UNITED REPUBLIC OF TANZANIA



MINISTRY OF HEALTH

MBEYA ZONAL REFERRAL HOSPITAL

CONTRACT No. ME/007/MBY/2021/22/G/MS/09 CT FOR
SUPPLY INSTALLATION, TESTING
COMMISSIONING AND TRAINING OF MEDICAL
EQUIPMENT (CT-SCAN 64 SLICES)

FEBRUARY 2022

SECTION I: FORM OF CONTRACT

Form of Contract

THIS CONTRACT is made the _	day of	. 20

BETWEEN

(1) Mbeya Zonal Referral Hospital, a corporation incorporated under the laws of the United Republic of Tanzania and having its principal place of business at P.O.Box 419, Mbeya (hereinafter called "the Employer"),

And

(2) Computech-ICS (T) Limited, a corporation incorporated under the laws of Tanzania and having its principal place of business at P O BOX 5171 Dar Es Salaam (hereinafter called "the Contractor").

WHEREAS the Employer desires to engage the Contractor to Supply, test, deliver, install, complete and commission certain Facilities, viz. CT SCAN 64 SLICES ("the Facilities") and the Contractor have agreed to such engagement upon and subject to the terms and conditions hereinafter appearing.

NOW IT IS HEREBY AGREED as follows:

Article 1. Contract Documents

1.1 Contract Documents (Reference GCC 2)

The following documents shall constitute the Contract between the Employer and the Contractor, and each shall be read and construed as an integral part of the Contract:

- (a) This form of Agreement and the Appendixes hereto
- (b) Letter of acceptance
- (c) Minutes of negotiations
- (d) Form of tender
- (e) Special Conditions of Contract
- (f) General Conditions of Contract
- (g) Technical Specifications
- 1.2 Order of Precedence (Reference GCC 2)

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents) above.

1.3 Definitions (Reference GCC 1)

Capitalized words and phrases used herein shall have the same meanings as are ascribed to them in the General Conditions of Contract.

Article

2. 2.1 Contract Price (Reference GCC 11)

Contract Payment

Price The Employer hereby agrees to pay to the Contractor the and Terms of Contract Price in consideration of the performance by the Contractor of its obligations hereunder. The Contract Price shall be the aggregate of 9,118,799,394/=, nine billion one hundred eighteen million seven hundred ninety-nine thousand three hundred and ninety four Tanzanian shillings (VAT EXCLUSIVE), or such other sums as may be determined in accordance with the terms and conditions of the Contract

Terms of Payment (Reference GCC 12) 2.2

The terms and procedures of payment according to which the Employer will reimburse the Contractor are given in the corresponding Appendix (Terms and Procedures of Payment) hereto.

Article Effective Time Completion

Effective Date (Reference GCC 1) 3. 3.1

Date The Time of Completion of the Facilities shall be determined for Determining from the date when all of the following conditions have been for fulfilled:

- This Contract Agreement has been duly executed for (a) and on behalf of the Employer and the Contractor,
- The Contractor has submitted to the Employer the performance security and the advance payment guarantee;
- The Employer has paid the Contractor the advance payment

Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.

If the conditions listed under 3.1 are not fulfilled within 32 two (2) months from the date of this Contract notification because of reasons not attributable to the Contractor, the parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time for Completion and/or other relevant conditions of the Contract.

Article Appendixes

- 4. 4.1 The Appendixes listed in the attached List of Appendixes shall be deemed to form an integral part of this Contract Agreement.
 - Reference in the Contract to any Appendix shall mean the Appendixes attached hereto, and the Contract shall be read and construed accordingly.

IN WITNESS WHEREOF the Employer and the Contractor have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

SIGN	IED BY, FOR AND ON BEHALF OF	THEEN	PLOYER:
		Visite in Alvert America	In the presence of
*******	Signature	****	Signature
(Nam	e),		(Name)
(Occu	ipation)		(Occupation)
SIGN	ED BY, FOR AND ON BEHALF OF	THE SU	PPLIER:
		In t	he presence of
Signa (Name	ture		gnature ame)
	pation)		ccupation)
	ess)		idress)
FOR THE M	SEDICAL OFFICER INCHARGE SONGEA RRH	FOR THI MBEYA	MEDICAL OFFICER INCHARGE
Autho	rized Signature:	Autho	rized Signature:
Name:		Name:	***************************************
Title:		Title:	
Date:	***************************************	Date:	***************************************
FOR THE MI	EDICAL OFFICER INCHANGE JRINGA RRH	FOR THE SONGWE	MEDICAL OFFICER INCHARGE
Author	ized Signature:		rized Signature:
Name:		Name:	***************************************
Title		Title:	**************************************
Date:	***************************************	Date:	*******************************

FOR THE MI	DICAL OFFICER INCHARGE NIOMBE BRIE	FOR THE SUMBAW	MEDICAL OFFICER INCHARGE ANGA RRH
Author	ized Signature	Autho	rized Signature:
Name:	***************************************	Name:	
Title:	*****************************	Title:	***************************************
Date:		Date:	8005974444444444444

Appendix 1: Terms and Procedures of Payment

The following Terms and Procedures of Payment are given as a guideline suitable for Supply and Installation Contracts. In the event that the Employer wishes to introduce different terms of payment to the following, it shall first obtain the written approval of the Bank for the terms it intends to use. If additional Price Schedules are introduced, suitable terms of payment in respect of such additional schedules must be added.

In accordance with the provisions of GCC Clause 12 (Terms of Payment), the Employer shall pay the Contractor in the following manner and at the following times, on the basis of the Price Breakdown given in the section on Price Schedules. Payments will be made in the currencies quoted by the Tenderer unless otherwise agreed between the parties. Applications for payment in respect of part deliveries may be made by the Contractor as work proceeds.

TERMS OF PAYMENT.

Schedule No. 2. Goods Supplied from within the United Republic of Tanzania

In respect of goods supplied from within the, United Republic of Tanzania the following payments shall be made:

Sixty five percent (65%) of the total EXW amount as an advance payment against receipt of invoice, and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer. The advance payment security may be reduced in proportion to the value of the goods delivered to the site, as evidenced by shipping and delivery documents.

Thirty five percent (35%) of the total amount upon issue of the final Acceptance Certificate, within forty-five (45) days after receipt of invoice.

PAYMENT PROCEDURES

The procedures to be followed in applying for certification and making payments shall be as follows:

Appropriate procedures, normally through letters of credit, are to be inserted (including forms and certificates annexed as appropriate) by the Employer in the Tendering documents.

SECTION II: LETTER OF ACCEPTANCE

THE UNITED REPUBLIC OF TANZANIA MINISTRY OF HEALTH

Telegram "Referral Hospital" Fox Na: +255/2503577 Tel: +255/2503456/2503351 Email: info@/mzn.go.tz



Mbeya Zonal Referral Hospital, Hospital Road. P. O. Box 419. Mbeya.

Please quote:

Ref. No. AB.345/470/01/F.123

28111 February 2022

COMPUTECII-ICS (T) Limited.

P.O.BOX 5171.

Dar Ex Salaam.

RE: ACCEPTANCE OF TENDER NO. ME/007/MBY/2021/22/G/MS/09 CT

This is to notify you that your Tender dated 10/02/2022 for execution of the Supply, installation, testing, commissioning and training of CT SCAN 64 SLICES with ME/007/MBY/2021/22/G/MS/09 CT, for the Contract Price of the equivalent of 9,118,799,394/=, nine billion one hundred eighteen million seven hundred ninety-nine thousand three hundred and ninety four Tanzanian shillings, as corrected and modified in accordance with the SCC is hereby accepted by us.

We hereby confirm *Tanzania institute of arbitrators*, the Appointing Authority, who will appoint the Adjudicator in case of any arisen disputes in accordance with SCC 1.

You are hereby informed that after you have read and return the attached draft Contract, the parties to the contract shall sign the vetted contract within three (3) working days.

You are hereby informed to proceed with the execution of the said Contract for the Supply and Installation in accordance with the terms and conditions of the signed Contract.

Dr. Mbwanji, G.F

Executive Director

Mbeya Zonal Referral Hospital
P. O. Box 419

Mbeya - Tanzania

EXECUTIVE DIRECTOR

Copy: Appointing Authority, PPRA, TAU, CAG & Attorney General.

All Communication should be addressed to Executive Director.

SECTION III. MINUTES OF NEGOTIATIONS

MUHTASARI WA KIKAO CHA MAJADILIANO NA MARIDHIANO KATI YA HOSPITALI YA RUFAA YA KANDA MBEYA, HOSPITALI ZA RUFAA ZA MIKOA YA NDANDA ZA JUU KUSINI NA MZABUNI COMPUTERCH TAREHE 17.02.2022

MAHUDHURIO:

NA.	The state of the s	CHEO	TAASISI	SIMII NA.
1.	Eonike Y. Wavenza	Mjumbe	MZRH	075452497
2.	Mwanaidi M. Kapalata	Mjumbe	MZRH	0712862526
3.	Salum C. Kashinje	Mjumbe	MZRH	0746085690
4.	Ditram M. Mbunda	Mrumbe	Mbeya RRH	0754047526
5.	Ngwilo B. Mwakyusa	Mjumbe	Mheya RRH	0755567500
6.	Alois R. Mwakwenda	Mjumbe	S'wanga RRH	0766520085
7.	Grace Gunze	Mjumbe	S'wanga RRH	0754645045
8.	Emmanuel Z. Deogratius	Mjumbe	Songwe RRH	0755014045
9.	Jumanne Masanja	Mjumbe	Songwe RRH	0785433888
0.	Reifrida Kadinda	Mjumbe	Iringa RRH	0625844653
1.	Godwin J. Kiwango	Mjumbe	Iringa RRH	0752929814
2	Kelvin Warioba Makoba	Mwakilishi	RSO-Mbeya	0743114247
3.	George M. Njella	Mjumbe	Njombe RRH	0624948610
4,	Dani Mkama	Mjumbe	Njombe RRH	0718157211
5.	Barnaba Mhagama	Mjumbe	Songea RRH	0712690495
6	Suniva Haule	Mjumbe	Songea RRH	The second secon
7	Haika F. Maro	Mjumbe	MZRH	0754684121
8	Godlove Mbwanji	Mwalikwa	MZRH	0738656552
	Dr. Mdede Musa L.	Mwenyekiti	- Annahaman - Anna	0754425313
	Alinanuswe Mwansasu	Katibu	MZRH	0765815179
-	- The state of	reducti	MZRH	0765314230

AGENDA:

- 1. Kufungua kikao
- Majadiliano na maridhiano ya manunuzi ya mashine ya CT-Scan
- Mengine
- Kufunga kikao

I. KUFUNGUA KIKAO:

Mwenyekiti alifungua kikao mnamo saa 6:48 mchana, kwa Maombi. Aidha, mwenyekiti aliwakaribisha wajumbe kutoka Hospitali za Rufaa za Mikoa ya Nyanda za Juu Kusini (RRH): Iringa RRH, Mbeya RRH, Njombe RRH, Songwe RRH, Songea RRH, Sumbawanga RRH, Mwakilishi kutoka ofisi ya Usalama wa Mkoa wa Mbeya (RSO), Mkurugenzi Mtendaji wa Hospitali ya Rufaa ya Kanda Mbeya, pamoja na Mzabuni kutoka Computech.

Mwenyekiti alimkaribisha Mkurugenzi Mtendaji ili aweze kutoa neno la ufunguzi ili mchakato wa majadiliano na maridhiano uendelee.

Mkurugenzi Mtendaji aliwasalimu wajumbe wa kikao na kuwakaribisha na kushukuru kwa muitikio mkubwa waliouonesha licha ya taarifa kufika kwa muda mfupi ya kuitwa kwenye kikao. Aidha, alishauri kuwa mchakato tunaoufanya sasa ni mchakato uliodumu kwa muda mrefu na kuomba sasa ufike mwisho ili taratibu nyingine ziendelee pamoja na hayo alisistiza ni vema mchakato huu ukazingatia maslahi mapana ya Taifa kwa kuomba kujadili kwa kina kwa sababu sisi wachache tumechaguliwa kuwawakilisha walio wengi kutoka sehemu tulizotoka na wametuamini tutumie taaluma zetu vizuri ili hata vizazi vijavyo viweze kunufaika na mchakato huu kwa kupata vifaa vilivyo bora zaidi.

Pia, aliwashauri wazabuni kuwa "flexible" kama mchakato hautafika mwisho, zoezi zima litarudishwa Wizarani kwa barua ili liweze kufanywa na Wizara. Pamoja na hayo aliwasihi wazabuni kuwa waangalie mbali zaidi katika biashara kwa kuleta vifaa vilivyo bora na vinavyodumu kwa muda mrefu. Hivyo alihitimisha kwa kuwatakia wajumbe kikao chema na wawe na mtazamo chanya katika majadiliano.

Mwenyekiti alieleza kwenye kikao kuwa, tuzingatie yaliyosemwa na Mkurugenzi Mtendaji.

2. MAJADILIANO NA MARIDHIANO YA MANUNUZI YA CT-SCAN:

Mwenyekiti alieleza kwenye kikao kuwa, wote tupitie makabrasha na tuyape namba ili iwe rahisi kwenda kwa pamoja, hivyo makabrasha yalipewa namba kama ifuatavyo:--

- a) Kabrasha namba moja lilikuwa ni vigezo vitakavyotumika katika zoezi la majadiliano na maridhiano.
- Kabrasha namba mbili gharama za mashine ya CT-Scan kutoka Computech.
- c) Kabrasha namba tatu ilikuwa ni "Compliance" kutoka Computech.
- d) Kabrasha namba nne ilikuwa ni Tungamo Kifani za mashine ya CT-Scan.

Mwenyekiti alieleza pia suala hili nyeti na linaenda kuhudumia watu wengi, hivyo kama kuna ufafanuzi tuulize waziwazi na mchakato huu utabakia kuwa siri na utaishia kwenye kikao na sio vinginevyo, pia alishauri kuwa vigezo tutakavyotumia ni vile tulivyopewa katika Tungamo Kifani na itakuwa ndio nyenzo yetu kuu. Aidha, alieleza kuwa, mchakato huu umepitia hatua tatu, kutangaza zabuni kwa kutumia mfumo wa "Single Source" kupitia TANePs, kufanya "Evaluation" na kwenye bodi ya zabuni ambayo ndio iliyozaa kikao hiki na kuwaeleza kuwa baada ya hapa hatua nyingine zitaendelea na sisi sio wa mwisho katika maamuzi.

Baada ya maelezo hayo Mwenyekiti alianza kutupitisha kwenye vigezo ambavyo vitatumika katika majadiliano kama ifuatavyo:

 Matengenezo na huduma "Two years warranty,three years comprehensive maintenance with spare part".

Mzabuni alieleza kwenye kikao kuwa hakuna shida katika kipengele hicho na kitafuatwa kama kilivyoainishwa kwenye zabuni.

(ii) Kupoken na kusimika Mtambo "Delivery and Installation"

Mzabuni alieleza kwenye kikao kuwa, wanapopata "order" ndio mashine inaanza kutengenezwa kiwandani hivyo, hadi taratibu zote kukamilika inachukua miezi minne sawa na wiki kumi na sita (16).

Pia alishauri kwenye kikao kuwa ni vizuri mashine ziletwe pindi chamba cha kuwekea kitapokuwa kimekamilika kwasababu "warranty" ya kiwandani inaanza kuhesabika mara baada ya mashine kunumuliwa na kufikishwa kwa mnunuzi, pia alieleza pia zabuni waliyotangaziwa ilikuwa inaliusisha na gharama za ujenzi na kuhaidi kukamilisha kwa wakati kama malipo yatalipwa kwa wakati

Wajumbe kwenye kikao walitaka kujiridhisha kuhusiana na "warranty" kuwa ni kwa nini isitolewe pale mashine mapoanza kufanya kazi?

Mzabuni alieleza kuwa kiwanda kinahesahu "warranty" baada ya kuuza bidhaa hiyo ni vizuri tukahakikisha vyumba vimekamilika ndio mashine ziletwe, japo katika upande wa mzabuni "warranty" inahesabika baada ya kuifunga mashine, kufanya mafunzo na kukabidhi iendelee kutumika.

(iii) Utaratibu wa malipo "Payment Schedule":

Mzabuni aliomba utaratibu wa malipo kama itawezekana ifike 80% malipo ya awali na 20% baada ya kuleta mashine, kwa sababu mchakato wa awali gharama zilikuwa hazijapanda na sasa gharama zimekuwa zipo juu hivyo, kama watafikiriwa waweze kulipwa 80% kama malipo ya awali badala ya 65% watashukuru lakini ikishindikana haina tatizo pia.

Mwenyekiti alieleza kwenye kikao kuwa, ombi limechukuliwa na kuliwasilsiha kwenye mamlaka za juu kwa ajili ya maamuzi kama litapokelewa na kufanyiwa kazi au la, watajulishwa hapo baadae.

(iv) Upatikanaji wa vifaa "Accessories and Consumables availability":

Mzabuni alieleza kwenye kikao kuwa, vifaa vitakavyokuwa vinahitajika kwa ajili ya kubadilisha vitakuwepo na vile vifaa vinavyotumika katika matumizi ya kawaida vitakuwa vinanunuliwa katika hospitali husika kama: dawa, bomba za sindano, hivyo vitanunuliwa vitakapohitajika na wahusika na kwenye kampuni vinakuwepo.

Wajumbe walipenda kupata ufafanuzi wakifunga mtambo wa CT Scan je, kutakuwa na "starter package" kwa ajili ya kuanzia?

Mzabuni alieleza kuwa kwa kila hospitali watatoa zaidi ya box 50 kama vifaa vya kuanzia na kufanyia mafunzo wakati wa kujaribia mashine.

Pia katika ukurasa wa 18 kipengele cha V neno "Monitor and Defibrillator provides as Optional" lisomeke "Monitor and Defibrillator provided".

(v) Muda wa kufanya kazi mashine usiwe pungufu ya 90% (Uptime not less than 90%);

Mzabuni olieleza kuwa ubora wa mashine zao zina uwezo wa kufanya kazi zaidi ya asilimia 90% hata kama kuna hitilafu mafundi wanakuwepo kwa wakati ili kurekebisha tatizo hilo

(vi) Uzoefu wa kufanya kazi "Experience";

Mzabuni alieleza kuwa, wana uzoefu wa kutosha kufanya kazi Tanzania kwa kuwa wameshafunga mashine za CT- Scan katika hospitali za Mahimbili, Mloganzila, Bugando, Hospitali ya Rufaa ya Kanda Mbeya, Kairuki, Karatu, Bochi, NSK

Pia wameweza kufunga mitambo mingine kama Mammograph, X Ray na Ultra Soundhivvo, wanauzuefu wa kutosha.

