm ii. Vertical: at least -40cm iii. Longitudinal: at least +160cm e. Couch travel range accuracy: ± 2mm f. Couch capable of the following treatment techniques: i. Intensity Modulated Radiation Therapy (IMRT) ii. Image Guided Radiation Therapy (IGRT)			

	iii. Volumetric Modulated Arc Therapy (VMAT)/RapidArc/ Helical g. With controls for manual motion and emergency off buttons on both sides of the couch h. Carbon fiber material; free of metal and radiation-opaque materials i. Two (2) lock bars (ordinary and MRI compatible) 13. Treatment Delivery Technique Capability a. Field in Field b. IMRT c. IGRT d. VMAT/RapidArc/Helical 14. Imaging Technique Capability a. MV Cone Beam Computed Tomography (MV CBCT) b. kV Cone Beam Computed Tomography (kV CBCT) c. Includes couch mount for imaging i. Adjustment for AP, lateral, and vertical movement ii. Locks for adjustments to ensure stability 15. Control Console a. The computerized control console, consisting of several workstations depending on the manufacturer. i. All the functions and modes of the accelerator shall be software controlled. ii. Console shall provide controls that must be activated in order for the accelerator to become operational			

	in any of its various modes of operation. iii. All modes and functions of the accelerator shall also be operated manually in case of any software malfunction. iv. There shall be UPS per computer system with at least 15-minute working time. b. Able to do auto-field sequencing integrated with oncology information system c. Integrated with oncology information system to display patient setup, treatment verification, and recording of treatment history into the OIS and file d. Integrated with oncology information system for imaging of treated fields before, during, and after the treatment for verification requirements e. Integrates use of the linear accelerator, MLC, MV imaging system, kV imaging system or separate workstations for MV imaging system and kV imaging system			
	C. Fully integrated MV CBCT Imaging System	1		
	1. Maximum planar imaging size: at least 28 x 28 cm2 2. Active imaging area: at least 40 x 40 cm2 3. Image and treatment coincidence: ≤ 1.0mm 4. MV CBCT reconstructed volume length: at least 25 cm 5. MV CBCT scan diameter: at least 25 cm			

	6. MV CBCT spatial linearity accuracy: ± 0.5mm 7. Viewable Pixels: at least 1280 x 1280 8. Dose per MV CBCT acquisition: maximum of 5 MU 9. Hounsfield Uniformity: ±50 HU 10. Full integration with Oncology Information system, network and database. Should also be compatible with other (3rd party) oncology information systems. 11. Includes application software and acquisition workspace a. Online and offline matching and image evaluation b. Match verification tools and image matching tools (blend, color blend, spyglass window, split window)" 12. Able to do portal dosimetry to record intensity patterns of IMRT fields for pre-treatment quality assurance of IMRT planning and delivery a. Able to do continuous imaging in single, multiple or movie-loop mode b. Includes image analysis software for field fluence evaluation and analysis			
	D. Fully integrated kV CBCT Imaging System	1		
	1. Maximum reconstruction scan range: at least 38 cm 2. Maximum scan diameter: at least 48 cm 3. Spatial linearity accuracy: ± 0.5mm 4. Image and treatment coincidence: ≤ 1.0mm 5. Hounsfield Uniformity: ±50 HU 6. Acquisition kV range: 80 kV - 140 kV 7. Acquisition exposure time range: 10 - 25 ms 8. kV Source/X Ray tube: Fan cooled x ray tube			

	9. Has kV CBCT mode for different anatomical programs (i.e. Head, Breast, Thorax, Pelvis) 10. Ability to export images via DICOM for image analysis a. OIS integration and connectivity (2D, 3D, and 4D systems) b. TPS configuration and connectivity (2D, 3D, and 4D systems) 11. Imported DICOM image analysis and evaluation software includes: a. Auto-matching tools b. Image match verification tools c. Other tools that measure distance and angles 12. Images acquired from CBCT (cone beam computed tomography) can be used for adaptive treatment planning 13. Quality Assurance and calibration phantoms (as supplied by a third party) a. Isocenter cube phantom i. Composed of PMMA or material equivalent in density ii. At least 4 x 4 x 4 cm3 in size b. Marker phantom to check for imaging-treatment isocenter coincidence for 2D and 3D imaging system or MV isocenter determination and kV system calibration (ball bearing, fiducial, or commercial device) c. Phantom to quantify uniformity, spatial resolution and contrast: i. Contrast and spatial resolution 2D kV system; phantom with low-contrast and high contrast			

	objects (such as Leeds Phantom) ii. Contrast 3D system: an appropriate volumetric image quality phantom (such as a CT phantom) iii. Volumetric Image Quality Phantom with the following modules: 1) geometry, sensitometry module 2) high resolution module with 1- to 30-line pairs per cm gauge 3) low contrast module with supra-slice and sub-slice contrast targets 4) wave ramp and bead module or wave insert 5) image uniformity module d. CBCT Phantom for the evaluation of the image quality of 3D CBCT, includes various inserts and can be used to measure different aspects of CBCT image quality i. CBCT body normalization phantom (polyurethane foam) ii. CBCT head normalization phantom (high			

	density polyethylene foam) iii. CBCT geometry calibration phantom iv. CT image quality phantom			
	E. Immobilization Devices			
	1. Head, neck and shoulder devices a. Baseplate i. Standard angulation 1) Carbon fiber material 2) MRI compatible ii. Tilting angulation: Carbon fiber material	 1 1 1		
	b. Thermoplastic mask i. Head and neck masks ii. Head, neck, and shoulder masks	 30 20		
	c. Head rest i. Head rests, with standard sizes of A-F with comprehensive range of neck angulations ii. Adult prone iii. Pediatric sets 1) prone 2) supine iv. No transmission correction needed for high energy beams	 6 1 1 1		
	d. Bite Block i. Standard bite blocks ii. Large bite blocks	 20 5		
	e. Shoulder retractor	1		
	2. Chest and breast immobilizer a. Breast board; carbon fiber material b. Wing board: carbon fiber material c. Vacuum Cushion Immobilizer i. Whole/full body ii. Half body	 2 2 10		

	iii. Vacuum/compressor pump iv. Breast Thermoplastic Mask compatible with the breast board and needed accessories as prescribed for use by the manufacturer	10 1 20		
	3. Abdomen and pelvis immobilizers a. Belly board: carbon fiber material b. Abdomen and pelvis immobilization system with abdomen and pelvis baseplate: carbon fiber material c. Reinforced thermoplastics compatible with the abdomen and pelvis baseplate 4. Other devices a. Patient transfer board b. Tungsten eye shields i. Pair of small ii. Pair of medium iii. Pair of large c. Testicle shields i. Small ii. Medium iii. Large d. Patient restraint belts e. Calipers: stainless steel with parallel arms and calibrated in cm f. Set of multipurpose support cushions and wedges g. Bolus/tissue equivalent build up material, at least 30 cm x 30 cm i. 0.5 cm thickness ii. 1 cm thickness iii. 1.5cm thickness	1 2 20 1 1 1 1 1 1 1 2 2 1 2 2 2		
	F. Oncology Information System with Networking, Record and Verify System			