Mjumbe alipenda kufahamu uzoefu kutoka Hospitali ya Rufaa ya Kanda Mbeya kama mashine iliyofungwa ina changamoto yoyote.

Mjumbe alieleza kwenye kikao kuwa, kwa mashine iliyopo sasa ina miaka mitatu na haijasumbua na kueleza kuwa kama kuna hitilafu yoyote huwa wanafika kwa wakati na huduma hazisimami.

Mzabuni alieleza kwenye kikao kuwa, kwenye mashine zao zina mfumo wa "kupredict" kama kuna kitu kinaweza kusumbua hivyo, ni vema mashine zote ziunganishwe kwenyemtandao na kuona kama kuna kitu kinaweza kusumbua kwa haadae na kueleza kuwa mashine za sasa zimeboreshwa kulingana na teknolojia ya

(vii) "Performance Security":

Mzabuni alieleza kwenye kikao kuwa, wanaafiki asilimia kumi (10) kama ilivyoelekezwa.

(viii) Mafunzo:

Mzabuni alieleza kwenye kikao kuwa, mafunzo yamegawanyika katika makundi mawili, kundi la watumiaji na kundi la mafundi, kwa upande wa wawatumiaji ni Radiographers na Radiologist wao watakuwa na mafunzo ya wiki mbili, wiki ya kwanza watafundishwa namna ya kutumia mashine ikishafungwa na banda ya miezi mitatu watafundishwa wiki ya pili kwasababu baada ya kutoa mafunzo ya awali, watumiaji wanakuwa wameona changamoto mbalimbali ya namna ya kutumia mashine, hivyo inawasaidia kuelewa zaidi.

Pia, kwa upande wa mafundi walisema mafunze yatakuwa ya wiki sita, na watachagus sehemu moja ya kufanyia mafunzo hayo ambapo kutawekwa vifaa vya kufundishia (Training Centre) na kuwepo na mtsalamu wa kutoa mafunzo hayo.

Wajumbe walihoji kuwa kigezo kimojawapo ilikuwa ni kuwapeleka wataalum kwenye kiwanda wakajifunze.

Mzabuni alieleza kuwa wao wanautaratibu wa kuandaa "Training centre" na kuwafundisha wataalam wote na hiyo inapunguza gharama na kufundisha watu wengi lakini kama ikiwa ni kuwapeleka nje ya nchi basi kwa kila hospitali watampeleka mtu mmoja.

(ix) "Generator Power Output":

Mjumbe alieleza kwenye kikao kuwa, uwezo wa kuzalisha umeme ulikuwa unafika 400KW ili haps ameweka 72KW hivyo anaomba ufafanuzi.

Mzabuni alieleza kwenye kikao kuwa wakati anaandaa "Compliance" hakuipitia vizuri hivyo ituanzia 72KW - 400KW (with dose reduction Algorithm inayoitwa ASiR-V) na kwenye "Compliance" itarekebishwa ili iwe sawa sawa na ilivyoombwa, na maboresho yote yataonekana katika "Data Sheet" itakayotumwa Pia aliongeza kuwa 72KW ni bora kuliko 75KW kwa kua mgonjwa anapata dozi ndogo ya X-RAYS pindi anapofanya CT Sean.

(x) "Injector Pump":

Mzabuni alieleza kuwa, wameweka "Single Injector pump" na sio "Dual" kwasababu kwa kipindi ambacho cardiac haijaanza kutumika ni vizuri kuwa na yenye single injector Pump na pindi huduma za cardiac zitakapoanza kufanyika itakuwa "Upgrading to Dual head injector" bila gharama yeyote na kipengele hicho kiongezewe kwenye mkataba. Hivyo mzabuni amekubali kuleta "dual injector pump" itakapohitajika na ameweza kukidhi tungamo kifani kwa kurekebisha "Compliance"

(xi) Uwepo wa mafundi:

Mzabuni alieleza kwenye kikao kuwa kwa kila kanda kutakuwepo na fundi ambaye atasaidia kama tatizo litajitokeza na atakuwepo eneo ambalo litakuwa rahisi katika mikoa yote.

(xii) "Response to break down":

Mzabuni alieleza kuwa, utaratibu wao wa mawasiliano upo katika njia ya simu, barua pepe na "online diagnostic system" hii inasaidia pale tatizo linapotokea kutatuliwa kwa wakati na kuahidi ni ndani ya masaa 24 tatizo linakuwa limetatuliwa.

(xiii) Bei:

Mzabuni alieleza kuwa kwa upande wa gharama angeweza kupandisha kwa kuwa vigezo vingi vimeongezeka na bei ya soko imebadilika na kuwa juu ila hajapandisha kwa sababu mchakato huu ulianza toka awali

3. MENGINEYO:

Mwenyekiti alieleza wajumbe kama kuna lolote la kuchangia na pia kama wameridhia mehakato uendelee.

Wajumbe waliridhia mehakato uweze kuendelea.

4. KUFUNGA KIKAO:

4. KUFUNGA KIKAO:

Mwenyekiti alifunga kikao mnamo saa 09:34 alasiri kwa maombi na kuwashukuru wajumbe kwa michango mizuri waliyotoa na kuwatakia safari njema.

MUHTASARI UMETHIBITISHWA

	0.000	gū.
Malou	Harrist S. L. P.	Aseri
MWENYEKITI		KATIBU
	18/02/7022	
	TAREHE	

MZABUNI ALIYESHIRIKI MAJADILIANO NA MARIDHIANO

JINA KAMILI MICHEL (S. Mpelo KAMPUNI ANAXOTOKA COM puled VS (1) LTD	
TAREHE 18 02 2022	COMPUTECH-ICS (T) LTD.
MUHURI	P. O. Box 5171 DAR ES SALAAM

MAHUDHURIQ YA KIKAO. CHA MAIADILIANO NA MARIDHIANO BAINA YA HOSPITALI YA RUFAA YA KANDA MBEYA, HOSPITALI ZA RUFAA ZA MIKOA YA NYANDA ZA JUU KUSINI NA WAUZAJI WA VIFAA NA VIFAA TIBA CHA TAREHE 17/02/2022

IA N	JINA KAMILI	WADHIFA	MKCA ANAKOTOKA	NA. YA SIMU	BARUA PEPE SAINI
1	FORME & MANERIA	Mianuse	MERA	0754542491	@ grant con play and
0	MUNIPIDI M KARALASA	Minner	MERH	0718853525	to grown com the
3	SALUM C FASHINGE	MJUMBE	MZAH	0746 085 690	charlesidumest Dyny basis
4	DITRAM M. MBWOA	MINIME	MBEYERER	0754047526	mbundadirangagus de
5	Harries - 8-W Myr-Intl	MINNE	MESHE BAN	0165561590	age to be right common you have b [12]
ě	ALBIS R MWINK WOULD	M5 umgs	RRH	0766520085	a-ridia
7	GRAGE GUAZE	Mumist	SUMBAW ANEA RE	0754645045	gumentous @ Ywar tom the
8	EMMINUEL & DEOGRAPHIC	MIGMET	SONGWE BRE	0765-014045	Proceeding and Son To
1	JUMANUE MAINTA	MIUNES	SONGNE RRH	03 67 523 888	Jamanaja Gollo (#
,	Remerca known	MILMES	IRINGA RAM	0625 \$44653	Industrialist Compar AS
	GODWIN J. KLUNNGO	Mumbe	173 INGA- TERH	0752929214	Ninesposed winds goden (for)
	PELUIN HAPICEA HAFIE	АНМИМИА		8743 114247	mobalitate pour an Blesser
	GEORGE M. NJELLA	MJUMBE	NUMBE - RRH	0624948610	riellag@gnailem Denu
F	-	LILLINE	HJ DAGE- FAN	0418157211	daninkam Onto Ma
-	BARNABA MHAGAR	na Miumbe	SONTEA RRH	0712690495	principality many market com
	SUNION HALLE	MIZIMBE	ADMINENT 12/24	0754 689121	Sun Indepolate to
	HANKA F. MANO	MEUNE	W38A	514451552	lizavis springer for
	GONTOVE NEGANET	MANAGER	NAS IEM	0354425313 63 5 63	throughouse at 1960
	DR. Niptot Much I	LINEWYENTI	MERH	0765815179	madelinous electrica 150
1	ALIABANINE MINAASAN	Scarreges.	3.1244	6765314230	microsymule greater Alson

MAHUDHURIO YA KIKAO. CHA MAJADILIANO NA MARIDHIANO BAINA YA HOSPITALI YA RUFAA YA KANDA MBEYA, HOSPITALI ZA RUFAA ZA MIKOA YA NYANDA ZA JUU KUSINI NA WAUZAJI WA VIFAA NA VIFAA TIBA CHA TAREHE 17/02/2022

NA	JINA KAMILI	WADHIFA	MKOA	NA. YA SIMU	BARUA PEPE	SAINI
	Michael Mode	Country Hadager	Dar es galan	67547244 933	Michael rigide.	2 Blick
	SAMOUP DATTA	SERVERT MARKE	d Dalk Sainer	, 0677018287	sarchip dette	ld con
_						
						-,-
= /						
						-
-						
-						

SECTION IV: FORM OF TENDER



KENYA | TANZANIA | UGANDA | RWANDA | ZAMDIA sales@computech-ics.co.tz

www.computechlimited.com

To: Executive Director Mbeya Zonal Referral Hospital P.O.Box 419 Mbeva, Tanzania

Gentlemen and/or Ladies:

Having examined the Tendering Documents including Addenda Nos:Nil , the receipt of which is hereby duly acknowledged, we, the undersigned, offer to

supply and deliver Tender No.ME/007/MBY/2021/22/G/MS/09 CT for Mbeya Referral

Hospital in conformity with the said Tendering Documents for the sum of

TZS 9,118,799,394.00 TANZANIA SHILLINGS NINE BILLION ONE HUNDRED EIGHTEEN MILLION SEVEN HUNDRED NINENTY NINE THOUSAND THREE HUNDRED NINETY-FOUR ONLY VAT ESXLUSIVE or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Tender

We declare that our tendering price did not involve agreements with other tenderers for the purpose of tender suppression.

We are hereby confirming Tanzania Institute of Arbitrators to be the Appointing Authority, to appoint the adjudicator in case of any arisen disputes in accordance with ITT 40.1

We undertake, if our Tender is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Tender is accepted, we undertake to provide a Performance Security in the form, in the amounts, and within the times specified in the Tendering Documents. We declare that, as tenderer(s) we do not have conflict of interest with reference to ITT

clause 3.6

We agree to abide by this Tender for the Tender Validity Period specified in TDS 19, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

We are not participating, as Tenderers, in more than one Tender in this tendering process, other than alternative offers in accordance with the Tendering Documents.



KENYA | TANZANIA | UGANDA | KWANDA | ZAMBIA solles@computech-ics.co.tz www.computechlimited.com

Our firm, its affiliates or subsidiaries – including any subcontractors or suppliers for any part of the contract – has not been declared ineligible by the Government of the United Republic of Tanzania under Tanzania's laws or official regulations or by an act of compliance with a decision of the United Nations Security Council.

The following commissions or gratuities have been paid or are to be paid by us to agents relating to this Tender, and to contract execution if we are awarded the contract:

Name and address of agent Amount and currency Purpose of Commission or recipient or gratuities NoneNone None

Until a formal Contract is prepared and executed, this Tender, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any tender you may receive. We certify/confirm that we comply with the eligibility requirements as per ITT 3 of the Tendering Documents

Dated this 10th day of February 2022

(Name): Michael Mpeka in the capacity of Country Sales Manager.

Signature:

P. O. Box 5171
DAR ES SALAAM

Duly authorized to sign Tender for and on behalf of Computech ICS(T)Ltd

SECTION V: SPECIAL CONDITIONS OF CONTRACT

Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC. The corresponding clause number of the GCC is indicated in parentheses.

SCC Clause Number	GCC Clause Number	Amendments of, and Supplements to, Clauses in the GCC
Definition	ns (GCC 1)	
1.	1.1	The Employer is: Mbeya Zonal Referral Hospital, P.O.BOX 419, Mbeya The Contractor is: COMPUTECH-ICS (T) LTD, P.O.box 5171, DAR ES SALAAM The Contractor's Representative is: Michael Mpeka, P.O.box 5171, DAR ES SALAAM The Appointing Authority of the Adjudicator is: Tanzania Institute of Arbitrators Time for Completion: Three Months
Notices (GCC Claus	e 4)
2.	4.1	Employer's address for notice purposes: Mbeya Zonal Referral Hospital, P.O.BOX 419, Mbeya Contractor's address for notice purposes: COMPUTECH-ICS (T) LTD, P.O.box 5171, DAR ES SALAAM

3.	5.1	Sample Provision
		GCC 5.1—The Contract shall be interpreted in accordance with the laws of the United Republic of Tanzania.
Settle	ment of Disp	outes (GCC 6)
4	6.1.4	Appointing Authority for Adjudicator Tanzania Institute of Arbitrators The arbitral institution is Commission for mediation and arbitration (CMA) Place for carrying out arbitration is Commission for mediation and arbitration, P.O.BOX 59, Mbeya Tanzania.
5	6.2.3	Rules of procedure for arbitration proceedings:
		[For contracts entered into with a national of the United Republic of Tanzania, the Contract may provide for adjudication/arbitration in accordance with the law of the United Republic of Tanzania.] For such contracts, the following sample clause should be inserted: GCC 6.2.3 (b)—Any dispute between the Employer and a Contractor who is a national of the United Republic of Tanzania_arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the United Republic of Tanzania. [The Tendering Documents should contain one clause to be retained in the event of a Contract with a foreign Contractor and one clause to be retained in the event of a Contract with a Contractor who is a national of the United Republic of Tanzania. At the time of finalizing the Contract, the respective applicable clause should be retained in the Contract. The following explanatory notes should therefore be inserted as a header to GCC 6.2.3 in the Tendering Document.

6.	9.3	The Contractor agrees to supply spare parts for as follows:
		(1) Two years warranty, and three years comprehensive and collective maintenance inclusive spare parts for entire CT system (X-ray TUBE and all accessories) including all turn key items (Patient Monitor, Defibrillator, Laser Imaging Camera, Digital film printer, Pressure Injector, UPS, and Air Conditioner).
		(2) Maintenance for 6th, 7th, 8th, 9th and 10th years
		6 th year, 144,694,000 x 6 = 868,163,999 7 th year, 151,928,700 x 6 = 911,572,199 8 th year, 159,525,135 x 6 = 957,150,809 9 th year, 167,501,392 x 6 = 1,005,008,350 10 th year, 175,876,461 x 6 = 1,055,258,767
7.	9.3	Sample Clause
		The Contractor shall carry sufficient inventories to ensure
		an ex-stock supply of consumable spares for the goods. Other spare parts and components shall be supplied as promptly as possible, but at the most within six (6) months of placing the order and opening the letter of credit. In addition, in the event of termination of the production of spare parts, advance notification will be made to the Employer of the pending termination, with sufficient time to permit the Employer to procure the needed requirement. Following such termination, the Contractor will furnish to the extent possible and at no cost to the Employer the blueprints, drawings and specifications of the spare parts, if requested.
Time	for Commen	an ex-stock supply of consumable spares for the goods. Other spare parts and components shall be supplied as promptly as possible, but at the most within six (6) months of placing the order and opening the letter of credit. In addition, in the event of termination of the production of spare parts, advance notification will be made to the Employer of the pending termination, with sufficient time to permit the Employer to procure the needed requirement. Following such termination, the Contractor will furnish to the extent possible and at no cost to the Employer the blueprints, drawings and specifications of
	for Commen	an ex-stock supply of consumable spares for the goods. Other spare parts and components shall be supplied as promptly as possible, but at the most within six (6) months of placing the order and opening the letter of credit. In addition, in the event of termination of the production of spare parts, advance notification will be made to the Employer of the pending termination, with sufficient time to permit the Employer to procure the needed requirement. Following such termination, the Contractor will furnish to the extent possible and at no cost to the Employer the blueprints, drawings and specifications of the spare parts, if requested. In Contractor shall commence work on the Facilities from the Effective Date for determining Time for
Time		an ex-stock supply of consumable spares for the goods. Other spare parts and components shall be supplied as promptly as possible, but at the most within six (6) months of placing the order and opening the letter of credit. In addition, in the event of termination of the production of spare parts, advance notification will be made to the Employer of the pending termination, with sufficient time to permit the Employer to procure the needed requirement. Following such termination, the Contractor will furnish to the extent possible and at no cost to the Employer the blueprints, drawings and specifications of the spare parts, if requested. Sample Clause The Contractor shall commence work on the Facilities

Canada	N 1000 44	V.
Securi	ties (GCC 14)
10.	14.3.1	The amount of performance security, as a percentage of the Contract Price for the Facility or for the part of the Facility for which a separate time for Completion is provided, shall be: 15% in any case.
11.	14.3.3	The performance security shall be reduced to (15%) of the value of the component covered by the extended warranty to cover the Contractor's extended warranty in accordance with the provision in the SCC, pursuant to GCC 28.10. [To be inserted only when an extended warranty is requested.]
Work F	rogramme (GCC 19)
12.	19.2	The form of the programme of performance of the Contract shall be: [Programme of performance shall usually be in the form of the critical path method (CPM), the PERT network, or other internationally used programs.]
Comm	issioning an	d Operational Acceptance (GCC 26)
13.	26.2.2	The Guarantee Test of the Facilities shall be successfully completed within five (5) days from the date of Completion.
Compl	etion Time C	Guarantee (GCC Clause 27)
14.	27.2	Applicable rate for liquidated damages: 0.15 percent per day. Maximum deduction for liquidated damages: is equal to the Performance Security quoted.
15.	27.3	Applicable (amount or rate) for the bonus for early Completion: No bonus will be given for earlier Completion of the Facilities or part thereof.
Defect	Liability (GC	CC 28)
16.	28.10	[The Employer should not extend the Defect Liability Period beyond the period prescribed in GCC 28.2, except where it is commercial practice for that type of Facilities, and in which case the relevant period shall be specified in

Completion-Guarantee Test-	-Acceptance (GCC 25.3 and 26.2)
----------------------------	--------------------------------	---

17. 25.3 and 26.2

Sample Provision

- 21.1 In the event that the Contractor is unable to proceed with the Pre-commissioning of the Facilities pursuant to GCC 25.3, or with the Guarantee Test pursuant to GCC 26.2, for reasons attributable to the Employer either on account of non-availability of other facilities under the responsibilities of other contractor(s), or for reasons beyond the Employer's control, the provisions leading to "deemed" completion of activities such as Completion, pursuant to GCC 25.6, and Operational Acceptance, pursuant to GCC 25.6, and Contractor's obligations regarding Defect Liability Period, pursuant to GCC 28.2, Functional Guarantee, pursuant to GCC 29, and Care of Facilities, pursuant to GCC 33, and GCC 42.1, Suspension, shall not apply. In this case, the following provisions shall apply.
- 21.2 When the Contractor is notified by the Project Manager that he will be unable to proceed with the activities and obligations pursuant to above GCC 14.1, the Contractor shall be entitled to the following:
- (a) the Time of Completion shall be extended for the period of suspension without imposition of liquidated damages pursuant to GCC 27.2;
- (b) payments due to the Contractor in accordance with the provision specified in the corresponding Appendix (Terms and Procedures of Payment) to the Contract Agreement, which would not have been payable in normal circumstances due to non-completion of the subject activities, shall be released to the Contractor against submission of a security in the form of a bank guarantee of equivalent amount acceptable to the Employer, and which shall become null and void when the Contractor will have complied with its obligations regarding those payments, subject to the provision of GCC 14.3 below;
- (c) the expenses towards the above security and extension of other securities under the contract, of which validity needs to be extended, shall be reimbursed to the Contractor by the Employer;
- (d) The additional charges towards the care of the Facilities pursuant to GCC 33.1 shall be reimbursed to the Contractor by the Employer for the period between the

notification mentioned above and the notification mentioned in GCC 14.4 below. The provision of GCC 34.2 shall apply to the Facilities during the same period.

21.3 In the event that the period of suspension under above GCC 14.1 actually exceeds one hundred eighty (180) days, the Employer and Contractor shall mutually agree to any additional compensation payable to the Contractor.

21.4 When the Contractor is notified by the Project Manager that the plant is ready for Pre-commissioning, the Contractor shall proceed without delay in performing all the specified activities and obligations under the contract.

[The above SCC 14 may be used when performance of Pre-commissioning activities and/or Functional Guarantees will be tied to the completion of other facilities which are not under the responsibilities of the Contractor (e.g., completion of transmission lines to connect to the grid a power plant constructed under the Contract).] SECTION VI: GENERAL CONDITIONS OF CONTRACT

Table of Clauses

A.	Contract and Interpretation	1
	1 Definitions	
	2 Interpretation order of Documents	
	3 Conditions Precedent	,,,,,,,5
	4 Notices	б
	5 Language and Law	6
	6. Disputes Resolution	6
	7 Fees and Cost of Adjudicators	f
	Replacement of an Adjudicator	7
D	Subject Matter of Contract	7
Ь.	9. Scope of Facilities	7
	10. Time for Commencement and Completion	8
	11. Parties' Responsibilities	8
C	Payment	10
٥.	12. Contract Price	10
	13. Terms of Payment	10
	14. Securities	11
	15. Taxes and Duties	12
-	Intellectual Property	
D.	16. Patent and Copyright	13
	17. Confidential Information	13
_	Execution of the Facilities	14
E.	18. Representatives	14
	19. Work Programme	16
	20. Subcontracting	17
	21. Design and Engineering	18
	21. Design and Engineering	20
	22. Procurement	22
	23. Installation	26
	24. Test and Inspection	28
	25. Completion of the Facilities	20
	26. Commissioning and Operational Acceptance	
F.	Guarantees and Liabilities	31
	27 Completion Time Guarantee	31
	28 Defect Liability	32
	29 Functional Guarantees	
	30 Patent Indemnity	35
	31. Limitation of Liability	36
G	Risk Distribution	36
	32 Transfer of Ownership	
	33 Care of Facilities	37
	34 Loss of or Damage to Property: Accident or Injury to Workers;	
	Indemnification	38
	35 Insurance	39

	36. Unforeseen Conditions	
	or original Laws and Requisitions	4.0
	38. Force Majeure	42
	インスプログラス アンスプログラス アンスプログラス 大型 スティー・エー・ファイン アンスプログラス アンスアンス アンスアンスアンス アンスアンスアンス アンスアンスアンス アンスアンス アンスアンスアンス アンスアンス アンスアンス アンスアンス アンスアンス アンスアンス アンスアンスア	
	39. War Risks	44
Н.		
	40 Change in the Englisher	45
	To Originate Facilities	
	41. Extension of Time for Completion	40
	41. Extension of Time for Completion	48
	To Torrini and The Control of the Co	-
	44. Assignment	57
		24.7

A. Contract and Interpretation

1 Definitions	1.1	The following words and expressions shall have the meanings hereby assigned to them:
		"Contract" means the Agreement entered into between the Employer and the Contractor, together with the Contract Documents referred to therein; they shall constitute the Contract, and the term "the Contract" shall in all such documents be construed accordingly.
		"Contract Documents" means the documents listed in Article 1.1 (Contract Documents) of the Form of Agreement (including any amendments thereto).
		"GCC" means the General Conditions of Contract hereof.
		"SCC" means the Special Conditions of Contract.
		"Day" means calendar day
		"Month" means calendar month
		"Employer" means the person named as such in the SCC and includes the legal successors or permitted assigns of the Employer.
		"Project Manager" means the person appointed by the Employer in the manner provided in GCC 18.1 (Project Manager) hereof and named as such in the SCC to perform the duties delegated by the Employer.
		"Contractor" means the person(s) whose tender to perform the Contract has been accepted by the Employer and is named as such in the Agreement, and includes the legal successors or permitted assigns of the Contractor.
		"Contractor's Representative" means any person nominated by the Contractor and named as such in the SCC and approved by the Employer in the manner provided in GCC 18.2 (Contractor's Representative and Construction Manager) hereof to perform the duties delegated by the Contractor.
		"Subcontractor," including vendors, means any person to whom execution of any part of the Facilities, including preparation of any design or supply of any Goods, is subcontracted directly or indirectly by the Contractor, and includes its legal successors or permitted assigns.
		"Adjudicator" means the person or persons appointed by the Appointing Authority named in the SCC to make a decision on or to settle any dispute or differences between the Employer and the Contractor referred to him or her by the parties pursuant to GCC 6.1 (Adjudicator) hereof.

"Contract Price" means the sum specified in Article 2.1 (Contract Price) of the Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.

"Facilities" means the Goods to be supplied and installed, as well as all the Installation Services to be carried out by the Contractor under the Contract.

"Force Majeure" shall mean any event beyond the reasonable control of the Employer or of the Contractor, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected.

"Goods" means permanent plant, equipment, machinery, apparatus, articles and things of all kinds to be provided and incorporated in the Facilities by the Contractor under the Contract (including the spare parts to be supplied by the Contractor under GCC 7.3 hereof), but does not include Contractor's Equipment.

"Installation Services" means all those services ancillary to the supply of the Goods for the Facilities, to be provided by the Contractor under the Contract; e.g., transportation and provision of marine or other similar insurance, inspection, expediting, site preparation works (including the provision and use of Contractor's Equipment and the supply of all construction materials required), installation, testing, precommissioning, commissioning, operations, maintenance, the provision of operations and maintenance manuals, training, etc.

"Contractor's Equipment" means all plant, facilities, equipment, machinery, tools, apparatus, appliances or things of every kind required in or for installation, completion and maintenance of Facilities that are to be provided by the Contractor, but does not include Goods, or other things intended to form or forming part of the Facilities.

"Country of Origin" means the countries and territories eligible under the PPA 2004 and its corresponding Regulations as further elaborated in the SCC.

"Site" means the land and other places upon which the Facilities are to be installed, and such other land or places as may be specified in the Contract as forming part of the Site.

"Effective Date" means the date of fulfillment of all conditions stated in Article 3 (Effective Date for Determining Time for Completion) of the Form of Agreement, for the purpose of determining the Time for Completion.

"Time for Completion" means the time within which

Completion of the Facilities as a whole (or of a part of the Facilities where a separate Time for Completion of such part has been prescribed) is to be attained in accordance with the specifications in the SCC and the relevant provisions of the Contract. "Completion" means that the Facilities (or a specific part thereof where specific parts are specified in the SCC) have been completed operationally and structurally and put in a tight and clean condition, and that all work in respect of Pre-commissioning of the Facilities or such specific part thereof has been completed; in other words, that the Facilities or specific part thereof are ready for Commissioning as provided in GCC 25 (Completion) hereof. "Pre-commissioning" means the testing, checking and other requirements specified in the Technical Specifications that are to be carried out by the Contractor in preparation for Commissioning as provided in GCC 25 (Completion) hereof. "Commissioning" means operation of the Facilities or any part thereof by the Contractor following Completion, which operation is to be carried out by the Contractor as provided in GCC 26.1 (Commissioning) hereof, for the purpose of carrying out Guarantee Test(s). "Guarantee Test(s)" means the test(s) specified in the Technical Specifications to be carried out to ascertain whether the Facilities or a specified part thereof is able to attain the Functional Guarantees specified in the Technical Specifications in accordance with the provisions of GCC 26.2 (Guarantee Test) hereof. "Operational Acceptance" means the acceptance by the Employer of the Facilities (or any part of the Facilities) where the Contract provides for acceptance of the Facilities in parts), which certifies the Contractor's fulfillment of the Contract in respect of Functional Guarantees of the Facilities (or the relevant part thereof) in accordance with the provisions of GCC 29 (Functional Guarantees) hereof and shall include deemed acceptance in accordance with GCC 26 (Commissioning and Operational Acceptance) hereof. "Defect Liability Period" means the period of validity of the warranties given by the Contractor commencing at Completion of the Facilities or a part thereof, during which the Contractor is responsible for defects with respect to the Facilities (or the relevant part thereof) as provided in GCC 28 (Defect Liability) hereof.

2 Interpretation order of Documents 2.1

In interpreting these Conditions of Contract headings and marginal notes are used for convenience only and shall not affect their interpretations unless specifically stated; references to singular include the plural and vice versa; and masculine

	include the feminine. Words have their ordinary meaning under the language of the Contract unless specifically defined.
2	If any of the Contract Documents, correspondence or communications are prepared in any language other than the governing language under GCC 2.1 above, the English translation of such documents, correspondence or communications shall prevail in matters of interpretation.
2	The documents forming the Contract shall be interpreted in the following order of priority: (a) This form of Contract and the Appendixes hereto (b) Letter of acceptance (c) Minutes of negotiations (d) Form of tender (e) Special Conditions of Contract (f) General Conditions of Contract Technical Specifications Any other document listed in the Special Conditions of Contract as forming part of the Contract.
2.	4 Persons Words importing persons or parties shall include firms, corporations and government entities.
2.	Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties there under shall be as prescribed by <i>Incoterms</i> . Incoterms means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1°, 75008 Paris, France.
2.1	Entire Agreement Subject to GCC 17.4 hereof, the Contract constitutes the entire agreement between the Employer and Contractor with respect to the subject matter of Contract and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.
2.7	Amendment No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party hereto.
2.8	Independent Contractor The Contractor shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture or other joint relationship between the parties hereto.

		2.9	Subject to the provisions of the Contract, the Contractor shall be solely responsible for the manner in which the Contract is performed. All employees, representatives or Subcontractors engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not be deemed to be employees of the Employer, and nothing contained in the Contract or in any subcontract awarded by the Contractor shall be construed to create any contractual relationship between any such employees, representatives or Subcontractors and the Employer. Joint Venture or Consortium If the Contractor is a joint venture or consortium of two or more persons, all such firms shall be jointly and severally bound to the Employer for the fulfillment of the provisions of the Contract and shall designate one of such persons to act as a leader with authority to bind the joint venture or consortium. The composition or the constitution of the joint venture or consortium.
		2.10	Non-Waiver 2.10.1 Subject to GCC 2.10.2 below, no relaxation, forbearance, delay or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract. 2.10.2 Any waiver of a party's rights, powers or remedies under the Contract must be in writing, must be dated and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.
		2.11	Severability If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.
		2.12	Country of Origin "Origin" means the place where the materials, equipment and other supplies for the Facilities are mined, grown, produced or manufactured, and from which the services are provided.
3	Conditions Precedent	3.1	Having signed the Contract, it shall come into effect on the date on which the following conditions have been satisfied: - a) Submision of performance Security in the form specified in the SCC; b) Furnishing of Advance Payment Unconditional Guarantee.
		3.2	If the Condition precedent stipulated on GCC 3.1 is not met by the date specified in the SCC this contract shall not come into effect;

		3.3	If the Employer is satisfied that each of the conditions precedent in this contract has been satisfied (except to the extent waved by him, but subject to such conditions as he shall impose in respect of such waiver) he shall promptly issue to the contractor a certificate of Contract commencement, which shall confirm the start date.
4	Notices	4.1	Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing, and shall be sent by personal delivery, airmail post, special courier, cable, telegraph, telex, facsimile or Electronic Data Interchange (EDI) to the address of the relevant party set out in the SCC, with the following provisions:
			4.1.1 Any notice sent by cable, telegraph, telex, facsimile or EDI shall be confirmed within two (2) days after dispatch by notice sent by airmail post or special courier, except as otherwise specified in the Contract.
			4.1.2 Any notice sent by airmail post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10) days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped and conveyed to the postal authorities or courier service for transmission by airmail or special courier.
			4.1.3 Any notice delivered personally or sent by cable, telegraph, telex, facsimile or EDI shall be deemed to have been delivered on date of its dispatch.
			4.1.4 Either party may change its postal, cable, telex, facsimile or EDI address or addressee for receipt of such notices by ten (10) days' notice to the other party in writing.
		4.2	Notices shall be deemed to include any approvals, consents, instructions, orders and certificates to be given under the Contract.
5	Language and Law	5.1	The language of the Contract and the law governing the Contract are stated in the SCC.
6	Disputes Resolution	6.1	In the event of any dispute arising out of this contract, either party shall issue a notice of dispute to settle the dispute amicably. The parties hereto shall, within twenty eight (28) days from the notice date, use their best efforts to settle the dispute amicably through mutual consultations and negotiation. Any unsolved dispute may be referred by either party to an adjudicator nominated by the appointing Authority specified in SCC.
		6.2	After the dispute has been referred to the adjudicator, within 30 days, or within such other period as may be proposed by the Parties, the Adjudicator shall give its decision. The rendered decision shall be binding to the Parties.
		6.3	If either Party is dissatisfied with the Adjudicator's decision may, within days specified in the SCC refer the dispute for arbitration.

			If either party within the period mentioned in the SCC has not referred the matter for arbitration the decision shall become final and binding to the Parties.
		6.4	The arbitration shall be conducted in accordance with the arbitration procedure published by the Institution named and in the place shown in the SCC
7	Fees and Cost of Adjudicators	7.1	The rate of the Adjudicator's fee and administrative costs of adjudication shall be borne equally by the Parties. The rates and costs shall be in accordance with the rules of the Appointing Authority. In conducting adjudication to its finality each party shall bear its incurred costs and expenses.
8	Replacement of an Adjudicator	8.1	Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator will be appointed by the Appointing Authority
		8.2	in the event of disagreement between the Parties to the dispute under Clause 29.1 or 29.2 above, the Adjudicator shall be appointed by the Appointing Authority stated in the SCC.

B. Subject Matter of Contract

9.	Scope of Facilities	9.1	Unless otherwise expressly limited in the Technical Specifications, the Contractor's obligations cover the provision of all Goods and the performance of all Installation Services required for the design, the manufacture (including procurement, quality assurance, construction, installation, associated civil works, Pre-commissioning and delivery) of the Goods and the installation, completion and commissioning of the Facilities in accordance with the plans, procedures, specifications, drawings, codes and any other documents as specified in the Technical Specifications. Such specifications include, but are not limited to, the provision of supervision and engineering services; the supply of labour, materials, equipment, spare parts (as specified in GCC 7.3 below) and accessories; Contractor's Equipment; construction utilities and supplies, temporary materials, structures and facilities; transportation (including, without limitation, unloading and hauling to, from and at the Site); and storage, except for those supplies, works and services that will be provided or performed by the Employer, as set forth in the corresponding Appendix (Scope of Works and Supply by the Employer) to the Agreement.
		9.2	The Contractor shall, unless specifically excluded in the Contract, perform all such work and/or supply all such items and materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Completion of the Facilities as if such work and/or items and materials were expressly mentioned in the Contract.
		9.3	In addition to the supply of Mandatory Spare Parts included

			in the Contract, the Contractor agrees to supply spare parts required for the operation and maintenance of the Facilities for the period specified in the SCC. However, the identity, specifications and quantities of such spare parts and the terms and conditions relating to the supply thereof are to be agreed between the Employer and the Contractor, and the price of such spare parts shall be that given in Price Schedule No. 6, which shall be added to the Contract Price. The price of such spare parts shall include the purchase price therefore and other costs and expenses (including the Contractor's fees) relating to the supply of spare parts.
10.	Time for Commencement and Completion	10.1	The Contractor shall commence work on the Facilities within the period specified in the SCC and without prejudice to GCC 27.2 hereof, the Contractor shall thereafter proceed with the Facilities in accordance with the time schedule specified in the corresponding Appendix (Time Schedule) to the Agreement.
		10.2	The Contractor shall attain Completion of the Facilities (or of a part where a separate time for Completion of such part is specified in the Contract) within the time stated in the SCC or within such extended time to which the Contractor shall be entitled under GCC 41 hereof.
11.	Parties' Responsibilities	11.1	(a) Contractor's and Employer's Responsibilities The Contractor shall design, manufacture (including associated purchases and/or subcontracting), install and complete the Facilities with due care and diligence in accordance with the Contract.
		11.2	The Contractor confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the Facilities (including any data as to boring tests) provided by the Employer, and on the basis of information that the Contractor could have obtained from a visual inspection of the Site (if access thereto was available) and of other data readily available to it relating to the Facilities as of the date twenty-eight (28) days prior to tender submission. The Contractor acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Facilities.
		11.3	The Contractor shall acquire in its name all permits approvals and/or licenses from all local, state or national government authorities or public service undertakings in the United Republic of Tanzania where the Site is located that are necessary for the performance of the Contract, including without limitation, visas for the Contractor's and Subcontractor's personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals and/or licenses that are not the responsibility of the Employer under GCC 11.3 hereof and that are necessary for the performance of the Contract.