	1. LINAC Server a. High storage capacity server that can store at least 10000 patients' data b. Monitor: not smaller than 20" LCD monitor c. Uninterrupted power supply with at least 15 minutes working capacity d. With appropriate port hubs and all necessary network connections as prescribed by the manufacturer e. To be placed in the proposed Treatment Planning Room f. Must be of the latest model and latest software version by the manufacturer.	1		
	2. Workstations a. To be placed at Treatment Control Room, CT Console at Brachytherapy Facility, and Consultation Room b. Processor: Current generation of at least Intel i5 c. Current generation chipset d. Memory: not smaller than 16GB, DDR4 RAM e. Has the current generation Intel HD graphics f. Has keyboard, mouse, and USB terminals g. Storage: not smaller than 1TB h. Optical drive DVD – writer i. Display 23" LED j. Has Wi-Fi card for wireless connectivity k. Must be of the latest model by the manufacturer. l. UPS with at least 15 minutes working time capacity for every workstation 3. OIS Software includes the following:	3		

	a. Patient data administration and electronic medical record b. Independent treatment verification c. Treatment and port image review d. Time planner/scheduler e. Electronic patient RT chart f. Chart audit and checking/assessment g. Capable to archive and restore Patient data h. Must be of the latest software version by the manufacturer. 4. Provision for remote access to the distributor for remote service and diagnosis; including cabled high-speed internet connection.			
	G. Treatment Planning System			
	1. Contouring a. Supports contouring templates that list structures of interest b. Boolean operations (such as AND, OR, XOR, AND NOT) with structures to create complex structure definitions or equivalent contouring tools (margin, subtraction and addition) c. Advanced contouring tools with patient identity information should be available d. Automatic segmentation/contouring based on electron density values for different organs should be included 2. Image Registration a. Image registration support includes CT scan, MRI, and PET via DICOM b. Able to do image fusion c. Patient data acquisition through DICOM import			

	facility from CT Scan, CBCT, MRI and PET 3. Planning, Dose Calculation, and Optimization a. Treatment planning for photon and electron beam of all energies in the therapeutic range b. Able to do treatment plans for conventional, 3D-conformal, IMRT, VMAT/RapidArc/Helical (licenses to compute included) i. IMRT Planning License: utilizing sliding window, large field, and step and shoot technique ii. VMAT/RapidArc/Helical Planning License with multi-arc fields capabilities c. Includes advanced dose calculation algorithms for Monte Carlo equivalent photon calculation (such as Monte Carlo, AcurosXB enhancement) and Monte Carlo algorithm for electron. d. Inverse planning software for IMRT and VMAT/RapidArc/Helical e. Can utilize graphics processing unit for plan optimization f. Capable of multi-criteria optimization g. Able to display target and critical structure motions using 4D tools for respiratory-gated treatment plans for IMRT and VMAT/RapidArc/Helical i. 4D image series are displayed as movie			

	loops and as blended or blinking images ii. 4D image displays supports CT, PET/CT, PET and images from the kV imaging system attached to the machine h. Capable of adaptive treatment planning i. Support regular and irregular fields for all types of beam modifiers such as bolus, MLCs, tissue compensator, and asymmetric beam j. Capable of making tissue inhomogeneity correction (as per electron density), irregular point dose calculation and auto contouring as per CT data. k. Able to provide enhance organ at risks (OARs) and target overlap and small structure management. 4. Plan Evaluation and Analysis a. Side by side plan comparison b. DVH for multiple plans in one plot, DVH for any multiple structure volumes in one plot c. Differential or cumulative dose volume histogram d. Absolute or relative scale for the structure volume axis of DVH plot e. Plan summation/subtraction for external beam plans, can store summed plans f. Electronic plan approval 5. Quality Assurance a. Able to do portal dosimetry calculation for VMAT/RapidArc/Helical and IMRT fields on			

	electronic portal imaging device/MV system b. Supports In-Vivo Estimation Dosimetry for IMRT/VMAT/RapidArc/Helical treatment plans i. Capable of automatic accumulation and evaluation of recalculated daily delivered doses ii. Can qualitatively assess areas of over-dosing and under-dosing due to anatomical changes and imperfect set up iii. Can provide DVH comparison of actual delivered dose to planned delivered dose 6. System administration utilities including back-up, archive, and restore 7. Workstations a. Calculation workstation/treatment planning system with physics license and UPS with at least 15 minutes working time capacity for every workstation with licenses. With medical grade display not smaller than 23". b. Non calculation workstation/contouring station with contouring license and UPS with at least 15 minutes working time capacity for every workstation with licenses. With medical grade display not smaller than 23". c. Must be of the latest model and latest software version by the manufacturer. 8. Printers	3 5		

	a. Heavy duty laser monochromatic printer with two (2) additional sets of ink b. Heavy duty laser colored printer with two (2) additional sets of ink	1		
	9. Automated Plan Conversion If the machine is not of the same brand and model of the existing LINAC machine the following conditions shall be met: a. Winning bidder shall provide connectivity to the offered treatment planning system (TPS). It shall be connected to the existing OIS, and be able to store contoured DICOM images and convert or translate it to an acceptable file for treatment planning on the existing and new TPS storage capacity. b. Computer storage capacity shall be able to store at least 4000 patient treatment data. c. Performance of beam data gathering and commissioning of the existing LINAC machine shall comply with the beam data requirements of the new TPS to be done by the in-house medical physicist. d. Beam data gathering of the new LINAC machine shall comply with the beam data requirements of the existing TPS to be done by the in-house medical physicist.	1 1 1		
	10. Able to import/export patient image, contours, and plan data to/from the existing Treatment Planning System of the Division of Radiation of Oncology			

	11. Supports DICOM-RT import/export of at least DICOM images or higher and radiotherapy images, structures, plans, dose matrix, dose points, fluence, dMLC for IMRT, blocks, compensators, etc. 12. Import filters include image transfer via LAN, CD-ROM, film scanner, digitizer for non-CT based patients (brachytherapy films and irregular images) and dosimetric beam data from all brand name water phantoms (e.g. Sun Nuclear, IBA, PTW, etc.)			
	H. LINAC Accessories			
	Laser Alignment System for the LINAC Machine (Four Cross Laser System)	1		
	I. Other requirements of the LINAC Machine			
	1. Leaded door (borated polyethylene) for the LINAC bunker 2. Set of patient intercom system in the treatment room and control console 3. CCTV Camera system: High resolution six (6)-piece camera system (two cameras for the main treatment area, one for the maze, 2 for the reception/waiting area, and one for the corridor) with three (3) views 4. Intercom in the Treatment Console shall be connected to the existing Intercom system (i.e. connection to Reception Area, CT Console Rooms (at LINAC and brachytherapy facilities), Treatment Planning Room) 5. Set of radiation warning lights above the LINAC room door connected to the treatment machine 6. Water chillers; specifications as prescribed by the manufacturer	1 1 1 1 1		

	7. Air compressor if required by the manufacturer; specifications as prescribed by the manufacturer 8. Dehumidifiers (three for the treatment room, one for the treatment planning room, and one for the equipment dosimetry room) a. 20 Liter capacity b. Wheel-mounted c. Automatic adjustable humidistat d. Water tank full indicator with auto shut-off e. Ozone friendly refrigerant, frost-free f. 100% CFC g. At least ¼ hp, 220-240 V	2 1 5		
	J. Technical Specifications of the Dosimetry System			
	1. Radiation Field Analyzer or Beam Scanner a. Advanced 3D computer-controlled radiation scanning system to measure dose distribution comprised of: i. 3D mechanics with scanning volume of not smaller than 40 cm x 65 cm x 330° ii. Calibrated high-precision mechanics with built-in levelling frame iii. Can fit inside the Linear Accelerator Bore iv. Calibrated high-precision mechanics with built-in leveling frame v. Water phantom carriage with electrically operated telescopic lift vi. Water reservoir carriage with bi-	1		

	directional pump (fill and drain water) vii. Control unit with built in two channel electrometer and with TNC connector viii. Hand-held control			
	ix. Set of detector holders for use of Farmer, parallel plate and field/reference Ionization Chambers (IC)	1		
	b. Fast, accurate, simple and easy setup scanning system c. Storage case and dust cover			
	2. Advanced acquisition and analysis software with laptop computer system a. Support of all international and industry protocol (such as IAEA, AAPM, etc) b. Compatible with all commercial radiation treatment planning systems c. License for installation of the software on up to (3) three additional workstations d. Can measure electron and photon profiles, depth dose curves and TMR/TPR e. Flexible ASCII tables including export to MS Excel f. Capability for radiation treatment planning software specific measurement queue creation and data conversion to the treatment planning system	1		
	3. Farmer Type Ion Chamber a. Farmer type ionization chamber 0.6 cc with plastic walls, Co-60 build-up cap, waterproof and fully guarded, calibrated in a	1		

	standards laboratory in terms of absorbed dose to water b. Ionization chamber model must be included in IAEA TRS 277/382/398 protocols c. With ion chamber holder or adapter for absolute measurements in water phantom and existing check source			
	4. Ionization Chambers for Small Field Dosimetry a. Ion chambers with the following volume, cylindrical, waterproof and fully guarded: i. Not bigger than 0.015 cc Cavity Volume with graphite central electrode ii. Not bigger than 0.04 cc Cavity Volume iii. Not bigger than 0.125 cc Cavity Volume b. With ion chamber holder or adapter for absolute measurements in water phantom and existing check source	1 1 2		
	5. Therapy Dose Meter (Electrometer) a. Must be compatible with the delivered ionization chambers, calibrated in a standards laboratory i. Power supply is 220-240 V, stable and high accuracy in the measurements, with display of accumulated charge and dose, varying bias voltage with V1/V2 ratio equal or greater than 3, dose	1		

	rate, exposure time, leakage and other important information that ensure validity of the instruments and with possibility of reverse polarity b. With calibration certificate, electrometer technical and user manual c. Complete with necessary accessories and carrying case			
	6. Detector Extension Cables a. Low noise triaxial cable on reel not shorter than 20 meters b. Low noise triaxial cable on reel not shorter than 10 meters c. Low radiation leakage cable and resistant against radiation damage	1 2		
	7. Barometer Digital, with selectable unit of pressure, 1 hPa or 0.5 mm Hg minimum scale, calibrated in a standard laboratory, with calibration certificate, technical data and user manuals in English	1		
	8. Thermometer Digital, with selectable unit of temperature, 0.5°C min scale calibrated in Standards Laboratory, with calibration certificate, technical data and user manual in English	1		
	9. Hygrometer Digital calibrated in SI units in a Standards Laboratory, with calibration certificate, technical data and user manuals in English	1		
	10. Desiccator cabinet, at least 4 levels, with at least 114 Liters Capacity with humidity and temperature indicators and controls, calibrated to SI units, 220-240V	1		
	11. Radiotherapy Area Monitor	2		

	a. Radiation area monitoring system installed inside the treatment room and at the control area b. Flashing red lights alarm with 180° field of view, with aural alarm switch ON/OFF and with battery back-up for at least 24 hours			
	12. Ready Pack radiotherapy verification films a. Size 20 x 20 cm2 b. Size 35 x 35 cm2	 100 100		
	13. Gafchromic verification films: at least 35 x 35 cm2	50		
	14. Digital level: magnetic horizontal, vertical and diagonal bubble level; durable	1		
	15. 4D Patient Plan Verification Dosimetry System a. For volumetric modulated RT patient treatment plan verification b. Matrix detector grid c. Able to do the following analyse: i. 2D dose analysis: compare data or absolute dose data using Distance to Agreement (DTA), Gamma (ϒ) and Gradient Compensation ii. Control point analysis (VMAT/RapidArc/Helical): individual control points and user-defined arc sections can be analyzed for a full arc or sub arc. iii. Equivalent VMAT/RapidArc/Helical Analysis system: verification of VMAT/RapidArc/He	1		

	lical plans using densities of ROIs from a TPS to calculate SSD, geometric and effective depth automatically for VMAT/RapidArc/Helical and IMRT plans iv. MLC analysis: evaluate the difference between the planned and delivered MLC pattern d. Include detector array, compatible phantom and software capable of DVH QA analysis			
	16. Chamber matrix for measurement of radiotherapy beam a. Measure fields up to a size of at least 20 cm x 20 cm2 b. Analysis parameters shall include dose output, flatness, symmetry, field size, light-radiation field coincidence, penumbra, dose rate and beam center	1		
	17. Radiation Survey Meter a. Battery-operated ionization radiation survey meter b. Digital, accurate, auto ranging, zeroing with warm up of less than 2 minutes c. Units of measurement are indicated at all times and capable of showing messages for unit operating conditions d. Radiation detected: alpha, beta, gamma and x-ray, 0-2 Sv/hr e. Calibrated in SI units f. With calibration certificates and user manual	1		
	18. Water phantom for absolute dose measurement	1		

	a. One dimensional, stand-alone water phantom for absolute dose measurements according to IAEA TRS-398 dosimetry protocols b. Minimum of 25cm x 35cm x 25cm volume, with PMMA wall c. With Farmer ion chamber and plane parallel plate chamber adapters and holding device on a vertical beam measurement for waterproof Farmer ion chamber and Parallel Plate Chamber d. The measurement depth can be manually adjusted with 0.1mm steps and read out on the incremental encoder with integrated digital display			
	19. Independent Monitor Units (MU) Check Software Software for accurate and independent verification of monitor units, dose, and overall validity of standard, IMRT, VMAT/RapidArc/Helical	1		
	K. Accessories and Supporting Equipment			
	1. Air Conditioning System a. Centralized Air Conditioning System (inverter-type) in all areas of the facility b. Back-up Air Conditioning Units i. 1.5 T Air Conditioning Unit 1) To be placed in the following rooms: a. Treatment Planning	 3 1 2		

	Room & Server Room b. Treatment Console c. LINAC Bunker d. Equipment Dosimetry Room e. Patient Waiting Area 2) Wall-mounted or ceiling-mounted 3) Inverter-type compressor ii. 3T Air Conditioning Unit 1) To be placed in the LINAC Bunker 2) Ceiling-mounted or wall-mounted 3) Inverter-type compressor iii. 2 HP Air Conditioning Unit to placed in Cancer Institute Room 104 2. Fire Extinguisher: a. To be placed in the following areas: i. LINAC Bunker ii. Treatment Console b. Green Type HCFC 3. Fire Alarm & Detector: a. Battery-type and with audio alarm	1 2 2 1 1 1 10 2 1		

	b. To be placed in areas as recommended by Bureau of Fire Protection			
	4. Foot Stools			
	a. Stainless steel			
	b. With skid-resistant rubber mat			
	c. Two-step			
	5. Thermometer with Hygrometer (combined) for the LINAC Bunker	10		
	a. Digital			
	b. Wall-mounted			
	c. Measurement range humidity: 5%-95% RH or better			
	d. Measurement range temperature: 0°-55.0°C or better	4		
	6. Electrical Extension Cord			
	a. Heavy duty 8 ft cord			
	b. Provides protection from power surges, spikes and AC contamination			
	c. At least four (4) surge-protected outlets	1		
	7. Emergency Lights: to be placed in areas as required by Bureau of Fire	5		
	a. Heavy duty			
	b. Automatic			
	c. LED type	1		
	d. Fire-retardant casing			
	8. Exhaust Fan			
	a. To be placed in the LINAC bunker			
	b. To be placed in areas recommended by the Hospital Infection Control Unit			
	9. MRI-Compatible Wheeled Stretcher			
	a. Manual backrest with 1 mm thick stainless-steel top			
	b. Fixed height	2		
	c. Rubber bumper on all sides			
	d. Sliding side rails			
	e. Fixed IV pole			
	f. With two sets patient restraints	4		