11.4	The Contractor shall comply with all laws in force in the
34.43-75	United Republic of Tanzania and local by laws where the Facilities are installed and where the Installation Services are carried out. The laws will include all local, state, national or other laws that affect the performance of the Contract and bind upon the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from the violation of such laws by the Contractor or its personnel, including the Subcontractors and their personnel, but without prejudice to GCC 11.1 hereof.
11.5	Any Plant, Material and Services that will be incorporated in or be required for the Facilities and other supplies shall have their origin as specified under GCC 1 (Country of Origin).
11.6	The Contractor shall permit the PE to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the PE, if so required by the PE.
	(b) Employer's Responsibilities
11.7	The Employer shall ensure the accuracy of all information and/or data to be supplied by the Employer as described in the corresponding Appendix (Scope of Works and Supply by the Employer) to the Contract, except when otherwise expressly stated in the Contract.
11.8	The Employer shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way, as specified in the corresponding Appendix (Scope of Works and Supply by the Employer) to the Agreement. The Employer shall give full possession of and accord all rights of access thereto on or before the date(s) specified in that Appendix.
11.9	The Employer shall acquire and pay for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the United Republic of Tanzania. Such authorities or undertakings require the Employer to obtain them in the Employer's name, are necessary for the execution of the Contract (they include those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract), and are specified in the corresponding Appendix (Scope of Works and Supply by the Employer) to the Agreement.
11.10	If requested by the Contractor, the Employer shall use its best endeavors to assist the Contractor in obtaining in a

		timely and expeditious manner all permits, approvals and/o licenses necessary for the execution of the Contract from al local, state or national government authorities or public service undertakings that such authorities or undertakings require the Contractor or Subcontractors or the personnel of the Contractor or Subcontractors, as the case may be, to obtain.
		Unless otherwise specified in the Contract or agreed upon by the Employer and the Contractor, the Employer shall provide sufficient, properly qualified operating and maintenance personnel, shall supply and make available all raw materials, utilities, lubricants, chemicals, catalysts, other materials and facilities; and shall perform all work and services of whatsoever nature, including those required by the Contractor to properly carry out Pre-commissioning. Commissioning and Guarantee Tests, all in accordance with the provisions of the corresponding Appendix (Scope of Works and Supply by the Employer) to the Agreement at or before the time specified in the programme furnished by the Contractor under GCC 19.2 hereof and in the manner thereupon specified or as otherwise agreed upon by the Employer and the Contractor.
1	V	The Employer shall be responsible for the continued operation of the Facilities after Completion, in accordance with GCC 25.8, and shall be responsible for facilitating the Guarantee Test(s) for the Facilities, in accordance with GCC 26.2.
11	ti	All costs and expenses involved in the performance of the obligations under this GCC 11 shall be the responsibility of the Employer, save those to be incurred by the Contractor with respect to the performance of Guarantee Tests, in accordance with GCC 26.2.

C. Payment

12.	Contract Price	12.1	The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Form of Agreement.
		12.2	Unless indicated otherwise in the SCC, the Contract Price shall be a firm lump sum not subject to any alteration, except in the event of a Change in the Facilities or as otherwise provided in the Contract.
		12.3	Subject to GCCs 10.2, 11.1 and 36 hereof, the Contractor shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.
13.	Terms of Payment	13.1	The Contract Price shall be paid as specified in the corresponding Appendix (Terms and Procedures of Payment) to the Agreement. The procedures to be followed in making application for and processing payments shall be those outlined in the same Appendix.

		13.2	No payment made by the Employer herein shall be deemed to constitute acceptance by the Employer of the Facilities or any part(s) thereof.
		13.3	In the event that the Employer fails to make any payment by its respective due date or within the period set forth in the Contract, the Employer shall pay to the Contractor Interest on the amount of such delayed payment at the rate(s) shown in the corresponding Appendix (Terms and Procedures of Payment) to the Agreement for the period of delay until payment has been made in full, whether before or after judgment or arbitrage award.
		13.4	The currency or currencies in which payments are made to the Contractor under this Contract shall be specified in the corresponding Appendix (Terms and Procedures of Payment) to the Agreement, subject to the general principle that payments will be made in the currency or currencies in which the Contract Price has been stated in the Contractor's Tendering.
		13.5	All payments shall be made in the currency or currencies specified in the corresponding Appendix (Terms and Procedures of Payment) to the Agreement, pursuant to GCC 13.4.
14.	Securities	14.1	Issuance of Securities The Contractor shall provide the securities specified below in favor of the Employer at the times, and in the amount, manner and form specified below.
		14.2	Advance Payment Security 14.2.1 The Contractor shall, within fourteen (14) working days of the notification of contract award, provide a security in an amount equal to the advance payment calculated in accordance with the corresponding Appendix (Terms and Procedures of Payment) to the Agreement, and in the same currency or currencies.
			14.2.2 The security shall be in the form provided in the tendering documents or in another form acceptable to the Employer. The amount of the security shall be reduced in proportion to the value of the Facilities executed by and paid to the Contractor from time to time, and shall automatically become null and void when the full amount of the advance payment has been recovered by the Employer. The security shall be returned to the Contractor immediately after its expiration.
		14.3	Performance Security 14.3.1The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable as specified in the TDS and SCC and in accordance with the conditions of contract.

			 14.3.2The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond. 14.3.3Where circumstances necessitate the amendment of the contract after signature, and such amendment is effected, the Employer shall require the Contractor to provide additional Performance Security to cover any cumulative increase of more than ten percent of the Initial Contract Price. 14.3.4 The security shall be denominated in the currency or currencies of the Contract, or in a freely convertible currency acceptable to the Employer, and shall be in one of the forms of bank guarantees provided in the tendering documents, as stipulated by the Employer in the SCC, or in another form acceptable to the Employer. 14.3.5 The security shall automatically be reduced by half on the date of the Operational Acceptance and shall become null and void, eighteen (18) months after Completion of the Facilities or twelve (12) months after Operational Acceptance of the Facilities, whichever occurs first; provided, however, that if the Defects Liability Period has been extended on any part of the Facilities pursuant to GCC 28.8 hereof, the Contractor shall issue an additional security in an amount proportionate to the Contract Price of that part. The security shall be returned to the Contractor immediately after its expiration, provided, however.
		15.1	that if the Contractor, pursuant to GCC 28.10, is liable for an extended warranty obligation, the performance security shall be extended for the period and up to the amount specified in the SCC.
15.	Taxes and Duties	15.1	Except as otherwise specifically provided in the Contract the Contractor shall bear and pay all taxes, duties, levies and charges assessed on the Contractor, its Subcontractors or their employees by all municipal, state or national government authorities in connection with the Facilities in and outside of the United Republic of Tanzania where the Site is located.
		15.2	Notwithstanding GCC 15.1 above, the Employer shall bear and promptly pay all customs and import duties as well as other local taxes like, e.g., a value added tax (VAT) imposed by the law of the United Republic of Tanzania or the Goods specified in Price Schedule No. 1 and that are to be incorporated into the Facilities.
		15.3	If any tax exemptions, reductions, allowances or privilege

	may be available to the Contractor in the United Republic of Tanzania, the Employer shall use its best endeavors to enable the Contractor to benefit from any such tax savings to the maximum allowable extent.
15.4	For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Form of Agreement is based on the taxes, duties, levies and charges prevailing at the date twenty-eight (28) days prior to the date of tender submission in the United Republic of Tanzania (hereinafter called "Tax" in this GCC 15.4). If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Contractor. Subcontractors or their employees in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction there from, as the case may be, in accordance with GCC 37 hereof.

D. Intellectual Property

16.	Patent and Copyright	16.1	The Supplier shall indemnify the PE against all third-party claims of infringement of patent, trademark, or industrial design rights ansing from use of the Goods or any part thereof in the United Republic of Tanzania.
		16.2	The copyright in all drawings, documents and other materials containing data and information furnished to the Employer by the Contractor herein shall remain vested in the Contractor or, if they are furnished to the Employer directly or through the Contractor by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.
17.	Confidential Information	17.1	The Employer and the Contractor shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following termination of the Contract. Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and other information it receives from the Employer to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor under this GCC 17.
		17.2	The Employer shall not use such documents, data and other information received from the Contractor for any purpose other than the operation and maintenance of the

	Facilities. Similarly, the Contractor shall not use such documents, data and other information received from the Employer for any purpose other than the design, procurement of Goods, construction or such other work and services as are required for the performance of the Contract.
17.3	The obligation of a party under GCCs 17.1 and 17.2 above, however, shall not apply to that information which (a) now or hereafter enters the public domain through no fault of that party (b) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party hereto (c) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
17.4	The above provisions of this GCC 17 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Facilities or any part thereof.
17.5	The provisions of this GCC 17 shall survive termination, for whatever reason, of the Contract.

E. Execution of the Facilities

18.	Representatives	18.1	Project Manager If the Project Manager is not named in the Contract, then within Seven (7) working days of the Effective Date, the Employer shall appoint and notify the Contractor in writing of the name of the Project Manager. The Employer may from time to time appoint some other person as the Project Manager in place of the person previously so appointed, and shall give a notice of the name of such other person to the Contractor without delay. No such appointment shall be made at such a time or in such a manner as to impede the progress of work on the Facilities. Such appointment shall only take effect upon receipt of such notice by the Contractor. The Project Manager shall represent and act for the Employer at all times during the currency of the Contract. All notices, instructions, orders, certificates, approvals and all other communications under the Contract shall be given by the Project Manager, except as herein otherwise provided. All notices, instructions, information and other communications given by the Contractor to the Employer under the Contract shall be given to the Project Manager, except as herein otherwise provided.
		18.2	Contractor's Representative & Project Manager 18.2.1 If the Contractor's Representative is not named in

the Contract, then within Seven (7) working days of the Effective Date, the Contractor shall appoint the Contractor's Representative and shall request the Employer in writing to approve the person so appointed. If the Employer makes no objection to the appointment within Seven (7) working days, the Contractor's Representative shall be deemed to have been approved. If the Employer objects to the appointment within Seven (7) working days giving the reason thereof, then the Contractor shall appoint a replacement within Seven (7) working days of such objection, and the foregoing provisions of this GCC 18.2.1 shall apply thereto.

- 18.2.2 The Contractor's Representative shall represent and act for the Contractor at all times during the currency of the Contract and shall give to the Project Manager all the Contractor's notices. information instructions and all communications under the Contract.
- 18.2.3 All notices, instructions, information and all other communications given by the Employer or the Project Manager to the Contractor under the Contract shall be given to the Contractor's Representative or, in its absence, its deputy, except as herein otherwise provided
- 18.2.4 The Contractor shall not revoke the appointment of the Contractor's Representative without the Employer's prior written consent, which shall not be unreasonably withheld. If the Employer consents thereto, the Contractor shall appoint some other person as the Contractor's Representative, pursuant to the procedure set out in GCC 18.2.1.
- 18.2.5 The Contractor's Representative may, subject to the approval of the Employer (which shall not be unreasonably withheld), at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Contractor's Representative. and shall specify the powers, functions and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until a copy thereof has been delivered to the Employer and the Project Manager.

Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with this GCC 18.2.3 shall be deemed to be an act or exercise by the Contractor's Representative.

18.2.6 From the commencement of installation of the

			Facilities at the Site until Completion, the Contractor's Representative shall appoint a suitable person as the construction manager (hereinafter referred to as 'the Construction Manager'). The Construction Manager shall supervise all work done at the Site by the Contractor and shall be present at the Site throughout normal working hours except when on leave, sick or absent for reasons connected with the proper performance of the Contract. Whenever the Construction Manager is absent from the Site, a suitable person shall be appointed to act as his or her deputy.
			18.2.7 The Employer may by notice to the Contractor object to any representative or person employed by the Contractor in the execution of the Contract who, in the reasonable opinion of the Employer, may behave inappropriately, may be incompetent or negligent, or may commit a serious breach of the Site regulations provided under GCC 23.3. The Employer shall provide evidence of the same, whereupon the Contractor shall remove such person from the Facilities.
			18.2.6 If any representative or person employed by the Contractor is removed in accordance with GCC 18.2.5, the Contractor shall, where required, promptly appoint a replacement.
19.	Work Programme	19.1	Contractor's Organization The Contractor shall supply to the Employer and the Project Manager a chart showing the proposed organization to be established by the Contractor for carrying out work on the Facilities. The chart shall include the identities of the key personnel together with the curricula vitae of such key personnel to be employed within twenty-one (21) days of the Effective Date. The Contractor shall promptly inform the Employer and the Project Manager in writing of any revision or alteration of such an organization chart.
		19.2	Programme of Performance Within twenty-eight (28) days after the date of signing the Agreement, the Contractor shall prepare and submit to the Project Manager a detailed programme of performance of the Contract, made in the form specified in the SCC and showing the sequence in which it proposes to design, manufacture, transport, assemble, install and precommission the Facilities, as well as the date by which the Contractor reasonably requires that the Employer shall have fulfilled its obligations under the Contract so as to enable the Contractor to execute the Contract in accordance with the programme and to achieve Completion, Commissioning and Acceptance of the Facilities in accordance with the Contract. The programme so submitted by the Contractor shall accord

			with the Time Schedule included in the corresponding Appendix (Time Schedule) to the Agreement and any other dates and periods specified in the Contract. The Contractor shall update and revise the programme as and when appropriate or when required by the Project Manager, but without modification in the Times for Completion given in the SCC and any extension granted in accordance with GCC 41, and shall submit all such revisions to the Project Manager.
		19.3	Progress Report The Contractor shall monitor progress of all the activities specified in the programme referred to in GCC 19.2 above, and supply a progress report to the Project Manager every month. The progress report shall be in a form acceptable to the Project Manager and shall indicate: (a) percentage completion achieved compared with the planned percentage completion for each activity, and (b) where any activity is behind the programme, giving comments and likely consequences and stating the corrective action being taken.
		19.4	Progress of Performance If at any time the Contractor's actual progress falls behind the programme referred to in GCC 19.2, or it becomes apparent that it will so fail behind, the Contractor shall, at the request of the Employer or the Project Manager, prepare and submit to the Project Manager a revised programme, taking into account the prevailing circumstances, and shall notify the Project Manager of the steps being taken to expedite progress so as to attain Completion of the Facilities within the Time for Completion under GCC 8.2, any extension thereof entitled under GCC 41.1, or any extended period as may otherwise be agreed upon between the Employer and the Contractor.
		19.5	Work Procedures The Contract shall be executed in accordance with the Contract Documents and the procedures given in the section on Sample Forms and Procedures of the Contract Documents. The Contractor may execute the Contract in accordance with its own standard project execution plans and procedures to the extent that they do not conflict with the provisions contained in the Contract.
20.	Subcontracting	20.1	The corresponding Appendix (List of Approved Subcontractors) to the Agreement specifies major items of supply or services and a list of approved Subcontractors against each item, including vendors. Insofar as no Subcontractors are listed against any such item, the Contractor shall prepare a list of Subcontractors for such

		20.2	item for inclusion in such list. The Contractor may from time to time propose any addition to or deletion from any such list. The Contractor shall submit any such list or any modification thereto to the Employer for its approval in sufficient time so as not to impede the progress of work on the Facilities. Such approval by the Employer for any of the Subcontractors shall not relieve the Contractor from any of its obligations, duties or responsibilities under the Contract. The Contractor shall select and employ its Subcontractors for such major items from those listed in the lists referred to in GCC 20.1.
		20.3	For items or parts of the Facilities not specified in the corresponding Appendix (List of Approved Subcontractors) to the Agreement, the Contractor may employ such Subcontractors as it may select, at its discretion.
21.	Design and Engineering	21.1	21.1.1 The Contractor shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice. The Contractor shall be responsible for any discrepancies, errors or omissions in the specifications, drawings and other technical documents that it has prepared, whether such specifications, drawings and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors or omissions are not because of inaccurate information furnished in writing to the Contractor by or on behalf of the Employer. 21.1.2 The Contractor shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designated by or on behalf of the Employer, by giving a notice of such disclaimer to the Project Manager.
		21.2	Codes and Standards Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date twenty-eight (28) days prior to date of tender submission shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied after approval by the Employer and shall be treated in accordance with GCC 40.
		21.3	Approval/Review of Technical Documents by Project Manager

21.3.1 The Contractor shall prepare (or cause its Subcontractors to prepare) and furnish to the Project Manager the documents listed in the corresponding Appendix (List of Documents for Approval or Review) to the Agreement for its approval or review as specified and in accordance with the requirements of GCC 19.2 (Programme of Performance).

Any part of the Facilities covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval thereof.

GCCs 21.3.2 through 21.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

21.3.2 Within fourteen (14) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC 21.3.1, the Project Manager shall either return one copy thereof to the Contractor with its approval endorsed thereon or shall notify the Contractor in writing of its disapproval thereof and the reasons therefore and the modifications that the Project Manager proposes.

If the Project Manager fails to take such action within the said fourteen (14) working days, then the said document shall be deemed to have been approved by the Project Manager.

- 21.3.3 The Project Manager shall not disapprove any document, except on the grounds that the document does not comply with some specified provision of the Contract or that it is contrary to good engineering practice.
- 21.3.4 If the Project Manager disapproves the document, the Contractor shall modify the document and resubmit it for the Project Manager's approval in accordance with GCC 21.3.2. If the Project Manager approves the document subject to modification(s), the Contractor shall make the required modification(s), whereupon the document shall be deemed to have been approved.
- 21.3.5 If any dispute or difference occurs between the Employer and the Contractor in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) thereto that cannot be settled between the parties within a reasonable period, then such dispute or difference may be referred to an Adjudicator for determination in accordance

			with GCC 6.1 hereof. If such dispute or difference is referred to an Adjudicator, the Project Manager shall give instructions as to whether and if so, how, performance of the Contract is to proceed. The Contractor shall proceed with the Contract in accordance with the Project Manager's instructions, provided that if the Adjudicator upholds the Contractor's view on the dispute and if the Employer has not given notice under GCC 6.1.2 hereof, then the Contractor shall be reimbursed by the Employer for any additional costs incurred by reason of such instructions and shall be relieved of such responsibility or liability in connection with the dispute and the execution of the instructions as the Adjudicator shall decide, and the Time for Completion shall be extended accordingly. 21.3.6 The Project Manager's approval, with or without modification of the document furnished by the
			Contractor, shall not relieve the Contractor of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Project Manager.
			21.3.7 The Contractor shall not depart from any approved document unless the Contractor has first submitted to the Project Manager an amended document and obtained the Project Manager's approval thereof, pursuant to the provisions of this GCC 21.3.
			21.3.8 If the Project Manager requests any change in any already approved document and/or in any document based thereon, the provisions of GCC 40 shall apply to such request.
22.	Procurement	22,1	Goods Subject to GCC 15.2, the Contractor shall manufacture or procure and transport all the Goods in an expeditious and orderly manner to the Site.
		22.2	Employer-Supplied Plant, Equipment, and Materials If the corresponding Appendix (Scope of Works and Supply by the Employer) to the Agreement provides that the Employer shall furnish any specific items of machinery, equipment or materials to the Contractor, the following provisions shall apply:
			22.2.1 The Employer shall, at its own risk and expense, transport each item to the place on or near the Site as agreed upon by the parties and make such item available to the Contractor at the time specified in the programme furnished by the Contractor, pursuant to GCC 19.2, unless otherwise mutually agreed.

- 22.2.2 Upon receipt of such item, the Contractor shall inspect the same visually and notify the Project Manager of any detected shortage, defect or default. The Employer shall immediately remedy any shortage, defect or default, or the Contractor shall, if practicable and possible, at the request of the Employer, remedy such shortage, defect or default at the Employer's cost and expense. After inspection, such item shall fall under the care, custody and control of the Contractor. The provision of this GCC 22.2.2 shall apply to any item supplied to remedy any such shortage or default or to substitute for any defective item, or shall apply to defective items that have been repaired.
- 22.2.3 The foregoing responsibilities of the Contractor and its obligations of care, custody and control shall not relieve the Employer of liability for any undetected shortage, defect or default, nor place the Contractor under any liability for any such shortage, defect or default whether under GCC 28 or under any other provision of Contract.

22.3 Transportation

- 22.3.1The Contractor shall at its own risk and expense transport all the Goods and the Contractor's Equipment to the Site by the mode of transport that the Contractor judges most suitable under all the circumstances.
- 22.3.2Unless otherwise provided in the Contract, the Contractor shall be entitled to select any safe mode of transport operated by any person to carry the Goods and the Contractor's Equipment.
- 22.3.3 Upon dispatch of each shipment of the Goods and the Contractor's Equipment, the Contractor shall notify the Employer by telex, cable, facsimile or Electronic Data Interchange (EDI) of the description of the Goods and of the Contractor's Equipment, the point and means of dispatch, and the estimated time and point of arrival in the United Republic of Tanzania, if applicable, and at the Site. The Contractor shall furnish the Employer with relevant shipping documents to be agreed upon between the parties.
 - 22.3.4 The Contractor shall be responsible for obtaining, if necessary, approvals from the authorities for transportation of the Goods and the Contractor's Equipment to the Site. The Employer shall use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining such approvals, if requested by the Contractor. The Contractor shall indemnify and

			hold harmless the Employer from and against any claim for damage to roads, bridges or any other traffic facilities that may be caused by the transport of the Goods and the Contractor's Equipment to the Site.
		22.4	Customs Clearance The Contractor shall, at its own expense, handle all imported Goods and Contractor's Equipment at the point(s) of import and shall handle any formalities for customs clearance, subject to the Employer's obligations under GCC 15.2, provided that if applicable laws or regulations require any application or act to be made by or in the name of the Employer, the Employer shall take all necessary steps to comply with such laws or regulations. In the event of delays in customs clearance that are not the fault of the Contractor, the Contractor shall be entitled to an extension in the Time for Completion, pursuant to GCC 41.
23.	Installation	23.1	Setting Out/Supervision/Labour 23.1.1 Bench Mark: The Contractor shall be responsible for the true and proper setting-out of the Facilities in relation to bench marks, reference marks and lines provided to it in writing by or on behalf of the Employer. If, at any time during the progress of installation of the Facilities, any error shall appear in the position, level or alignment of the Facilities, the Contractor shall forthwith notify the Project Manager of such error and, at its own expense, immediately rectify such error to the reasonable satisfaction of the Project Manager. If such error is based on incorrect data provided in writing by or on behalf of the Employer, the expense of rectifying the same shall be borne by the Employer.
			23.1.2 Contractor's Supervision: The Contractor shall give or provide all necessary superintendence during the installation of the Facilities, and the Construction Manager or its deputy shall be constantly on the Site to provide full-time superintendence of the installation. The Contractor shall provide and employ only technical personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately supervise the work at hand.
			(a) The Contractor shall provide and employ on the Site in the installation of the Facilities such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged

to use local labour that has the necessary skills.

- (b) Unless otherwise provided in the Contract, the Contractor shall be responsible for the recruitment, transportation, accommodation and catering of all labour, local or expatriate, required for the execution of the Contract and for all payments in connection therewith.
- (c) The Contractor shall be responsible for obtaining all necessary permit(s) and/or visa(s) from the appropriate authorities for the entry of all labour and personnel to be employed on the Site into the United Republic of Tanzania and in the exact region where the Site is located.
- (d) The Contractor shall at its own expense provide the means of repatriation to all of its and its Subcontractor's personnel employed on the Contract at the Site to their various home countries. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and recover the cost of doing so from the Contractor.
- (e) The Contractor shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous or disorderly conduct or behavior by or amongst its employees and the labour of its Subcontractors.
- (f) The Contractor shall, in all dealings with its labour and the labour of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labour.

23.2 Contractor's Equipment

23.2.1 All Contractor's Equipment brought by the Contractor onto the Site shall be deemed to be intended to be used exclusively for the execution of the Contract. The Contractor shall not remove the same from the Site without the Project Manager's consent that such Contractor's Equipment is no longer required for the execution of the Contract.

23.2.2 Unless otherwise specified in the Contract, upon completion of the Facilities, the Contractor shall remove from the Site all Equipment brought by the Contractor onto the Site and any surplus materials remaining thereon. 23.2.3 The Employer will, if requested, use its best endeavors to assist the Contractor in obtaining any local, state or national government permission required by the Contractor for the export of the Contractor's Equipment imported by the Contractor for use in the execution of the Contract that is no longer required for the execution of the Contract. 23.3 Site Regulations and Safety The Employer and the Contractor shall establish Site regulations setting out the rules to be observed in the execution of the Contract at the Site and shall comply therewith. The Contractor shall prepare and submit to the Employer, with a copy to the Project Manager, proposed Site regulations for the Employer's approval, which approval shall not be unreasonably withheld. Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety of the Facilities, gate control, sanitation, medical care, and fire prevention. 23.4 Opportunities for Other Contractors 23.4.1 The Contractor shall, upon written request from the Employer or the Project Manager, give all reasonable opportunities for carrying out the work to any other contractors employed by the Employer on or near the Site. 23.4.2If the Contractor, upon written request from the Employer or the Project Manager, makes available to other contractors any roads or ways the maintenance for which the Contractor is responsible, permits the use by such other contractors of the Contractor's Equipment, or provides any other service of whatsoever nature for such other contractors, the Employer shall fully compensate the Contractor for any loss or damage caused or occasioned by such other contractors in respect of any such use or service, and shall pay to the Contractor reasonable remuneration for the use of such equipment or the provision of such services. 23.4.3 The Contractor shall also so arrange to perform its work as to minimize, to the extent possible. interference with the work of other contractors. The Project Manager shall determine the resolution of any difference or conflict that may arise between the Contractor and other contractors

	and the workers of the Employer in regard to their work. 23.4.4 The Contractor shall notify the Project Manager promptly of any defects in the other contractors' work that come to its notice, and that could affect the Contractor's work. The Project Manager shall determine the corrective measures, if any, required to rectify the situation after
	inspection of the Facilities. Decisions made by the Project Manager shall be binding on the Contractor.
23.5	Emergency Work If, by reason of an emergency arising in connection with and during the execution of the Contract, any protective or remedial work is necessary as a matter of urgency to prevent damage to the Facilities, the Contractor shall immediately carry out such work. If the Contractor is unable or unwilling to do such work immediately, the Employer may do or cause such work to be done as the Employer may determine is necessary in order to prevent damage to the Facilities. In such event the Employer shall, as soon as practicable after the occurrence of any such emergency, notify the Contractor in writing of such emergency, the work done and the reasons therefore. If the work done or caused to be done by the Employer is work that the Contractor was liable to do at its own expense under the Contract, the reasonable costs incurred by the Employer in connection therewith shall be paid by the Contractor to the Employer. Otherwise, the cost of such remedial work shall be borne by the Employer.
23.6	Site Clearance 23.6.1 Site Clearance in Course of Performance: In the course of carrying out the Contract, the Contractor shall keep the Site reasonably free from all unnecessary obstruction, store or remove any surplus materials, clear away any wrockage, rubbish or temporary works from the Site, and remove any Contractor's Equipment no longer required for execution of the Contract. 23.6.1 Clearance of Site after Completion: After Completion of all parts of the Facilities, the Contractor shall clear away and remove all wreckage, rubbish and debris of any kind from the Site, and shall leave the Site and Facilities clean and safe.
23.7	Watching and Lighting The Contractor shall provide and maintain at its own expense all lighting, fencing, and watching when and where necessary for the proper execution and the protection of the Facilities, or for the safety of the owners

			and occupiers of adjacent property and for the safety of the public.
		23.8	Work at Night and on Holidays 23.8.1 Unless otherwise provided in the Contract, no work shall be carried out during the night and on public holidays of the United Republic of Tanzania without prior written consent of the Employer, except where work is necessary or required to ensure safety of the Facilities or for the protection of life, or to prevent loss or damage to property, when the Contractor shall immediately advise the Project Manager, provided that provisions of this GCC 23.8.1 shall not apply to any work which is customarily carried out by rotary or double-shifts. 23.8.2 Notwithstanding GCCs 23.8.1 or 22.1.3, if and when the Contractor considers it necessary to carry out work at night or on public holidays so as to meet the Time for Completion and requests the Employer's consent thereto, the Employer shall not unreasonably withhold such consent.
24.	Test and Inspection	24.1	The Contractor shall at its own expense carry out at the place of manufacture and/or on the Site all such tests and/or inspections of the Goods and any part of the Facilities as are specified in the Contract.
		24.2	The Employer and the Project Manager or their designated representatives shall be entitled to attend the aforesaid test and/or inspection, provided that the Employer shall bear all costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
		24.3	Whenever the Contractor is ready to carry out any such test and/or inspection, the Contractor shall give a reasonable advance notice of such test and/or inspection and of the place and time thereof to the Project Manager. The Contractor shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Employer and the Project Manager (or their designated representatives) to attend the test and/or inspection.
		24.4	The Contractor shall provide the Project Manager with a certified report of the results of any such test and/or inspection. If the Employer or Project Manager (or their designated representatives) fails to attend the test and/or inspection, or if it is agreed between the parties that such persons shall not do so, then the Contractor may proceed with the test and/or inspection in the absence of such persons, and may provide the Project Manager with a certified report of the results thereof.

24.	The Project Manager may require the Contractor to carry out any test and/or inspection not required by the Contract, provided that the Contractor's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of work on the Facilities and/or the Contractor's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Completion and the other obligations so affected
24.	If any Goods or any part of the Facilities fails to pass any test and/or inspection, the Contractor shall either rectify or replace such Goods or part of the Facilities and shall repeat the test and/or inspection upon giving a notice under GCC 24.3.
24.	
24.	
24.	The Contractor agrees that neither the execution of a test and/or inspection of Goods or any part of the Facilities nor the attendance by the Employer or the Project Manager, nor the issue of any test certificate pursuant to GCC 24.4, shall release the Contractor from any other responsibilities under the Contract.
24.	No part of the Facilities or foundations shall be covered up on the Site without the Contractor carrying out any test and/or inspection required under the Contract. The Contractor shall give a reasonable notice to the Project Manager whenever any such ready or about to be ready for test and/or inspection; such test and/or inspection and notice thereof shall be subject to the requirements of the Contract.
24.	The Contractor shall uncover any part of the Facilities of foundations, or shall make openings in or through the same as the Project Manager may from time to time require at the Site, and shall reinstate and make good such part or parts.
	If any parts of the Facilities or foundations have been covered up at the Site after compliance with the

			requirement of GCC 24.10 and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating, and making good the same shall be borne by the Employer, and the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been delayed or impeded in the performance of any of its obligations under the Contract.
25.	Completion of the Facilities	25.1	As soon as the Facilities or any part thereof has, in the opinion of the Contractor, been completed operationally and structurally and put in a tight and clean condition as specified in the Technical Specifications, excluding minor items not materially affecting the operation or safety of the Facilities, the Contractor shall so notify the Employer in writing.
		25.2	Within seven (7) working days after receipt of the notice from the Contractor under GCC 25.1, the Employer shall supply the operating and maintenance personnel specified in the corresponding Appendix (Scope of Works and Supply by the Employer) to the Agreement for Pre-commissioning of the Facilities or any part thereof. Pursuant to the corresponding Appendix (Scope of Works and Supply by the Employer) to the Agreement, the Employer shall also provide, within the said seven (7)
			day period, the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters required for Pre-commissioning of the Facilities or any part thereof.
		25.3	As soon as reasonably practicable after the operating and maintenance personnel have been supplied by the Employer and the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters have been provided by the Employer in accordance with GCC 25.2, the Contractor shall commence Precommissioning of the Facilities or the relevant part thereof in preparation for Commissioning.
		25.4	As soon as all works in respect of Pre-commissioning are completed and, in the opinion of the Contractor, the Facilities or any part thereof is ready for Commissioning, the Contractor shall so notify the Project Manager in writing.
		25.5	The Project Manager shall, within fourteen (14) days after receipt of the Contractor's notice under GCC 25.4, either issue a Completion Certificate in the form specified in the Sample Forms and Procedures section in the tendering documents, stating that the Facilities or that part thereof have reached Completion as of the date of the Contractor's notice under GCC 245.4, or notify the Contractor in writing of any defects and/or deficiencies.
			If the Project Manager notifies the Contractor of any

			defects and/or deficiencies, the Contractor shall then correct such defects and/or deficiencies, and shall repeat the procedure described in GCC 25.4.
			If the Project Manager is satisfied that the Facilities or that part thereof have reached Completion, the Project Manager shall, within seven (7) days after receipt of the Contractor's repeated notice, issue a Completion Certificate stating that the Facilities or that part thereof have reached Completion as of the date of the Contractor's repeated notice.
			If the Project Manager is not so satisfied, then it shall notify the Contractor in writing of any defects and/or deficiencies within seven (7) days after receipt of the Contractor's repeated notice, and the above procedure shall be repeated.
		25.6	If the Project Manager fails to issue the Completion Certificate and fails to inform the Contractor of any defects and/or deficiencies within fourteen (14) days after receipt of the Contractor's notice under GCC 25.4 or within seven (7) days after receipt of the Contractor's repeated notice under GCC 25.5, or if the Employer makes use of the Facilities or part thereof, then the Facilities or that part thereof shall be deemed to have reached Completion as of the date of the Contractor's notice or repeated notice, or as of the Employer's use of the Facilities, as the case may be.
		25.7	As soon as possible after Completion, the Contractor shall complete all outstanding minor items so that the Facilities are fully in accordance with the requirements of the Contract, failing which the Employer will undertake such completion and deduct the costs thereof from any monies owing to the Contractor.
		25.8	Upon Completion, the Employer shall be responsible for the care and custody of the Facilities or the relevant part thereof, together with the risk of loss or damage thereto, and shall thereafter take over the Facilities or the relevant part thereof.
26.	Commissioning and Operational Acceptance	26.1	Commissioning 26.1.1 Commissioning of the Facilities or any part thereof shall be commenced by the Contractor immediately after issue of the Completion Certificate by the Project Manager, pursuant to GCC 25.5, or immediately after issue of the deemed Completion, under GCC 25.6.
			26.1.2 The Employer shall supply the operating and maintenance personnel and all raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters required for Commissioning.
		26.2	Guarantee Test

The Guarantee Test (and repeats thereof) shall 26.2.1 be conducted by the Contractor Commissioning of the Facilities or the relevant part thereof to ascertain whether the Facilities or the relevant part can attain the Functional Guarantees specified in the Technical The Contractor's and Project Specifications. Manager's advisory personnel shall attend the Guarantee Test, and shall advise and assist the Employer. The Employer shall promptly provide the Contractor with such information as the Contractor may reasonably require in relation to the conduct and results of the Guarantee Test (and any repeats thereof).

26.2.2 If for reasons not attributable to the Contractor, the Guarantee Test of the Facilities or the relevant part thereof cannot be successfully completed within the period from the date of Completion specified in the SCC or any other period agreed upon by the Employer and the Contractor, the Contractor shall be deemed to have fulfilled its obligations with respect to the Functional Guarantees, and GCCs 29.2 and 28.3 shall not apply.

26.3 Operational Acceptance

- 26.3.1 Subject to GCC 26.4 below, Operational Acceptance shall occur in respect of the Facilities or any part thereof when
 - (a) the Guarantee Test has been successfully completed and the Functional Guarantees are met; or
 - (b) the Guarantee Test has not been successfully completed or has not been carried out for reasons not attributable to the Contractor within the period from the date of Completion specified in the SCC or any other agreed upon period as specified in GCC 26.2.2 above; or
 - (c) the Contractor has paid the liquidated damages specified in GCC 29.3 hereof; and
 - (d) any minor items mentioned in GCC 24.7 hereof relevant to the Facilities or that part thereof have been completed.
- 26.3.2 At any time after any of the events set out in GCC 26.3.1 have occurred, the Contractor may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate in the form provided in the Tendering Documents or in another form acceptable to the Employer in respect of the Facilities or the part thereof

	specified in such notice as of the date of such notice. 26.3.3 The Project Manager shall, after consultation with the Employer, and within seven (7) days after receipt of the Contractor's notice, issue an Operational Acceptance Certificate.
	26.3.4 If within seven (7) days after receipt of the Contractor's notice, the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Contractor in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Cortificate, the Facilities or the relevant part thereof shall be deemed to have been accepted as of the date of the Contractor's said notice.
26.4	Partial Acceptance 26.4.1 If the Contract specifies that Completion and Commissioning shall be carried out in respect of parts of the Facilities, the provisions relating to Completion and Commissioning including the Guarantee Test shall apply to each such part of the Facilities individually, and the Operational Acceptance Certificate shall be issued accordingly for each such part of the Facilities.
	26.4.2 If a part of the Facilities comprises facilities such as buildings, for which no Commissioning or Guarantee Test is required, then the Project Manager shall issue the Operational Acceptance Certificate for such facility when it attains Completion, provided that the Contractor shall thereafter complete any outstanding minor items that are listed in the Operational Acceptance Certificate.