	g. Heavy duty 8" caster wheels with brakes and ball bearing h. Diagonal oxygen tank holder 10. MRI-Compatible Wheelchair a. Non-ferrous wheelchair b. With IV pole and E-cylinder 11. Computer Set Desktops a. Current generation i7 or higher b. Current generation chipset c. Memory 16GB, DDR4 RAM or higher d. Intel HD graphics; keyboard, mouse, USB terminals e. Local Storage of at least 1 TB. Hard disk drive and solid-state drive are both acceptable f. Optical drive DVD – writer g. Has wifi card for wireless connectivity h. Monitor should be at least 21" LED i. Network interface 10/100/1000 MB ethernet j. Operating System: Current generation Windows Professional 64bit k. Microsoft Office lifetime license 12. Anesthesia Machine with Multiparameter Patient Monitor a. Anesthesia Machine i. Must have Three Gas Systems (O2, Med. Air and N2O) ii. Must have dual tubes (Macro and Micro) for each gas; Min oxygen flow for micro must be 50ml or below iii. With separate auxiliary outlet of oxygen with own flow meter for nasal	1		

		cannula/face mask use iv. Must have auxiliary common gas outlet for non-rebreathing system (NRBS) v. Can provide nominal 21% concentration of oxygen in O2/N2O mixture (hypoxia guard proportioning system) vi. Must have at least two (2) Vaporizer Mounts: One (1) Isoflurane and One (1) Sevoflurane vaporizer compatible with the machine vii. Must be equiped with standard pin index yoke for gases (for oxygen only); May have yoke for N2O also viii. Must have reusable breathing circuit natural latex-free and autoclavable at 134°C for up to 10 mins. or settings prescribed by manufacturer ix. Breathing system must be fully integrated in the workstation x. One step bag-vent switch turns ventilator on/off xi. Adjustable pressure limiting valve with tactile indicator xii. Circuit volume of 2.6 L maximun including canister capable of low-flow anesthesia			

	xiii. Easy to remove/no tools needed for assembly/disassembly of breathing system xiv. Quick-change CO2 absorber with water tap (CO2 cannister, 1500G or lower) xv. Must have active gas scavenging system xvi. Must be equipped with gas pressure gauges (pipeline & cylinder) xvii. Must be equipped with oxygen flush valve xviii. Re-usable breathing head corrugated tubings must have universal adaptors/coupling xix. High-pressure tubings/adapter/connector/coupling for pipeine gases: Machine side: DISS; Gas pipeline outlet side: Medstart/OxequipTM type or DISS xx. Medical grade Electrical outlets wilh circuit breaker fuse in AM anesthesia machine base unit xxi. Anesthesia Machine Base Unit- standard for equipment model (trolley, drawers, mounts, electricals, pneumatics) b. Ventilator Specifications i. Operating Modes: 1) Volume Controlled Ventilation			

	2) Pressure Controlled Ventilation 3) Pressure Support 4) Synchronized Intermittent Mandatory Ventilation 5) Manual Ventilation 6) Spontaneous Breathing ii. Monitored Parameters 1) Expired Volume 2) Expired Flow 3) Respiratory Rate 4) Airway Pressure with Pressure waveform display 5) Allows Alarm Management iii. Control Input Ranges: 1) Breathing Frequency (rate) 4 to 100 bpm (VCV, PCV) 2) Positive End Expiratory Pressure (PEEP) 0 to 20 cmH2O or OFF, 4 to 30 cm H2O. Up to 30 cm H2O PEEP is acceptable. 3) Inspiration/Expiration Ratio (Ti:Te) 4:1 to 1:8			

	4) Pressure Limiting (Plimit) 10 to 100 cmH2O (hPa). 5) Tidal Volume (Vt) 20 to 1500 mL in Volume Control 6) Compliance Compensation on Delivered TV 7) Low-flow compensation iv. Other Requirements 1) Fresh Gas Decoupling or Dynamic Fresh Gas Compensation 2) One bellows for all patient range (neonate to adult) 3) Allows direct access to ventilator parameters c. Multiparameter Patient Monitor Specifications: i. Must be able to monitor the following basic parameters: 1) 5-lead ECG (with ST and arrhythmia analysis; ESU cable; lead wire set-grabber/squeeze/alligator clip or snap style)	1 30 1		

		2) SpO2 (reusable probes/sensors: 1 adult, 1 pedia, and 1 neonate) 3) NIBP (At least two (2) of the following cuff size must be provided: Adult, Large Adult, Thigh and Child/Infant 4) Temperature (2 reusable core/esophageal cable-probes - One (1) for adult and One (1) for pediatric patients 5) Respiration 6) Invasive Blood Pressure: At least 2 channels ii. Monitor: At least 19-inch high-resolution TFT LCD Color Display; 10-12 channels iii. Must be able to monitor the following advanced parameters: 1) IBP (at least 2 channels and 2 cables/machine each either Biosensor/Utah System transducer compatible)			

		2) End Tidal CO2. End tidal CO2 can be integrated into the anesthesia machine display through a gas analyzer module. iv. Other Required Module: 1) Neuromuscular Transmission (with adult and pediatric mechanosensors for blockade monitoring modes: single twitch, TOF, DBS, tetanus, PTC; nerve localization mode with electrosensor optional). Stand-alone NMT module is also acceptable. v. Other accessories for the cardiac monitor: 1) Auto volts (100-240 V) 2) Back-up rechargeable battery for at least one (1) hour 3) One (1) unit AVR appropriate for the machine (Third Party)			

	4) Resistant to AC and high-frequency electro surgical interference from devices (e.g. cautery, defibrillators, etc.) 5) Capable of displaying all parameter information (waveform and numeric values) with high-capacity data storage for review 6) With visual and audible (at least 3-level) alarms that can be set by the user 7) Control via capacitive touchscreen 8) Monitors network-ready (wired/wireless) 9) Multiparameter monitor must be compatible and connected to the anesthesia machine with mount 13. Stretcher a. length: 2000 mm at least b. width: 550 mm at least			

	c. lightweight with IV stand and collapsible railing d. working load: at least 160 kg 14. Office chairs a. Ergonomic b. Adjustable arms c. Pneumatic seat height adjustmant d. Built-in lumbar support e. Seat swivel f. Weight rated up to 250 lbs 15. Stool bar chair a. Cushioned seat b. Armless c. Pneumatic seat height adjustment d. Weight rated up to 250 lbs.			
	L. Provision for Future Remote Access to OIS and TPS			
	Provision for future remote access to the Oncology Information System and Treatment Planning System with full functionality from any location on multiple devices for 25 users, as provided by a third-party supplier authorized by the distributor, in accordance with the Republic Act 10173/Data Privacy Act			
	M. Commissioning of the Linear Accelerator			
	To be reckoned after the winning bidder has issued the acceptance certificate indicating that all applicable and required tests have been satisfactorily met.			