F. Guarantees and Liabilities

27	Completion Time Guarantee	27.1	The Contractor guarantees that it shall attain Completion of the Facilities (or a part for which a separate time for completion is specified in the SCC) within the Time for Completion specified in the SCC pursuant to GCC 8.2, or within such extended time to which the Contractor shall be entitled under GCC 41 hereof.
		27.2	If the Contractor fails to attain Completion of the Facilities or any part thereof within the Time for Completion or any extension thereof under GCC 41, the Contractor shall pay to the Employer liquidated damages in the amount specified in the SCC as a percentage rate of the Contract Price, or the relevant part thereof. The aggregate amount of such liquidated damages shall in no event exceed the amount specified as "Maximum" in the SCC. Once the "Maximum" is reached, the Employer may consider

			termination of the Contract, pursuant to GCC 43.2.2.
			Such payment shall completely satisfy the Contractor's obligation to attain Completion of the Facilities or the relevant part thereof within the Time for Completion or any extension thereof under GCC 41. The Contractor shall have no further liability whatsoever to the Employer in respect thereof.
			However, the payment of liquidated damages shall not in any way relieve the Contractor from any of its obligations to complete the Facilities or from any other obligations and liabilities of the Contractor under the Contract.
			Save for liquidated damages payable under this GCC 27.2, the failure by the Contractor to attain any milestone or other act, matter or thing by any date specified in the corresponding Appendix (Time Schedule) to the Agreement and/or other programme of work prepared pursuant to GCC 19.2 shall not render the Contractor liable for any loss or damage thereby suffered by the Employer.
		27.3	If the Contractor attains Completion of the Facilities or any part thereof before the Time for Completion or any extension thereof under GCC 41, the Employer shall pay to the Contractor a bonus in the amount specified in the SCC. The aggregate amount of such bonus shall in no event exceed the amount specified as "Maximum" in the SCC.
28.	Defect Liability	28.1	The Contractor warrants that the Facilities or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Goods supplied and of the work executed.
		28.2	The Defect Liability Period shall be eighteen (18) months from the date of Completion of the Facilities (or any part thereof) or twelve (12) months from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs, unless specified otherwise in the SCC.
			If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Goods supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Employer regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good (as the Contractor shall, at its discretion, determine) such defect as well as any damage to the Facilities caused by such defect. The Contractor shall not be responsible for the repair, replacement or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:
			improper operation or maintenance of the Facilities by the Employer operation of the Facilities outside specifications

	provided in the Contract
	(c) normal wear and tear.
28.3	The Contractor's obligations under this GCC 28 shall not apply to
	(a) any materials that are supplied by the Employer under GCC 22.2, are normally consumed in operation, or have a normal life shorter than the Defect Liability Period stated herein
	(b) any designs, specifications or other data designed, supplied or specified by or on behalf of the Employer or any matters for which the Contractor has disclaimed responsibility herein
	(c) any other materials supplied or any other work executed by or on behalf of the Employer, except for the work executed by the Employer under GCC 28.7.
28.4	The Employer shall give the Contractor a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The Employer shall afford all reasonable opportunity for the Contractor to inspect any such defect.
28.5	The Employer shall afford the Contractor all necessary access to the Facilities and the Site to enable the Contractor to perform its obligations under this GCC 28. The Contractor may, with the consent of the Employer, remove from the Site any Goods or any part of the Facilities that are defective if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.
28.6	If the repair, replacement or making good is of such a character that it may affect the efficiency of the Facilities or any part thereof, the Employer may give to the Contractor a notice requiring that tests of the defective part of the Facilities shall be made by the Contractor immediately upon completion of such remedial work, whereupon the Contractor shall carry out such tests.
	If such part fails the tests, the Contractor shall carry out further repair, replacement or making good (as the case may be) until that part of the Facilities passes such tests. The tests shall be agreed upon by the Employer and the Contractor.
28.7	If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than fifteen (15) days), the Employer may, following notice to the Contractor, proceed to do such work, and the reasonable costs incurred by the Employer in connection therewith shall be paid to the Employer by the Contractor or may be deducted by the

			Employer from any monies due the Contractor or claimed under the Performance Security.
		28.8	If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the Employer because of any of the aforesaid reasons.
		28.9	Except as provided in GCCs 28 and 34, the Contractor shall be under no liability whatsoever and howsoever arising, and whether under the Contract or at law, in respect of defects in the Facilities or any part thereof, the Goods, design or engineering or work executed that appear after Completion of the Facilities or any part thereof, except where such defects are the result of the gross negligence, fraud, criminal or willful action of the Contractor.
		28.1	In addition, the Contractor shall also provide an extended warranty for any such component of the Facilities and during the period of time as may be specified in the SCC. Such obligation shall be in addition to the defect liability specified under GCC 28.2.
29.	Functional Guarantees	29,1	The Contractor guarantees that during the Guarantee Test, the Facilities and all parts thereof shall attain the Functional Guarantees specified in the corresponding Appendix (Functional Guarantees) to the Agreement, subject to and upon the conditions therein specified.
		29.2	If, for reasons attributable to the Contractor, the minimum level of the Functional Guarantees specified in the corresponding Appendix (Functional Guarantees) to the Agreement are not met either in whole or in part, the Contractor shall at its cost and expense make such changes, modifications and/or additions to the Plant or any part thereof as may be necessary to meet at least the minimum level of such Guarantees. The Contractor shall notify the Employer upon completion of the necessary changes, modifications and/or additions, and shall request the Employer to repeat the Guarantee Test until the minimum level of the Guarantees has been met. If the Contractor eventually fails to meet the minimum level of Functional Guarantees, the Employer may consider termination of the Contract, pursuant to GCC 43.2.2.
		29.3	If, for reasons attributable to the Contractor, the Functional Guarantees specified in the corresponding Appendix (Functional Guarantees) to the Agreement are not attained either in whole or in part, but the minimum level of the Functional Guarantees specified in the said Appendix to the Agreement is met, the Contractor shall, at the Contractor's option, either
			(a) make such changes, modifications and/or additions to the Facilities or any part thereof that are necessary to

			attain the Functional Guarantees at its cost and expense, and shall request the Employer to repeat the Guarantee Test or (b) pay liquidated damages to the Employer in respect of the failure to meet the Functional Guarantees in accordance with the provisions in the corresponding Appendix (Functional Guarantees) to the Agreement.
		29.4	The payment of liquidated damages under GCC 29.3, up to the limitation of liability specified in the SCC, shall completely satisfy the Contractor's guarantees under GCC 29.3, and the Contractor shall have no further liability whatsoever to the Employer in respect thereof. Upon the payment of such liquidated damages by the Contractor, the Project Manager shall issue the Operational Acceptance Certificate for the Facilities or any part thereof in respect of which the liquidated damages have been so paid.
30.	Patent Indemnity	30.1	The Contractor shall, subject to the Employer's compliance with GCC 30.2, indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Employer may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: (a) the installation of the Facilities by the Contractor or the use of the Facilities in the United Republic of Tanzania; and (b) the sale of the products produced by the Facilities in United Republic of Tanzania.
			Such indemnity shall not cover any use of the Facilities or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, any infringement resulting from the use of the Facilities or any part thereof, or any products produced thereby in association or combination with any other equipment, plant or materials not supplied by the Contractor, pursuant to the Agreement.
		30.2	If any proceedings are brought or any claim is made against the Employer arising out of the matters referred to in GCC 30.1, the Employer shall promptly give the Contractor a notice thereof, and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
			If the Contractor fails to notify the Employer within twenty- eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the twenty-eight (28) day period, the Employer shall

			make no admission that may be prejudicial to the defense of any such proceedings or claim. The Employer shall, at the Contractor's request, afford all available assistance to the Contractor in conducting such proceedings or claim, and shall be reimbursed by the Contractor for all reasonable expenses incurred in so doing.
		30.3	The Employer shall indemnify and hold harmless the Contractor and its employees, officers and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Contractor may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Employer.
31.	Limitation of Liability	31.1	Except in cases of criminal negligence or willful misconduct, (a) the Contractor shall not be liable to the Employer, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Contractor to pay liquidated damages to the Employer and (b) the aggregate liability of the Contractor to the
			Employer, whether under the Contractor to the otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the Contractor to indemnify the Employer with respect to patent infringement.

G. Risk Distribution

32.	Transfer of Ownership	32.1	Ownership of the Goods (including spare parts) to be imported into the United Republic of Tanzania shall be transferred to the Employer upon loading on to the mode of transport to be used to convey the Goods from the country of origin.
		32.2	Ownership of the Goods (including spare parts) procured in the United Republic of Tanzania where the Site is located shall be transferred to the Employer when the Goods are brought on to the Site.
		32.3	Ownership of the Contractor's Equipment used by the

			Contractor and its Subcontractors in connection with the Contract shall remain with the Contractor or its Subcontractors.
		32.4	Ownership of any Goods in excess of the requirements for the Facilities shall revert to the Contractor upon Completion of the Facilities or at such earlier time when the Employer and the Contractor agree that the Goods in question are no longer required for the Facilities.
		32.5	Notwithstanding the transfer of ownership of the Goods, the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor pursuant to GCC 33 (Care of Facilities) hereof until Completion of the Facilities or the part thereof in which such Goods are incorporated.
33.	Care of Facilities	33.1	The Contractor shall be responsible for the care and custody of the Facilities or any part thereof until the date of Completion of the Facilities pursuant to GCC 25 or, where the Contract provides for Completion of the Facilities in parts, until the date of Completion of the relevant part, and shall make good at its own cost any loss or damage that may occur to the Facilities or the relevant part thereof from any cause whatsoever during such period. The Contractor shall also be responsible for any loss or damage to the Facilities caused by the Contractor or its Subcontractors in the course of any work carried out, pursuant to GCC 28. Notwithstanding the foregoing, the Contractor shall not be liable for any loss or damage to the Facilities or that part thereof caused by reason of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCCs 33.2 and 39.1.
		33.2	If any loss or damage occurs to the Facilities or any part thereof or to the Contractor's temporary facilities by reason of (a) (insofar as they relate to the United Republic of Tanzania, where the Site is located) nuclear reaction, nuclear radiation, radioactive contamination, pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced contractor could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, insofar as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance, including War Risks and Political Risks, taken out under GCC 35 hereof (b) any use or occupation by the Employer or any third party (other than a Subcontractor) authorized by the Employer of any part of the Facilities (c) any use of or reliance upon any design, data or specification provided or designated by or on behalf of the Employer, or any such matter for which the

			the Employer shall pay to the Contractor all sums payable in respect of the Facilities executed, notwithstanding that the same be lost, destroyed or damaged, and will pay to the Contractor the replacement value of all temporary facilities and all parts thereof lost, destroyed or damaged. If the Employer requests the Contractor in writing to make good any loss or damage to the Facilities thereby occasioned, the Contractor shall make good the same at the cost of the Employer in accordance with GCC 40. If the Employer does not request the Contractor in writing to make good any loss or damage to the Facilities thereby occasioned, the Employer shall either request a change in accordance with GCC 40, excluding the performance of that part of the Facilities thereby lost, destroyed or damaged, or, where the loss or damage affects a substantial part of the Facilities, the Employer shall terminate the Contract pursuant to GCC 43.1 hereof.
		33.3	The Contractor shall be liable for any loss of or damage to any Contractor's Equipment, or any other property of the Contractor used or intended to be used for purposes of the Facilities, except (i) as mentioned in GCC 33.2 (with respect to the Contractor's temporary facilities), and (ii) where such loss or damage arises by reason of any of the matters specified in GCCs 33.2 (b) and (c) and 39.1.
		33.4	With respect to any loss or damage caused to the Facilities or any part thereof or to the Contractor's Equipment by reason of any of the matters specified in GCC 39.1, the provisions of GCC 39.3 shall apply.
34.	Loss of or Damage to Property; Accident or Injury to Workers; Indemnification	34.1	Subject to GCC 33.3, the Contractor shall indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property (other than the Facilities whether accepted or not), arising in connection with the supply and installation of the Facilities and by reason of the negligence of the Contractor or its Subcontractors, or their employees, officers or agents, except any injury, death or property damage caused by the negligence of the Employer, its contractors, employees, officers or agents.
		34.2	If any proceedings are brought or any claim is made against the Employer that might subject the Contractor to liability under GCC 34.1, the Employer shall promptly give the Contractor a notice thereof and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
			if the Contractor fails to notify the Employer within twenty- eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless

			the Contractor has so failed to notify the Employer within the twenty-eight (28) day period, the Employer shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Employer shall, at the Contractor's request, afford all available assistance to the Contractor in conducting such proceedings or claim, and shall be reimbursed by the Contractor for all reasonable expenses incurred in so doing.
		34.3	The Employer shall indemnify and hold harmless the Contractor and its employees, officers and Subcontractors from any liability for loss of or damage to property of the Employer, other than the Facilities not yet taken over, that is caused by fire, explosion or any other perils, in excess of the amount recoverable from insurances procured under GCC 35, provided that such fire, explosion or other perils were not caused by any act or failure of the Contractor.
		34.4	The party entitled to the benefit of an indemnity under this GCC 34 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.
35.	Insurance	35.1	To the extent specified in the corresponding Appendix (Insurance Requirements) to the Agreement, the Contractor shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified in the said Appendix. The identity of the insurers and the form of the policies shall be subject to the approval of the Employer, who should not unreasonably withhold such approval.
			(a) Cargo Insurance During Transport
			Covering loss or damage occurring while in transit from the Contractor's or Subcontractor's works or stores until arrival at the Site, to the Goods (including spare parts therefore) and to the Contractor's Equipment.
			(b) Installation All Risks Insurance
			Covering physical loss or damage to the Facilities at the Site, occurring prior to Completion of the Facilities, with an extended maintenance coverage for the Contractor's liability in respect of any loss or damage occurring during the Defect Liability Period while the Contractor is on the Site for the purpose of performing its obligations during the Defect Liability Period.
			(c) Third Party Liability Insurance
			Covering bodily injury or death suffered by third parties (including the Employer's personnel) and loss of or damage to property occurring in connection with the

	supply and installation of the Facilities.
	(d) Automobile Liability Insurance
	Covering use of all vehicles used by the Contractor or its Subcontractors (whether or not owned by them) in connection with the execution of the Contract.
	(e) Workers' Compensation
	In accordance with the statutory requirements applicable in United Republic of Tanzania.
	(f) Employer's Liability
	In accordance with the statutory requirements applicable in United Republic of Tanzania.
	(g) Other Insurances
	Such other insurances as may be specifically agreed upon by the parties hereto as listed in the said the corresponding Appendix.
35.2	The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to GCC 35.1, except for the Third Party Liability, Workers' Compensation and Employer's Liability Insurances, and the Contractor's Subcontractors shall be named as co-insured's under all insurance policies taken out by the Contractor pursuant to GCC 35.1 except for the Cargo Insurance During Transport, Workers' Compensation and Employer's Liability Insurances. All insurer's rights of subrogation against such co-insured's for losses or claims arising out of the performance of the Contract shall be waived under such policies.
35.3	The Contractor shall, in accordance with the provisions of the corresponding Appendix (Insurance Requirements) to the Agreement, deliver to the Employer certificates of insurance (or copies of the insurance policies) as evidence that the required policies are in full force and effect. The certificates shall provide that no less than twenty-one (21) days' notice shall be given to the Employer by insurers prior to cancellation or material modification of a policy.
35.4	The Contractor shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Contractor.

		35.5	The Employer shall at its expense take out and maintain in effect during the performance of the Contract those insurances specified in the corresponding Appendix (Insurance Requirements) to the Agreement, in the sums and with the deductibles and other conditions specified in the said Appendix. The Contractor and the Contractor's Subcontractors shall be named as co-insured's under all such policies. All insurers' rights of subrogation against such co-insured's for losses or claims arising out of the performance of the Contract shall be waived under such policies. The Employer shall deliver to the Contractor satisfactory evidence that the required insurances are in full force and effect. The policies shall provide that not less than twenty-one (21) days' notice shall be given to the Contractor by all insurers prior to any cancellation or material modification of the policies. If so requested by the Contractor, the Employer shall provide copies of the policies taken out by the Employer under this GCC 35.5.
		35 6	If the Contractor fails to take out and/or maintain in effect the insurances referred to in GCC 35.1, the Employer may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Contractor under the Contract any premium that the Employer shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Contractor. If the Employer fails to take out and/or maintain in effect the insurances referred to in GCC 35.5, the Contractor may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Employer under the Contract any premium that the Contractor shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Employer. If the Contractor fails to or is unable to take out and maintain in effect any such insurances, the Contractor shall nevertheless have no liability or responsibility towards the Employer, and the Contractor shall have full recourse against the Employer for any and all liabilities of the Employer herein.
		35.7	Unless otherwise provided in the Contract, the Contractor shall prepare and conduct all and any claims made under the policies effected by it pursuant to this GCC 35, and all monies payable by any insurers shall be paid to the Contractor. The Employer shall give to the Contractor all such reasonable assistance as may be required by the Contractor. With respect to insurance claims in which the Employer's interest is involved, the Contractor shall not give any release or make any compromise with the insurer without the prior written consent of the Employer. With respect to insurance claims in which the Contractor's interest is involved, the Employer shall not give any release or make any compromise with the insurer without the prior written consent of the Contractor.
36.	Unforeseen Conditions	36.1	If, during the execution of the Contract, the Contractor shall encounter on the Site any physical conditions (other than climatic conditions) or artificial obstructions that could not

			have been reasonably foreseen prior to the date of the Agreement by an experienced contractor on the basis of reasonable examination of the data relating to the Facilities (including any data as to boring tests) provided by the Employer, and on the basis of information that it could have obtained from a visual inspection of the Site (if access thereto was available) or other data readily available to it relating to the Facilities, and if the Contractor determines that it will in consequence of such conditions or obstructions incur additional cost and expense or require additional time to perform its obligations under the Contract that would not have been required if such physical conditions or artificial obstructions had not been encountered, the Contractor shall promptly, and before performing additional work or using additional Goods or Contractor's Equipment, notify the Project Manager in writing of (a) the physical conditions or artificial obstructions on the Site that could not have been reasonably foreseen (b) the additional work and/or Goods and/or Contractor's Equipment required, including the steps which the Contractor will or proposes to take to overcome such conditions or obstructions (c) the extent of the anticipated delay (d) the additional cost and expense that the Contractor is likely to incur. On receiving any notice from the Contractor under this GCC 36.1, the Project Manager shall promptly consult with the
			So.1, the Project Manager shall promptly consult with the Employer and Contractor and decide upon the actions to be taken to overcome the physical conditions or artificial obstructions encountered. Following such consultations, the Project Manager shall instruct the Contractor, with a copy to the Employer, of the actions to be taken.
		36.2	Any reasonable additional cost and expense incurred by the Contractor in following the instructions from the Project Manager to overcome such physical conditions or artificial obstructions referred to in GCC 36.1 shall be paid by the Employer to the Contractor as an addition to the Contract Price.
		36.3	If the Contractor is delayed or impeded in the performance of the Contract because of any such physical conditions or artificial obstructions referred to in GCC 36.1, the Time for Completion shall be extended in accordance with GCC 41.
37.	Change in Laws and Regulations	37.1	If, after the date twenty-eight (28) days prior to the date of Tender submission, in the United Republic of Tanzania, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated or changed (which shall be deemed to include any change in interpretation of application by the competent authorities) that subsequently affects the costs and expenses of the Contractor and/or the

			Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced costs shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with the SCC.
38.	Force Majeure	38.1	Force majeure shall include, without limitation, the following: (a) war, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war. (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil
			commotion and terrorist acts (c) confiscation. nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority
			(d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine and plague
			 (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves or other natural or physical disaster
			(f) shortage of labour, materials or utilities where caused by circumstances that are themselves Force Majeure.
		38.2	If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within fourteen (14) days after the occurrence of such event.
		38.3	The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time fo Completion shall be extended in accordance with GCC 41.
		38.4	The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereo upon its or their performance of the Contract and to fulfill its

			or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCCs 38.6 and 39.5.
		38.5	No delay or nonperformance by either party hereto caused by the occurrence of any event of Force Majeure shall (a) constitute a default or breach of the Contract (b) (subject to GCCs 33.2, 39.3 and 39.4) give rise to any claim for damages or additional cost or expense occasioned thereby if and to the extent that such delay or nonperformance is caused by the occurrence of an event of Force Majeure.
		38.6	If the performance of the Contract is substantially prevented, hindered or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the currency of the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Contract by giving a notice to the other, but without prejudice to either party's right to terminate the Contract under GCC 39.5.
		38.7	In the event of termination pursuant to GCC 38.6, the rights and obligations of the Employer and the Contractor shall be as specified in GCCs 43.1.2 and 43.1.3.
		38.8	Notwithstanding GCC 38.5, Force Majeure shall not apply to any obligation of the Employer to make payments to the Contractor herein.
39.	War Risks	39.1	"War Risks" shall mean any event specified in paragraphs (a) and (b) of GCC 38.1 and any explosion or impact of any mine bomb, shell, grenade or other projectile, missile, munitions of explosive of war, occurring or existing in or near the United Republic of Tanzania where the Site is located.
		39.2	Notwithstanding anything contained in the Contract, the Contractor shall have no liability whatsoever for or with respect to (a) destruction of or damage to Facilities, Goods, or any part
			(b) destruction of or damage to property of the Employer or any third party
			(c) injury or loss of life
			if such destruction, damage, injury or loss of life is caused by any War Risks, and the Employer shall indemnify and hold the Contractor harmless from and against any and all claims liabilities, actions, lawsuits, damages, costs, charges of expenses arising in consequence of or in connection with the same.

39.3	If the Facilities or any Goods or Contractor's Equipment or any other property of the Contractor used or intended to be used for the purposes of the Facilities shall sustain destruction or damage by reason of any War Risks, the Employer shall pay the Contractor for
	 (a) any part of the Facilities or the Goods so destroyed or damaged (to the extent not already paid for by the Employer)
	 (b) replacing or making good any Contractor's Equipment or other property of the Contractor so destroyed or damaged
	(c) replacing or making good any such destruction or damage to the Facilities or the Goods or any part thereof so far as may be required by the Employer, and as may be necessary for completion of the Facilities.
	If the Employer does not require the Contractor to replace or make good any such destruction or damage to the Facilities, the Employer shall either request a change in accordance with GCC 40, excluding the performance of that part of the Facilities thereby destroyed or damaged or, where the loss, destruction or damage affects a substantial part of the Facilities, shall terminate the Contract, pursuant to GCC 43.1.
39.4	Notwithstanding anything contained in the Contract, the Employer shall pay the Contractor for any increased costs or incidentals to the execution of the Contract that are in any way attributable to, consequent on, resulting from, or in any way connected with any War Risks, provided that the Contractor shall as soon as practicable notify the Employer in writing of any such increased cost.
39.5	If during the performance of the Contract any War Risks shall occur that financially or otherwise materially affect the execution of the Contract by the Contractor, the Contractor shall use its reasonable efforts to execute the Contract with due and proper consideration given to the safety of its and its Subcontractors' personnel engaged in the work on the Facilities, provided, however, that if the execution of the work on the Facilities becomes impossible or is substantially prevented for a single period of more than sixty (60) days of an aggregate period of more than one hundred and twenty (120) days on account of any War Risks, the parties will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Contract by giving a notice to the other.
39.6	In the event of termination pursuant to GCCs 39.3 or 39.5, the rights and obligations of the Employer and the Contractor shall be specified in GCCs 43.1.2 and 43.1.3.

H. Change in Contract Elements

40.	Change in the Facilities	40.1	Introducing a Change

- 40.1.1 Subject to GCCs 40.2.5 and 40.2.7, the Employer shall have the right to propose, and subsequently require, that the Project Manager order the Contractor from time to time during the performance of the Contract to make any change, modification, addition or deletion to, in or from the Facilities (hereinafter called "Change"), provided that such Change falls within the general scope of the Facilities and does not constitute unrelated work and that it is technically practicable, taking into account both the state of advancement of the Facilities and the technical compatibility of the Change envisaged with the nature of the Facilities as specified in the Contract.
- 40.1.2 The Contractor may from time to time during its performance of the Contract propose to the Employer (with a copy to the Project Manager) any Change that the Contractor considers necessary or desirable to improve the quality, efficiency or safety of the Facilities. The Employer may at its discretion approve or reject any Change proposed by the Contractor, provided that the Employer shall approve any Change proposed by the Contractor to ensure the safety of the Facilities.
- 40.1.3 Notwithstanding GCCs 40.1.1 and 40.1.2, no change made necessary because of any default of the Contractor in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Completion.
- 40.1.4 The procedure on how to proceed with and execute Changes is specified in GCCs 40.2 and 40.3, and further details and sample forms are provided in the Sample Forms and Procedures section in the Tendering Documents.

40.2 Changes Originating from Employer

- 39.2.1 If the Employer proposes a Change pursuant to GCC 40.1.1, it shall send to the Contractor a "Request for Change Proposal," requiring the Contractor to prepare and furnish to the Project Manager as soon as reasonably practicable a "Change Proposal," which shall include the following:
 - (a) brief description of the Change
 - (b) effect on the Time for Completion
 - (c) estimated cost of the Change
 - (d) effect on Functional Guarantees (if any)
 - (e) effect on any other provisions of the Contract.
- 39.2.2 Prior to preparing and submitting the "Change Proposal," the Contractor shall submit to the Project Manager an "Estimate for Change Proposal," which

shall be an estimate of the cost of preparing and submitting the Change Proposal.

Upon receipt of the Contractor's Estimate for Change Proposal, the Employer shall do one of the following:

- (a) accept the Contractor's estimate with instructions to the Contractor to proceed with the preparation of the Change Proposal
- (b) advise the Contractor of any part of its Estimate for Change Proposal that is unacceptable and request the Contractor to review its estimate
- advise the Contractor that the Employer does not intend to proceed with the Change.
- 40.2.3 Upon receipt of the Employer's instruction to proceed under GCC 40.2.2 (a), the Contractor shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GCC 40.2.1.
- 40.2.4 The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If such rates and prices are inequitable, the parties thereto shall agree on specific rates for the valuation of the Change.
- 40.2.5 If before or during the preparation of the Change Proposal it becomes apparent that the aggregate effect of compliance therewith and with all other Change Orders that have already become binding upon the Contractor under this GCC 40 would be to increase or decrease the Contract Price as originally set forth in Article 2 (Contract Price) of the Agreement by more than fifteen percent (15%), the Contractor may give a written notice of objection thereto prior to furnishing the Change Proposal as aforesaid. If the Employer accepts the Contractor's objection, the Employer shall withdraw the proposed Change and shall notify the Contractor in writing thereof.

The Contractor's failure to so object shall neither affect its right to object to any subsequent requested Changes or Change Orders herein, nor affect its right to take into account, when making such subsequent objection, the percentage increase or decrease in the Contract Price that any Change not objected to by the Contractor represents.

40.2.6 Upon receipt of the Change Proposal, the Employer and the Contractor shall mutually agree upon all matters therein contained. Within fourteen (14) days after such agreement, the Employer shall, if it intends to proceed with the Change, issue the Contractor with a Change Order.

If the Employer is unable to reach a decision within fourteen (14) days, it shall notify the Contractor with

			details of when the Contractor can expect a decision. If the Employer decides not to proceed with the Change for whatever reason, it shall, within the said period of fourteen (14) days, notify the Contractor accordingly. Under such circumstances, the Contractor shall be entitled to reimbursement of all costs reasonably incurred by it in the preparation of the Change Proposal, provided that these do not exceed the amount given by the Contractor in its Estimate for Change Proposal submitted in accordance with GCC 40.2.2.
			40.2.7 If the Employer and the Contractor cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Completion, or any other matters identified in the Change Proposal, the Employer may nevertheless instruct the Contractor to proceed with the Change by issue of a "Pending Agreement Change Order."
			Upon receipt of a Pending Agreement Change Order, the Contractor shall immediately proceed with effecting the Changes covered by such Order. The parties shall thereafter attempt to reach agreement on the outstanding issues under the Change Proposal. If the parties cannot reach agreement within sixty (60)
			change Order, then the matter may be referred to the Adjudicator in accordance with the provisions of GCC 6.1.
		40.3	Changes Originating from Contractor
			40.3.1 If the Contractor proposes a Change pursuant to GCC 40.1.2, the Contractor shall submit to the Project Manager a written "Application for Change Proposal," giving reasons for the proposed Change and including the information specified in GCC 40.2.1.
			40.3.2 Upon receipt of the Application for Change Proposal, the parties shall follow the procedures outlined in GCCs 40.2.6 and 40.2.7. However, should the Employer choose not to proceed, the Contractor shall not be entitled to recover the costs of preparing the Application for Change Proposal.
41.	Extension of Time for Completion	41.1	The Time(s) for Completion specified in the SCC shall be extended if the Contractor is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:
			any Change in the Facilities as provided in GCC 40 any occurrence of Force Majeure as provided in GCC 38, unforeseen conditions as provided in GCC 36, or other occurrence of any of the matters specified or referred to

_			in paragraphs (a), (b) and (c) of GCC 33.2
		(any suspension order given by the Employer under GCC 42 hereof or reduction in the rate of progress pursuant to GCC 42.2 or
		(any changes in laws and regulations as provided in GCC 37 or
		(e) any default or breach of the Contract by the Employer, specifically including failure to supply the items listed in the corresponding Appendix (Scope of Works and Supply by the Employer) to the Agreement, or any activity, act or omission of any other contractors employed by the Employer or
		(f) any other matter specifically mentioned in the Contract by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Contractor.
		ti co	xcept where otherwise specifically provided in the Contract, he Contractor shall submit to the Project Manager a notice of a claim for an extension of the Time for Completion, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as easonably practicable after receipt of such notice and supporting particulars of the claim, the Employer and the Contractor shall agree upon the period of such extension. In the event that the Contractor does not accept the Employer's estimate of a fair and reasonable time extension, the Contractor shall be entitled to refer the matter to an Adjudicator, pursuant to GCC 6.1.
		m	he Contractor shall at all times use its reasonable efforts to inimize any delay in the performance of its obligations under e Contract.
42.	Suspension	th of sh su re pe ne or	he Employer may request the Project Manager, by notice to be Contractor, to order the Contractor to suspend performance any or all of its obligations under the Contract. Such notice hall specify the obligation of which performance is to be uspended, the effective date of the suspension and the asons thereof. The Contractor shall thereupon suspend erformance of such obligation (except those obligations accessary for the care or preservation of the Facilities) until dered in writing to resume such performance by the Project anager.
		ot Co is da su no	by virtue of a suspension order given by the Project Manager, her than by reason of the Contractor's default or breach of the contract, the Contractor's performance of any of its obligations suspended for an aggregate period of more than ninety (90) sys, then at any time thereafter and provided that at that time ich performance is still suspended, the Contractor may give a sticc to the Project Manager requiring that the Employer shall, thin twenty-eight (28) days of receipt of the notice, order the

	order a change in accordance with GCC 40, excluding the performance of the suspended obligations from the Contract. If the Employer fails to do so within such period, the Contractor may, by a further notice to the Project Manager, elect to treat the suspension, where it affects a part only of the Facilities, as a deletion of such part in accordance with GCC 40 or, where it affects the whole of the Facilities, as termination of the Contract under GCC 43.1.
42.2	the Employer has failed to pay the Contractor any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to the corresponding Appendix (Terms and Procedures of Payment) to the Agreement, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GCC 13.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, or fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Contractor's notice or
	Employer, including but not limited to the Employer's failure to provide possession of or access to the Site or other areas in accordance with GCC 11.2, or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities, then the Contractor may by fourteen (14) days' notice to the Employer suspend performance of all or any of its obligations under the Contract, or reduce the rate of progress.
42.3	If the Contractor's performance of its obligations is suspended or the rate of progress is reduced pursuant to this GCC 42, then the Time for Completion shall be extended in accordance with GCC 41.1, and any and all additional costs or expenses incurred by the Contractor as a result of such suspension or reduction shall be paid by the Employer to the Contractor in addition to the Contract Price, except in the case of suspension order or reduction in the rate of progress by reason of the Contractor's default or breach of the Contract.
42.4	During the period of suspension, the Contractor shall not remove from the Site any Goods, any part of the Facilities or any Contractor's Equipment, without the prior written consent of the Employer.

43.	Termination	43.1	Terminatio	ion for Employer's Convenience
				The Employer may at any time terminate the Contract for any reason by giving the Contractor a notice of termination that refers to this GCC 43.1.
			43	Upon receipt of the notice of termination under GCC 43.1.1, the Contractor shall either immediately or upor the date specified in the notice of termination
			(a)	cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition
			(b)	terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d (ii) below
			(c)	remove all Contractor's Equipment from the Site repatriate the Contractor's and its Subcontractors personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition
			(d)	In addition, the Contractor, subject to the payment specified in GCC 43.1.3, shall
				 deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination
				(ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Goods as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors
				(iii) deliver to the Employer all non-proprietary drawings, specifications and other documents prepared by the Contractor or its Subcontractors as at the date of termination in connection with the Facilities.
			43.	the event of termination of the Contract under GCC 3.1.1, the Employer shall pay to the Contractor the ollowing amounts:
			(a)	the Contract Price, properly attributable to the parts of the Facilities executed by the Contractor as of the date of termination
			(b)	the costs reasonably incurred by the Contractor in the removal of the Contractor's Equipment from the Site and in the repatriation of the Contractor's and its Subcontractors' personnel

- (c) any amounts to be paid by the Contractor to its Subcontractors in connection with the termination of any subcontracts, including any cancellation charges
- (d) costs incurred by the Contractor in protecting the Facilities and leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC 43.1.2
- (e) the cost of satisfying all other obligations, commitments and claims that the Contractor may in good faith have undertaken with third parties in connection with the Contract and that are not covered by paragraphs (a) through (d) above.

43.2 Termination for Contractor's Default

- 43.2.1 The Employer, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons thereof to the Contractor, referring to this GCC 43.2:
 - (a) if the Contractor becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Contractor is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Contractor takes or suffers any other analogous action in consequence of debt
 - if the Contractor assigns or transfers the Contract or any right or interest therein in violation of the provision of GCC 44.
 - (c) if the Contractor, in the judgment of the Employer has engaged in corrupt, coercive, collusive, obstructive or fraudulent practices in competing for or in executing the Contract.

For the purpose of this paragraph:

- "corrupt practice means the offering, giving receiving or soliciting of anything of value to influence the action of a public officer in the procurement process or contract execution;
- ii. "coercive practice" means impairing or harming, or threatening to impair or harm directly or indirectly, any party or the property of the party for the purpose of influencing improperly the action or that party in connection with public procurement or in furtherance of corrupt practice or fraudulent practice;
- iii. collusive practices" means impairing or harming.

- or threatening to impair or harm directly or indirectly, any part or the property of the Party for the purpose of influencing improperly the action or a part or in connection with public procurement or government contracting or in furtherance of a corrupt practice or a Fraudulent Practice
- iv. "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Government or a public body and includes collusive practices among tenderers, prior to or after submission designed to establish tender prices at artificial noncompetitive levels and to deprive the Government of the benefits of free and open competition;
- v. "obstructive practice" means acts intended to materially impede access to required information in exercising a duty under this Act;

43.2.2 If the Contractor

- (a) has abandoned or repudiated the Contract
- (b) has without valid reason failed to commence work on the Facilities promptly or has suspended (other than pursuant to GCC 42.2) the progress of Contract performance for more than twenty-eight (28) days after receiving a written instruction from the Employer to proceed
- (c) persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause
- (d) refuses or is unable to provide sufficient materials. services or labour to execute and complete the Facilities in the manner specified in the programme furnished under GCC 19.2 at rates of progress that give reasonable assurance to the Employer that the Contractor can attain Completion of the Facilities by the Time for Completion as extended, then the Employer may, without prejudice to any other rights it may possess under the Contract, give a notice to the Contractor stating the nature of the default and requiring the Contractor to remedy the same. If the Contractor falls to remedy or to take steps to remedy the same within fourteen (14) days of its receipt of such notice, then the Employer may terminate the Contract forthwith by giving a notice of termination to the Contractor that refers to this GCC 43.2

43.2.3 Upon receipt of the notice of termination under GCCs 43.2.1 or 43.2.2, the Contractor shall, either

immediately or upon such date as is specified in the notice of termination,

- (a) cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition
- (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d) below
- (c) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination
- (d) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Goods as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors
- (e) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Subcontractors as of the date of termination in connection with the Facilities.
- 43.2.4 The Employer may enter upon the Site, expel the Contractor, and complete the Facilities itself or by employing any third party. The Employer may, to the exclusion of any right of the Contractor over the same, take over and use with the payment of a fair rental rate to the Contractor, with all the maintenance costs to the account of the Employer and with an indemnification by the Employer for all liability including damage or injury to persons arising out of the Employer's use of such equipment, any Contractor's Equipment owned by the Contractor and on the Site in connection with the Facilities for such reasonable period as the Employer considers expedient for the supply and installation of the Facilities.

Upon completion of the Facilities or at such earlier date as the Employer thinks appropriate, the Employer shall give notice to the Contractor that such Contractor's Equipment will be returned to the Contractor at or near the Site and shall return such Contractor's Equipment to the Contractor in accordance with such notice. The Contractor shall thereafter without delay and at its cost remove or arrange removal of the same from the Site.