TOTAL APPROVED BUDGET FOR THE CONTRACT: Php230,000,000.00

TERMS & CONDITIONS:

A. The lifespan of the Linear Accelerator power source must be least three (3) years. If a lifespan of less than three (3) years, the power source should be replaced without additional cost to the institution in case of failure.

B. Compatibility with the existing machines and equipment of Division of Radiation Oncology Department of Radiology

1. Couch

Fully compatible with the existing immobilization devices and accessories

2. Immobilization Devices
   Lock bars must be compatible with all immobilization devices, the treatment couch, and the CT simulator couch
3. Dosimetry System
   All chambers and electrometer must be of the same connector design with the existing dosimetry system

C. Connectivity with the existing machines and equipment of Division of Radiation Oncology Department of Radiology

1. Oncology Information System:
   a. Should be connected to the IGRT device and to should be able to import MV, kV, and volumetric DICOM images
   b. Able to accept and read DICOM CT images from the existing 16 Slice Somatom Emotion of Radiation Oncology Division of UP-PGH from external devices (such as CD, DVD, or Flash Drive)
   c. Should be connected to the purchased linear accelerator (to verify that the machine is set up according to plan and automatically records actual set-up parameters)
   d. Should be connected the treatment planning system
   e. Should be connected with the existing OIS of the LINAC at CI
2. Treatment Planning System
   a. Workstations integrated to the LINAC console through the OIS network/record and verify system

D. Requirements to be submitted by the bidder for bid opening:

1. Brochures and Technical Specifications for the following:
   a. Linear Accelerator Machine
   b. Fully integrated MV CBCT Imaging System
   c. Fully integrated kV CBCT Imaging System
   d. Immobilization Devices
   e. Oncology Information System with Networking, Record and Verify System
   f. Treatment Planning System
2. SEC registration to prove that the supplier is in the business of importing and supplying medical equipment for the past 10 years
3. Certification that the manufacturer has been in the business of manufacturing Linear Accelerator Machines for at least 20 years.
4. Certified true copy of the Certificate of Distributorship for the last 5 years. The principal and the local distributor must have been in business partnership for the past 5 years.
5. Guarantee letter from the manufacturer and local distributor to ensure availability of supplies, parts and accessories for at least ten (10) years after expiration of the warranty period.
6. Certification by the principal that service engineers are factory trained on service and repair.
7. Certification by the supplier that at least one service engineer is available locally to provide quick on-site support.

8. Manufacturer's Office in the USA, Canada, Western Europe, and Japan
9. Must submit service record history indicating 95% uptime for the past 5 years from any Tertiary government or private hospital in the Philippines.
10. Must submit at least three (3) certificates of Performance Evaluation with a rating of at least Very Satisfactory within the past ten (10) years from any Tertiary government or private hospital in the Philippines.
11. Submit a service record history indicating 95% uptime for the last five (5) years from any Tertiary government or private hospital in the Philippines.
12. Required Licenses of Certification: License from the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR)
13. Certification issued by the equipment manufacturer that the medical LINAC in its present condition is compliant with the performance and safety requirements of the International Atomic Energy Agency and the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC)
14. Notarized affidavit of Site Inspection

E. Requirements to be submitted by the bidder for bid opening:

Product presentation in an institution with the same brand and model of the following:

1. Technical Specifications of the Linear Accelerator Machine
2. Fully integrated MV CBCT Imaging System
3. Fully integrated kV CBCT Imaging System
4. Treatment Planning System
5. Immobilization Devices
6. Oncology Information System with Networking, Record and Verify System

F. Requirement/s if awarded the contract

1. Project Completion date: Delivery, installation, testing and commissioning of the Linear Accelerator Machine and accessories, including design and construction of related infrastructure work in Five hundred (500) calendar days upon receipt of the Notice to Proceed.

   An extension shall be allowed, equivalent to the number of calendar days between the submission of the Architectural and Engineering Design Proposal and its approval by the in-house certified radiation oncology medical physicist, the OETS, the Chair of the Department of Radiology, the Deputy Director for Administration, and the Director.
2. Delivery Place: Philippine General Hospital, Taft Avenue, Manila
3. Installation Place: Cancer Institute, Philippine General Hospital
4. Warranty

   At least five (5) year warranty on all parts and service of all equipment purchased (to start after the performance and acceptance testing), as follows:
   a. Linear Accelerator (LINAC) Machine including:
      i. Radiation Oncology Information System (OIS)
      ii. Treatment Planning System
      iii. Immobilization Equipment

iv. LINAC Accessories

b. Dosimetry Equipment and Accessories Complete set of Dosimetry System
c. Guarantee for availability of after sales service and spare parts for ten (10) years after warranty period
d. LINAC MACHINE
    i. Maximum downtime of twenty-four (24) working days in a year and not exceeding two days in a month; with corresponding penalty for delays (Php 200,000.00/day – based on approximate equivalent daily income of 50 IMRT patients using a computed rate of Php 4,000), which shall be compensated by extending the warranty equivalent to the amount computed from the accumulated downtime exceeding the maximum duration stated above.
    ii. Definition of Machine Downtime: Start of downtime: once reported to the winning bidder - End of downtime: once the winning bidder has given clearance to resume operations
e. Warranty period shall commence from the date of acceptance by the end-user after installation, acceptance testing and commissioning of the of the LINAC machine, LINAC accessories, and treatment planning system.

5. Manuals of all equipment and accessories: The supplier must provide original hard copy and soft copy of operators and service manuals in English Language upon delivery.
6. Requirements on Dosimetry System
    a. Calibration certificates and technical specifications of all dosimetry equipment, including survey meters and ionization chambers
    b. All dosimeters for absolute dosimetry must be included in IAEA TRS 277/382/398 protocols
7. Users' Training

    Users' training for Radiotherapy Personnel on all unit systems delivered by the supplier's foreign physicists and application specialists, which include the following:
    a. Data gathering and encoding/uploading of data to the TPS to be done by the in-house medical physicists shall be guided by the unit manufacturer application specialist/physicist.
    b. Manufacturer application specialists/physicists who can speak English fluently. The in-house medical physicist reserves the right to refuse the presence of manufacturer's physicist if he/she cannot be understood. The supplier is obliged to send another one.
    c. Notarized undertaking from the supplier that they will provide training for five (5) radiation oncologists and two (2) medical physicists in USA, Canada, Western Europe for at least 3 days; training/s shall be provided no later than the duration of the warranty period. Permit to travel and to conduct training must be approved by public health officials of both countries.
    d. Four months training for four (4) radiologic technologists in a radiation therapy facility with the same or higher model and capabilities of the equipment purchased; if the same or higher model is not available in the country, the

Applications Specialist should be present and assist during the first month of actual clinical operations.

e. Training of radiologic technologists should be conducted before the acceptance of the machine.
f. One (1) hospital engineer (on-site) to be provided before the acceptance testing of the purchased equipment.
g. Two-week on-site applications training for the Radiology Staff and OETS Technical Personnel.

8. Quotation of the Annual Preventive Maintenance Cost after the warranty period expires shall be provided.
9. Supplier will indicate brand, model, country of origin, and manufacturing date of the all equipment to be delivered.
10. All equipment and accessories to be delivered and to be supplied must be of the latest model by the manufacturer. All software must be of the latest version by the manufacturer.
11. One manufacturer application specialist/physicist assistance for one month during the commissioning.
12. Free upgrades of all software (i.e. console version, TPS version) shall be included in the preventive maintenance of the machine by the supplier.

G. Acceptance Parameters

1. Passed the performance testing of Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR)
2. Licensing
   a. Satisfactorily complied with licensing requirements of the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR)
   b. To be reckoned upon issuance of commissioning report by the PGH in-house certified Radiation Oncology Medical Physicist.
3. Initial Clinical Use:
   a. To be reckoned upon receipt of the license to operate issued by the Department of Health - Food and Drug Administration - Center for Device Regulation, Radiation Health and Research (DOH-FDA-CDRRHR)
   b. Completed treatment of the following:
      j. At least six (6) IMRT procedures
      iii. At least six (6) VMAT/RapidArc/Helical procedures
   c. Duration: 30 calendar days

H. For infrastructure projects, the following maybe required as applicable:

1. PCAB License (as applicable to the projects)
2. Bill of Quantities/Materials (as applicable)

I hereby certify to comply and deliver all the above requirements

_____
Name of Company/ Bidder

_____
Signature over Printed Name of Representative

_____
Date

Section VIII. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

The prescribed documents in the checklist are mandatory to be submitted in the Bid, but shall be subject to the following:

a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or

b. Any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

The BAC shall be checking the submitted documents of each Bidder against this checklist to ascertain if they are all present, using a non-discretionary "pass/fail" criterion pursuant to Section 30 of the 2016 revised IRR of RA No. 9184.

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);
or

☐ (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document,
and

☐ (c) Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;
and

☐ (d) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Technical Documents

☐ (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**

☐ (g) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided for in Sections 23.4.1.3 and 23.4.2.4 of the 2016 revised IRR of RA No. 9184, within the relevant period as provided in the Bidding Documents; **and**

☐ (h) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;
or
Original copy of Notarized Bid Securing Declaration; **and**

☐ (i) Conformity with the Technical Specifications, which may include production/delivery schedule, manpower requirements, and/or after-sales/parts, if applicable; **and**

☐ (j) Original duly signed Omnibus Sworn Statement (OSS);
and if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

☐ (k) The Supplier's audited financial statements, showing, among others, the Supplier's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**

☐ (l) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC);
or
A committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation.

Class "B" Documents

☐ (m) If applicable, a duly signed joint venture agreement (JVA) in case the joint venture is already in existence;
or
duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

Other documentary requirements under RA No. 9184 (as applicable)

☐ (n) *[For foreign bidders claiming by reason of their country's extension of reciprocal rights to Filipinos]* Certification from the relevant government office of their country stating that Filipinos are allowed to participate in government procurement activities for the same item or product.

☐ (o) Certification from the DTI if the Bidder claims preference as a Domestic Bidder or Domestic Entity.

25 FINANCIAL COMPONENT ENVELOPE

☐ (a) Original of duly signed and accomplished Financial Bid Form; **and**

☐ (b) Original of duly signed and accomplished Price Schedule(s).

Bid Form

Date: _____
Project Reference No.: _____

THE BIDS AND AWARDS COMMITTEE 1
UPM – Philippine General Hospital
Taft Avenue, Manila

Gentlemen and/or Ladies:

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to *[supply/deliver/perform] [description of the Goods]* in conformity with the said PBDs for the sum of *[total Bid amount in words and figures]* or the total calculated bid price, as evaluated and corrected for computational errors, and other bid modifications in accordance with the Price Schedules attached herewith and made part of this Bid. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein or in the Price Schedules,

If our Bid is accepted, we undertake:

a. to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements of the Philippine Bidding Documents (PBDs);

b. to provide a performance security in the form, amounts, and within the times prescribed in the PBDs;

c. to abide by the Bid Validity Period specified in the PBDs and it shall remain binding upon us at any time before the expiration of that period.

[Insert this paragraph if Foreign-Assisted Project with the Development Partner:
Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and address Amount and Purpose of
of agentCurrencyCommission or gratuity

_____
_____
_____
(if none, state "None") *]*

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon us.

We understand that you are not bound to accept the Lowest Calculated Bid or any Bid you may receive.

We certify/confirm that we comply with the eligibility requirements pursuant to the PBDs.

The undersigned is authorized to submit the bid on behalf of *[name of the bidder]* as evidenced by the attached *[state the written authority]*.

We acknowledge that failure to sign each and every page of this Bid Form, including the attached Schedule of Prices, shall be a ground for the rejection of our bid.

Name: _____

Legal capacity: _____

Signature: _____

Duly authorized to sign the Bid for and behalf of: _____

Date: _____

Price Schedule for Goods Offered from Abroad

[shall be submitted with the Bid if bidder is offering goods from Abroad]

For Goods Offered from Abroad

Name of Bidder: _____ Project Reference No._____ Page ___ of ___

1	2	3	4	5	6	7	8	9
Item	Description	Country of origin	Quantity	Unit price CIF port of entry (specify port) or CIP named place (specify border point or place of destination)	Total CIF or CIP price per item (col. 4 x 5)	Unit Price Delivered Duty Unpaid (DDU)	Unit price Delivered Duty Paid (DDP)	Total Price delivered DDP (col 4 x 8)

Name: _____

Legal Capacity: _____

Signature: _____

Duly authorized to sign the Bid for and behalf of: _____

Price Schedule for Goods Offered from Within the Philippines

[shall be submitted with the Bid if bidder is offering goods from within the Philippines]

For Goods Offered from Within the Philippines

Name of Bidder _____ Project Ref No._____ Page ___of___

1	2	3	4	5	6	7	8	9	10
Item	Description	Country of origin	Quantity	Unit price EXW per item	Transportation and all other costs incidental to delivery, per item	Sales and other taxes payable if Contract is awarded, per item	Cost of Incidental Services, if applicable, per item	Total Price, per unit (col 5+6+7+8)	Total Price delivered Final Destination (col 9) x (col 4)

Name: _____

Legal Capacity: _____

Signature: _____

Duly authorized to sign the Bid for and behalf of: _____

Contract Agreement

THIS AGREEMENT made the _____ day of _____ 20_____ between [name of PROCURING ENTITY] of the Philippines (hereinafter called "the Entity") of the one part and [name of Supplier] of [city and country of Supplier] (hereinafter called "the Supplier") of the other part;

WHEREAS, the Entity invited Bids for certain goods and ancillary services, particularly [brief description of goods and services] and has accepted a Bid by the Supplier for the supply of those goods and services in the sum of *[contract price in words and figures in specified currency]* (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as integral part of this Agreement, *viz.*:

   i. Philippine Bidding Documents (PBDs);
      i. Schedule of Requirements;
      ii. Technical Specifications;
      iii. General and Special Conditions of Contract; and
      iv. Supplemental or Bid Bulletins, if any

   ii. Winning bidder's bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

      Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents submitted (*e.g.*, Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;

   iii. Performance Security;

   iv. Notice of Award of Contract; and the Bidder's conforme thereto; and

   v. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**

3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.

4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of the Republic of the Philippines on the day and year first above written.

[Insert Name and Signature] *[Insert Signatory's Legal Capacity]* *for:* *[Insert Procuring Entity]*	*[Insert Name and Signature]* *[Insert Signatory's Legal Capacity]* *for:* *[Insert Name of Supplier]*

Acknowledgment

[Format shall be based on the latest Rules on Notarial Practice]

Omnibus Sworn Statement

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

A F F I D A V I T

I, [Name of Affiant], of legal age, [Civil Status], [Nationality], and residing at [Address of Affiant], after having been duly sworn in accordance with law, do hereby depose and state that:

1. *[Select one, delete the other:]*

   [If a sole proprietorship:] I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];

   [If a partnership, corporation, cooperative, or joint venture:] I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];

2. *[Select one, delete the other:]*

   [If a sole proprietorship:] As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;

   [If a partnership, corporation, cooperative, or joint venture:] I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable;)];

3. [Name of Bidder] is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. [Name of Bidder] is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. *[Select one, delete the rest:]*

   [If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

   [If a partnership or cooperative:] None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee

(BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

[If a corporation or joint venture:] None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and

8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:

   a. Carefully examining all of the Bidding Documents;
   b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
   c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
   d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.

9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

IN WITNESS WHEREOF, I have hereunto set my hand this __ day of ___, 20__ at _____, Philippines.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

Bank Guarantee Form for Advance Payment

THE BIDS AND AWARDS COMMITTEE 1
UPM – Philippine General Hospital
Taft Avenue, Manila

Name of Contract: _____
_____
_____

Under Project Reference No. _____

Gentlemen and/or Ladies:

In accordance with the payment provision included in the Special Conditions of Contract, which amends Clause **Error! Reference source not found.** of the General Conditions of Contract to provide for advance payment, *[name and address of Supplier]* (hereinafter called the "Supplier") shall deposit with the PROCURING ENTITY a bank guarantee to guarantee its proper and faithful performance under the said Clause of the Contract in an amount of *[amount of guarantee in figures and words]*.

We, the *[bank or financial institution]*, as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the PROCURING ENTITY on its first demand without whatsoever right of objection on our part and without its first claim to the Supplier, in the amount not exceeding *[amount of guarantee in figures and words]*.

We further agree that no change or addition to or other modification of the terms of the Contract to be performed there under or of any of the Contract documents which may be made between the PROCURING ENTITY and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment received by the Supplier under the Contract until *[date]*.

Yours truly,

Signature and seal of the Guarantors

_____

[name of bank or financial institution]

_____

[address]

_____

[date]

Bid Securing Declaration Form

REPUBLIC OF THE PHILIPPINES)
CITY OF _____) S.S.

x----------x

BID SECURING DECLARATION
Project Reference No.:_____

BIDS AND AWARDS COMMITTEE 1
UPM-Philippine General Hospital
Taft Avenue, Manila

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.

2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f),of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.

3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:

    a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
    b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
    c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of *[month] [year]* at *[place of execution]*.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

[Jurat]
[Format shall be based on the latest Rules on Notarial Practice]

Performance Securing Declaration (Revised)

[if used as an alternative performance security but it is not required to be submitted with the Bid, as it shall be submitted within ten (10) days after receiving the Notice of Award]

REPUBLIC OF THE PHILIPPINES)
CITY OF _____) S.S.

PERFORMANCE SECURING DECLARATION

Invitation to Bid: [Insert Reference Number indicated in the Bidding Documents]
To: [Insert name and address of the Procuring Entity]

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacturer/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.

2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years **for the second offense**, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;

3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:

    a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
        i. Procuring Entity has no claims filed against the contract awardee;
        ii. It has no claims for labor and materials filed against the contractor; and
        iii. Other terms of the contract; or

    b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of [month] [year] at [place of execution].

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

[Jurat]
[Format shall be based on the latest Rules on Notarial Practice

NFCC Computation

Project Reference No.: **PUR21-07-0669**
ABC: **PHP230,000,000.00**

Kindly supply the required information in the spaces provided.

Name of Bidder: _____

DETAILS	AMOUNT
Current Assets	
Minus	
Current Liabilities	
Difference of Current Assets and Current Liabilities	
Multiplied by	
K	15
Total (Product)	
Minus	
Total amount of the Value of Outstanding Contracts	
Total NFCC Computation	

_____ _____

[signature] *[in the capacity of]*

Duly authorized to sign Bid for and on behalf of _____

Standard Form Number: SF-GOOD-17
Revised on: May 24, 2004

Philippine General Hospital

Name of Project: **SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM WITH RELATED SPECIALTY WORKS FOR THE PHILIPPINE GENERAL HOSPITAL CANCER INSTITUTE**

Location of Project: **DIVISION OF RADIOLOGY UPM-Philippine General Hospital**

Joint Venture Agreement

KNOWN ALL BY THESE PRESENTS:

That this JOINT VENTURE AGREEMENT is entered into By and Between _____, of legal age, _____, owner/proprietor of _____
(civil status)
and a resident of _____.

-and-

_____, of legal age, _____,
(civil status)
owner/proprietor of _____ a resident of _____.

That both parties agree to join together their manpower, equipment, and what is need to facilitate the Joint Venture to participate in the Eligibility, Bidding and Undertaking of the here-under stated project to be conducted by the University of the Philippines Manila/Philippine General Hospital.

NAME OF PROJECT CONTRACT AMOUNT

That both parties agree to jointly and severely liable for the entire assignment.

That both parties agree that _____ and/or _____ shall be the Official Representative of the Joint Venture, and is granted full power and authority to do, execute and perform any and all acts necessary and /or to represent the Joint Venture in the bidding as fully and effectively and the Joint Venture may do and if personally present with full power of substitution and revocation.

That this Venture Agreement shall remain in effect only for the above stated Projects until terminated by both parties.

Done this ___ day of _____, in the year of the Lord _____

_____
(Name of Company)
_____
(Address of the Company)
_____
(Telephone & Fax of the Company)

_____
(Website Address of the Company)
_____
(e-Mail Address of the Company)

_____
(Date of Issuance)

Letter of Acceptance

This is to certify that _____ has satisfactorily delivered
(Name of Bidder)

_____
(Item Description)

under P.O. No/s. _____ with Sales Invoice No. _____ and accepted on _____. Said company has no more pending obligation with us regarding their delivery/ies.

_____
(Signature over Printed Name)

_____
(Position)

_____
(Company Name)

University of the Philippines
Diliman, Quezon City

Questionnaire for Prospective Bidders

(additional requirement for eligibility)

1. Have you ever participated in any bidding in the University of the Philippines System?

YES	NO

If YES, fill up the table below. Use additional pages if necessary.

Constituent University/UP Campus	Name of the Project	Amount of Project	Duration Start/End (Dates)	Status (On-going/ Completed)

2. Has your company ever been suspended or blacklisted by the University of the Philippines System?

YES	NO

If YES, fill up the table below. Use additional pages if necessary.

Constituent University/UP Campus	Name of the Project	Reason for suspension/ blacklisting	Status (On-going/ Completed)

3. Has your company ever been suspended or blacklisted by any government agency or private company?

YES	NO

If YES, fill up the table below. Use additional pages if necessary.

Name of government agency/ company	Name of the Project	Reason for suspension/ blacklisting	Status (On-going/ Completed)

4. Has there ever been any project of your company in the University of the Philippines that was terminated by Administration?

YES	NO	NA

If YES, fill up the table below. Use additional pages if necessary.

Constituent University/UP Campus	Name of the Project	Reason for suspension/ blacklisting	Status (On-going/ Completed)

5. Do you certify that all the documents submitted by your Company and personnel are authentic?

YES	NO

6. Is there any pending investigation and/or case filed against your Company or your personnel in any court or any similar institution in relation to any government contracts awarded to your company? In relation to practice of profession of any of your personnel?

YES	NO

If YES, fill up the table below. Use additional pages if necessary.

For Company

Case Filed	Where Filed	Date Filed	Status (On-going/ Completed)	Remarks

For Personnel

Case Filed	Where Filed	Date Filed	Status (On-going/ Completed)	Remarks

I hereby certify that all statements and information provided herein are complete, true and correct.

Name & Signature of Bidder : _____
Authorized Representative : _____

Official Designation : _____
Company : _____
Date : _____

ACKNOWLEDGEMENT

SUBSCRIBED AND SWORN TO before me this _____ day of _____, 20__, affiant exhibited to me his/her Community Tax Certificate No. _____ issued on _____ at _____, Philippines.

Notary Public
Until 31 December 20___
PTR No.: _____
Issued at: _____
Issued on: _____
TIN: _____

Project Reference No. **PUR21-07-0669**
Name of Project: **SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM WITH RELATED SPECIALTY WORKS FOR THE PHILIPPINE GENERAL HOSPITAL CANCER INSTITUTE**
Location of Project: **DIVISION OF RADIOLOGY UPM-Philippine General Hospital**

Statement of All On-Going Government and Private Contracts

Including Contracts Awarded But Not Yet Started

BusinessName:_____
BusinessAddress_____

Name of Contract/ Project Cost	a. Owner's Name b. Address c. Telephone Nos.	Nature of Work	Bidder's Role		a. Date Awarded b. Date Started c. Date of Completion	% of accomplishment		Value of Outstanding Works/Undelivered Portion
			Description	%		Planned	Actual	
Government								
Private								

Total Cost

Note: This statement shall be supported with:
1. Notice of Award and/or Contract
2. Notice to Proceed issued by the owner

Submitted by : _____
(Printed Name & Signature)
Designation : _____
Date : _____

Standard Form Number: SF-GOOD-13a
University of the Philippines Manila/Philippine General Hospital

Project Reference No. **PUR21-07-0669**
Name of Project: **SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM WITH RELATED SPECIALTY WORKS FOR THE PHILIPPINE GENERAL HOSPITAL CANCER INSTITUTE**
Location of Project: **DIVISION OF RADIOLOGY UPM-Philippine General Hospital**

Statement of the Single Largest Completed Contract

Business Name: _____
Business Address:_____

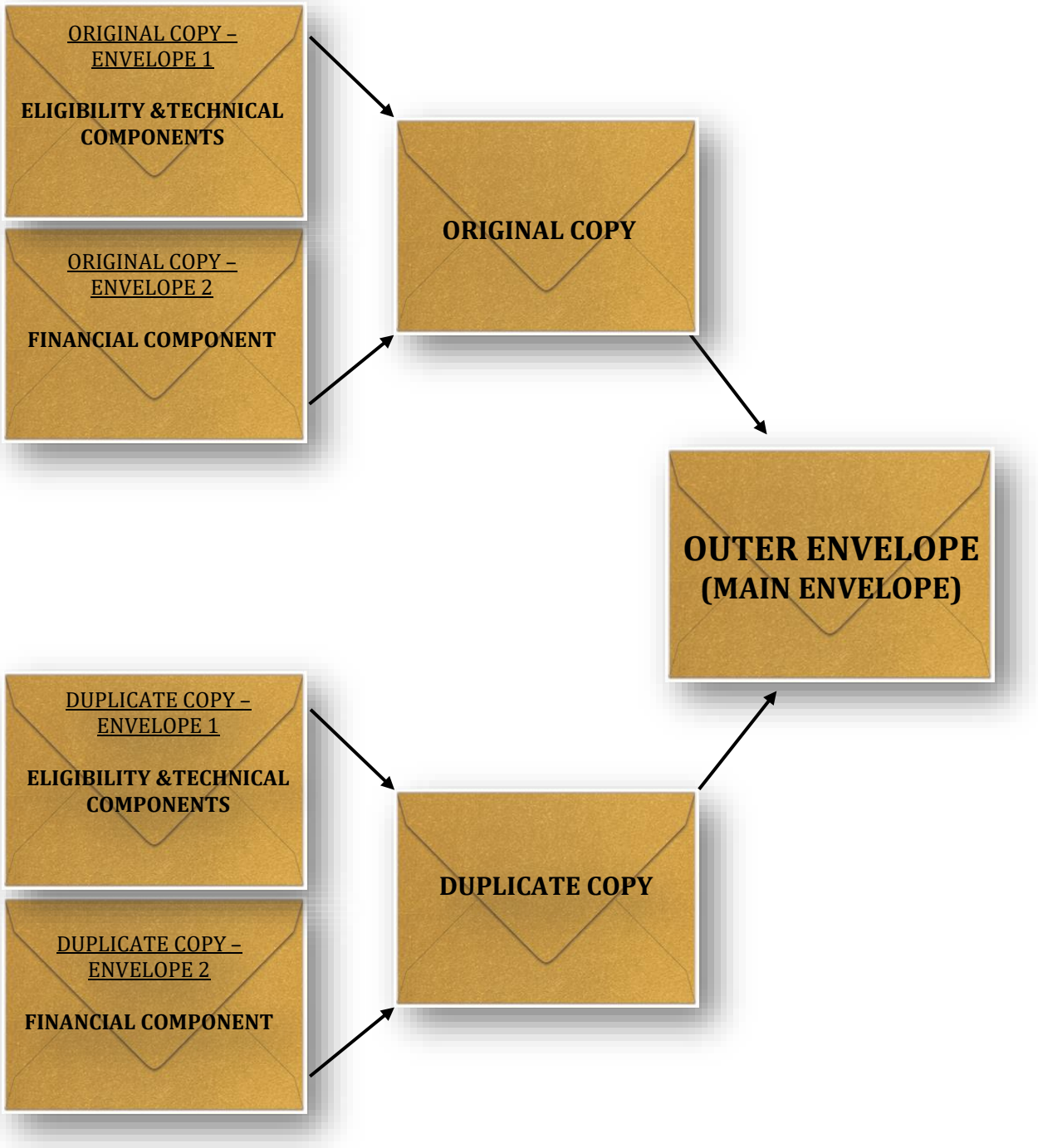
Name of Contract	**a. Owner's Name b. Address c. Telephone Nos.**	**Nature of Work**	**Bidder's Role**		**a. Amount at Award b. Amount at Completion c. Duration**	**a. Date Awarded b. Contract Effectivity c. Date Completed**
			Description	**%**		
Government						
Private						

Note: This statement shall be supported with:
1. Contract
2. Certificate of Completion
3. Certification of Acceptance

Submitted by : _____
(Printed Name & Signature)

Designation : _____
Date :_____

Sample Diagram for Bid Packaging



Sealing and Marking of Envelopes

ALL folders / envelopes shall be marked in accordance with Section 20.4 of the Instruction to Bidders in the Bidding Documents, which shall contain the following:

- Name of the contract to be bid in **CAPITAL LETTERS**;
-

SUPPLY, DELIVERY, INSTALLATION, TESTING, AND COMMISSIONING OF BRAND-NEW LINEAR ACCELERATOR SYSTEM WITH RELATED SPECIALTY WORKS FOR THE PHILIPPINE GENERAL HOSPITAL CANCER INSTITUTE

- Name and address of the prospective bidder in **CAPITAL LETTERS**;

- Be addressed to the Procuring Entity's BAC in accordance with ITB Clause 1.1;

BIDS AND AWARDS COMMITTEE (BAC) 1
UPM – PHILIPPINE GENERAL HOSPITAL
TAFT AVENUE, MANILA

- Bear the specific identification of this bidding process indicated in ITB Clause 1.2;

Project Reference No.: PUR21-07-0669

Bear a warning "**DO NOT OPEN BEFORE**…" the date and time for the opening of bids, in accordance with ITB Clause 18


Republic of the Philippines
gppb
Government Procurement Policy Board