43.2.5 Subject to GCC 43.2.6, the Contractor shall be entitled to be paid the Contract Price attributable to the Facilities executed as of the date of termination, the value of any unused or partially used Goods on the Site, and the costs, if any, incurred in protecting the Facilities and in leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC 43.2.3. Any sums due the Employer from the Contractor accruing prior to the date of termination shall be deducted from the amount to be paid to the Contractor under this Contract.

43.2.6 If the Employer completes the Facilities, the cost of completing the Facilities by the Employer shall be determined.

If the sum that the Contractor is entitled to be paid, pursuant to GCC 43.2.5, plus the reasonable costs incurred by the Employer in completing the Facilities, exceeds the Contract Price, the Contractor shall be liable for such excess.

If such excess is greater than the sums due the Contractor under GCC 43.2.5, the Contractor shall pay the balance to the Employer, and if such excess is less than the sums due the Contractor under GCC 43.2.5, the Employer shall pay the balance to the Contractor.

The Employer and the Contractor shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

43.3 Termination by Contractor

43.3.1 If

- (a) the Employer has failed to pay the Contractor any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to the corresponding Appendix (Terms and Procedures of Payment) of the Agreement, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GCC 13.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer to remedy the same, as the case may be. If the Employer fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Contractor's notice, or
- (b) the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer's failure to provide possession of or access to the Site or other areas or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities.

then the Contractor may give a notice to the

Employer thereof, and if the Employer has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within twenty-eight (28) days of such notice, or if the Contractor is still unable to carry out any of its obligations under the Contract for any reason attributable to the Employer within twenty-eight (28) days of the said notice, the Contractor may by a further notice to the Employer referring to this GCC 43.3.1, forthwith terminate the Contract.

- 43.3.2 The Contractor may terminate the Contract forthwith by giving a notice to the Employer to that effect, referring to this GCC 43.3.2, if the Employer becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Employer takes or suffers any other analogous action in consequence of debt.
- 43.3.3 If the Contract is terminated under GCCs 43.3.1 or 43.3.2, then the Contractor shall immediately
 - (a) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition
 - (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d)
 (ii)
 - (c) remove all Contractor's Equipment from the Site and repatriate the Contractor's and its Subcontractors' personnel from the Site.
 - (d) In addition, the Contractor, subject to the payment specified in GCC 43.3.4, shall
 - deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination
 - (ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Goods as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors
 - (iii) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Subcontractors as of the date of termination in connection with the

			Facilities.
			43.3.4 If the Contract is terminated under GCCs 43.3.1 or 43.3.2, the Employer shall pay to the Contractor all payments specified in GCC 43.1.3, and reasonable compensation for all loss, except for loss of profit, or damage sustained by the Contractor arising out of, in connection with or in consequence of such termination.
			43.3.5 Termination by the Contractor pursuant to this GCC 43.3 is without prejudice to any other rights or remedies of the Contractor that may be exercised in lieu of or in addition to rights conferred by GCC 43.3.
		43.4	In this GCC 43, the expression "Facilities executed" shall include all work executed, Installation Services provided, and all Goods acquired (or subject to a legally binding obligation to purchase) by the Contractor and used or intended to be used for the purpose of the Facilities, up to and including the date of termination.
			In this GCC 43, in calculating any monies due from the Employer to the Contractor, account shall be taken of any sum previously paid by the Employer to the Contractor under the Contract, including any advance payment paid pursuant to the corresponding Appendix (Terms and Procedures of Payment) to the Agreement.
44.	Assignment		Neither the Employer nor the Contractor shall, without the express prior written consent of the other party (which consent shall not be unreasonably withheld), assign to any third party the Contract or any part thereof, or any right, benefit, obligation or interest therein or thereunder, except that the Contractor shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.

SECTION VI: TECHNICAL SPECIFICATIONS

CT 64 SLICES TECHNICAL SPECIFICATIONS

CT scan 64 Slices specifications

Level of use: Regional Referral Hospital and above

64 Slice CT-Scan. 2 years warranty, three years comprehensive Maintenance and spare parts inclusive.

The system shall be of latest technology allowing full and continuous rotation, multi-slice scanning (64 slice acquisition per rotation) with true isotropic volume acquisition and best resolution of at least 0.4mm for body, cardiac and vascular application. Pitch to be specified used for each application to achieve the resolution. True future upgradability to higher slices per rotation and future applications should be possible. The speed should be adequate to all body, neurological and cardiovascular examinations.

Technical Specifications or Requirements:

A. CT EXAMINATIONS:

- Head and Neck CT
- Cardiothoracic CT
- Abdominal CT
- Pelvic CT
- Spine CT
- Musculoskeletal CT
- CT Angiography

B. DETECTOR:

- Should be 64 detectors array system
- The detectors shall be large area detector with Z axis coverage of 38mm and/or above.
- Detector system should not require frequent calibrations (at least once a month).
- Specify the number of rows and the total number of detector cells (670 elements or more).

C. GANTRY:

- Aperture: 70 cm or more
- Control Panel: on either side
- Entire range of rotation times for full 360 degree should be specified. Minimum rotation time should be 0.4 seconds or less for whole body application.
- Should have positioning laser lights.
- Maximum scan FOV should be at least 50 cm.
- Tilt-Remote >= +/- 30 deg.

D. X-RAY GENERATOR:

- High Frequency type
- Power output 75KW or more to support continuous and sustained operation.

E. X-RAY TUBE:

- Tube current: 30 to 600mA or more
- Real Time mA modulation for dose regulation.

- 3. Tube Voltage: 80 to140 KV
- 4. Anode Heat Storage Capacity should be 6 MHU or more
- Should have anode Temp Monitoring System. 5.
- 6. Heat Dissipation: 1000 KHU or more
- 7. Specify Focal Spot size and number according to IEC recommendation.
- The tube should have dynamic focal spots. 8
- 9. The X-ray cooling unit should be inbuilt in the gantry.
- Warranty of tube: Comprehensive warranty for all parts including x- ray tubes for at least 2 years irrespective of number of scans.

F. PATIENT TABLE:

- 1. Minimum Load capacity of at least 200Kg ±10% with 1 mm positioning accuracy.
- Table speed: Horizontal up to 100mm or more/sec. 2.
- Vertical Table travel: 50mm/sec or more 3.
- Minimum table top height should be 55cm or less from the ground level for easy 4. transportation of trauma patient.
- Longitudinal Scan Range: at least 150cm or more 5.
- Manual movement of the table should be possible in case of power failure. 6.
- Reproducing positional accuracy should be mentioned. 7.
- Remote Up/down and forward /backward should be standard. 8.
- Facility of positioning aid for horizontal isocentric positioning of the patient. 9.
- Should have Carbon Fibre Table Top. 10.

G. SPIRAL CT:

- Scan Time: Minimum scan time 0.4 sec or less for full 360 deg rotation.
- Min slice thickness should be 0.625 mm or less 2
- 3. Max slice thickness: 10 mm or more
- Slice increment,-specify scan and selectable slice thickness 4.
- 5. Pitch Factor (volume pitch): variable between 0.5 sec to 1.5 sec or more and should be user selectable. Specify all possible pitch selections.
- Single Continuous scan time should be at least 120 sec. 6.
- Should optimize radiation dose and resolution for each selection. 7.
- Bolus Triggered Spiral acquisition should be possible. 8
- Facility of multi-spiral, bi-directional spirals and back to back spirals. 9.
- Facility for monitor contrast enhancement and automatically commenced scanning. 10.

H. TOPOGRAM:

- 1. Length and width: Specify range
- Scan Time: Specify range per examination/procedure 2.
- Views: Frontal & lateral views. 3.
- Should be able to interrupt acquisitions manually once the desired anatomy is obtained. 4.

1. DATA ACQUISITION SYSTEM:

- Detector should capable of acquiring 64 slices per 360 degree of rotation. 1.
- Number of rows with their thickness, number of clement in each rows 2

- Inbuilt mechanism for adapting the tube current during each scan this should enable radiation dosage reduction where body part thickness is less.
- 4. Detector system should not require frequent calibration.
- Should have inbuilt paediatric protocols based on patient weight.

J. IMAGE RECONSTRUCTION:

- Real Time reconstruction speed: 15 images per sec or more at 512x512 matrix.
- Display Matrix: 1024x1024 or more
- Reconstructed slice thickness: ≤1mm to 10mm.
- Should have selectable Scan Field and reconstructed field.

K. OPERATOR CONSOLE:

- Radiology Monitor Resolution: 1280x1240
- Pixel Size < 0.3 mm.
- Two Flat screens radiology grade LCD Type of at least 24" with fast image refresh rate should be fast and preferably instantaneous and flicker free.
- Should be non-interlaced and progressive display type & sturdy.
- Should perform Registration, scheduling, protocol selection, volume rendering, Volume measurements, Multiplan Reconstruction, and standard evaluation application and all available post processing functions without the help of the satellite workstation as well as film exposure.
- Should have 3GHz or latest processor with at least 16GB RAM.
- Raw Data storage with at least 1TB Hard disc having a minimum of 1,500,000 images storing capacity in 512x512 format.
- Additional external hard disk of minimum 2TB should be provided.
- System should be menu driven operation. Applications like image reconstruction, filming, curve MPR, CT Angiography; VRT, auto bone removal.
- Lung nodule evaluation software to be provided in workstation, and not in operator console.

L. CONSOLE COMMON FEATURE:

- The workstation should be interconnected for two-way transfer of images and reports.
- Spatial alignment and visualization of two different data sets of one patient generated on different modalities or with different acquisition time.
- Cine display should be available, both interactive and automatic.
- Window width and Centre should be freely selectable.
- Patient online Registration, pre-registration facility and transfer of information from HIS/RIS via DICOM should be possible.
- Should have dedicated pediatric protocol for low dose imaging.
- M. WORKSTATIONS: Total two (1 at operator console room & 1 at Radiologist room)
- Should have Flat screen Medical Diagnostic monitor (minimum 1Mega pixels coloured) of at least 24" with fast image refresh rate should be fast and preferably instantaneous and flicker free with Hard Disk of 1TB or more, capable of simultaneous viewing of all post processing functions and filming independently without the help of main console. Data transfer between the operator console & the satellite workstation should be instantaneous.

- Processor / Chipset CPU: Intel Xeon E5-1650V2 / 3.5 GHz, Max Turbo Speed. 3.9 GHz, Number of Cores. 6-core, Chipset Type. Intel C602, Processor Main Features. Hyper-Threading Technology, Intel Turbo Boost Technology 2, Processor Socket, LGA2011 Socket,
- Operating System: Licensed Windows 10 Professional
- Microsoft Office: Microsoft Office 2019 Professional 2.
- Antivirus: Include antivirus software 3.
- Radiology Monitor 4
- Size: 24 inch 5.
- Backlight: LED 6.
- Native Resolution: 1536 x 2048 (3:4 aspect ratio) 7.
- Display Colors: 10-bit (DisplayPort): 1.07 billion from a palette of 543 billion (13-bit) 8 colors

8-bit: 16.77 million from a palette of 543 billion (13-bit) colors

- Video Signals: DisplayPort x 3, HDMI, DVI-D (dual link)
- USB: 3 Ports of USB 3.0 10.
- Certifications & Standards: CE (Medical Device), EN60601-1, ANSI/AAMI ES60601-1, 11. CSA C22.2 No. 601-1, IEC60601-1, VCCI-B, FCC-B, CAN ICES-3 (B), RCM, RoHS, China RoHS, WEEE, CCC, EAC

IMAGE EVALUATION TOOLS: 0.

- Parallel evaluation of multiple ROI in circle, irregular and polygonal forms. 1
- Statistical Evaluation for area/ volume, S.D. Mean/Max and Histograms. 2.
- Profile cuts: horizontal, vertical and oblique views. 3.
- Distance & angle measurement, freely selectable positioning of co-ordinate system, grid 4. and image annotation.
- Dynamic evaluation of contrast enhancement in organs and tissues, calculation of time-5. density, curves, peak enhancement images and time-to-peak images.

IMAGE QUALITY PARAMETER: P.

- It should be specified at the lowest scan time available at the system. 1.
- High Contrast Spatial Resolution should be 17 LP/cm or higher (Mention slice thickness, 2. scan time phantom, mA, scan field, dose and MTF) up to 10% full FOV.
- Low contrast detect ability should be 5mm at difference using 20cm CATPHAN (please 3. mention phantom, scan time, mA, filter for image reconstruction, scan field, dose, slice thickness).
- High Contrast Resolution and Low Contrast Resolution for spiral must be same as that 4. for axial.

DOSE REDUCTION TECHNIQUE: Q.

- Should be available. 1.
- Pre-patient collimation to reduce unnecessary dose to patient. 2
- Specify the Dose reduction software. 3.

POST PROCESSING TOOLS: R.

- 2-D, including image zoom and pan, image manipulations, including averaging, reversal 1. of grey-scale values, and mirroring; image filter functions, including advanced smoothing algorithm and advanced bone correction.
- Real-time multi-planar reconstruction (MPR) of secondary views, with viewing 2. perspectives in all planes including curved & orthogonal MPR.
- Standard 3D applications: CT angiography, MIP, MinIP, SSD, VRT, and other advanced 3. 3D applications and colour coding for different tissues.

Post Processing Software: Perfusion CT, Image Fusion, Image reconstruction, filming, 4. Curve MPR, CT Angiography, Auto bone removal, Vessel segmentation, Virtual Endoscopy software to be provided in all workstations.

Spatial alignment and visualization of two different data sets of one patient generated on 5.

different modalities or with different acquisition times.

Volume measurements. 6.

PATIENT COMMUNICATION SYSTEM: S.

An integrated intercom and Automated Patient Instruction System (API) should be 1. provided.

CONNECTIVITY AND ARCHIVAL T.

DICOM connectivity (latest version) should be compatible and optimised for networking 1. with other imaging systems.

DICOM converters for linking the camera with other imaging systems of the department 2.

should be provided, if required separately.

It should have sufficient memory to store images from the CT as well as other systems 3. connected to it.

Filming parallel to other activities, including independent scanning, documentation and 4. post-processing and configurable image text.

5. Archiving: Multi - burner DVD/CD writer should be provided for archival. Specify minimum number of uncompressed and compressed images that it can store per disc.

Option of viewing these discs on any PC without DICOM viewer should be available. 6.

Should be capable of IT system integration with PACS storage capacity of at least 30T. 7.

UPGRADABILITY: U.

Software updates that enhance existing applications must be provided by the vendor 1. indefinitely at no cost to the purchaser. These no charge updates shall include any circuit boards or parts if software is added to enhance existing capabilities.

System should have capability to being upgraded as new technology emerges for at least 2

10 years

Additional or new software must have the capability of being downloaded by remote 3. computer access. Software must include a free trial period before purchase.

POWER SUPPLY: V.

Power input to be 3 Phase, 380-480VAC, 50/60Hz, as appropriate fitted with for required 1. items.

Suitable servo controller stabilizer provided with resettable over current breaker shall be 2. fitted for protection.

Online UPS of suitable rating for 30 minutes or more backup shall be supplied for the 3. complete system including computers.

ACCESSORIES, SPARES AND CONSUMABLES: W.

Standard Patient positioning accessories and restraining devices: 2 sets 1.

- Good quality light weight vinyl Lead Eye Goggles, Thyroid Shields, Aprons and of .5mm 2. lead equivalent: 3 units each
- Lead Glass 150x100cmx 2mm lead : 1 unit 3.

Patient transport trolley : 2 units 4.

Instrument trolley: 2 units Non Invasive Monitor of 12" screen with TFT colour display 5. with the following accessories:

Should be USFDA & CE (Notified body)

 ECG /Resp: 5 lead ECG cable with clip – 2 sets per monitor and 10 lead ECG cable with clip 1 set per monitor.

 NIBP: Adult cuff -2 units per monitor and two sizes of Pediatric Cuffs -one per monitor. (Complete sets)

SpO2: Adult SpO2 sensor with cable – two units per monitor and Pediatric SpO2

Sensors - one unit per monitor.

 Temperature: Central temperature Probe – two per monitor and Skin temperature probe - one unit per monitor

Defibrillator Monitor/ Inbuilt Recorder Biphasic with auto and manual mode up to 360 Joule:

Should be USFDA & CE (Notified body). It should be mains and battery operated.

·Should deliver at least 25 shocks with fully charged battery with the following accessories:

·Adult and paediatric paddle: 1 each

·Disposable pads: 10 units.

Dual head Pressure Injector with the following: 7.

· Should be CE (Notified body) approved.

- Flow rate 0.1-10 ml/sec, Volume 1 ml to syringe capacity, programmable pressure limit of 325 psi with 200 ml disposable sterile syringes. Syringe heater range 35 deg C+/- 5 deg
- Should be provided with head mounting device and integral IV pole.

1000 unit's syringes with tubing's to be provide with the machine.

· Unit will be provided with display monitor to provide Pressure Monitor graph, Flow Profile, Stop Watch Feature, Scan Display, multiphase capability and protocol locking capabilities.

Other items to be supplied: 8.

- Post processing room chairs: 5 units
- · Executive Chairs for reporting: 2 units
- · Executive Tables for reporting: 2 units

Patient waiting chairs: 8 units in 2 rows (4 Chairs in one row)

· One laptop and one laser printer with scanning & copy facility should be provided with latest specification for reporting & tele-radiology.

NB. The make & model of all the additional equipment should be specified in the compliance statement for the technical evaluation, assessment & record.

X. SITE:

A complete site preparation plan will be required to be submitted along with its financial 1. components in separate cover. The vendor will be eligible to inspect the proposed site after obtaining permission. Care must be taken to address placement of the equipment, sitting, viewing and reporting area, patient preparation space, storage area etc.

Requirements of power and air conditioning must be clearly specified in a separate 2. section of the offer. The temperature of the gantry room to be maintained at 20oC.

Y. WARRANTY & CMC:

Should have 2years warranty, and three years comprehensive and collective maintenance inclusive spare parts for entire CT system (X-ray TUBE and all accessories) including all turn key items (Patient Monitor, Defibrillator, Laser Imaging Camera, Digital film printer, Pressure Injector, UPS, Air Conditioner).

Cost of CMC (Comprehensive Maintenance Contract) must be quoted in the price bid for the next 5 years after the expiration of the warranty period (i.e.: 6th, 7th, 8th, 9th, 10th). Lifetime support; spare parts, consumables should be available throughout the lifetime period of the machine.

Uptake time should be a minimum of 90%.

Proof of locally available technical support personnel, including CVs and work permit for foreign personnel.

Availability of technical personnel within the country should be stated; this should include CVs, work permits for foreign personnel.

Software should be flexible and provide the room for upgrade to add new parameters to be measured by the Machine and report format.

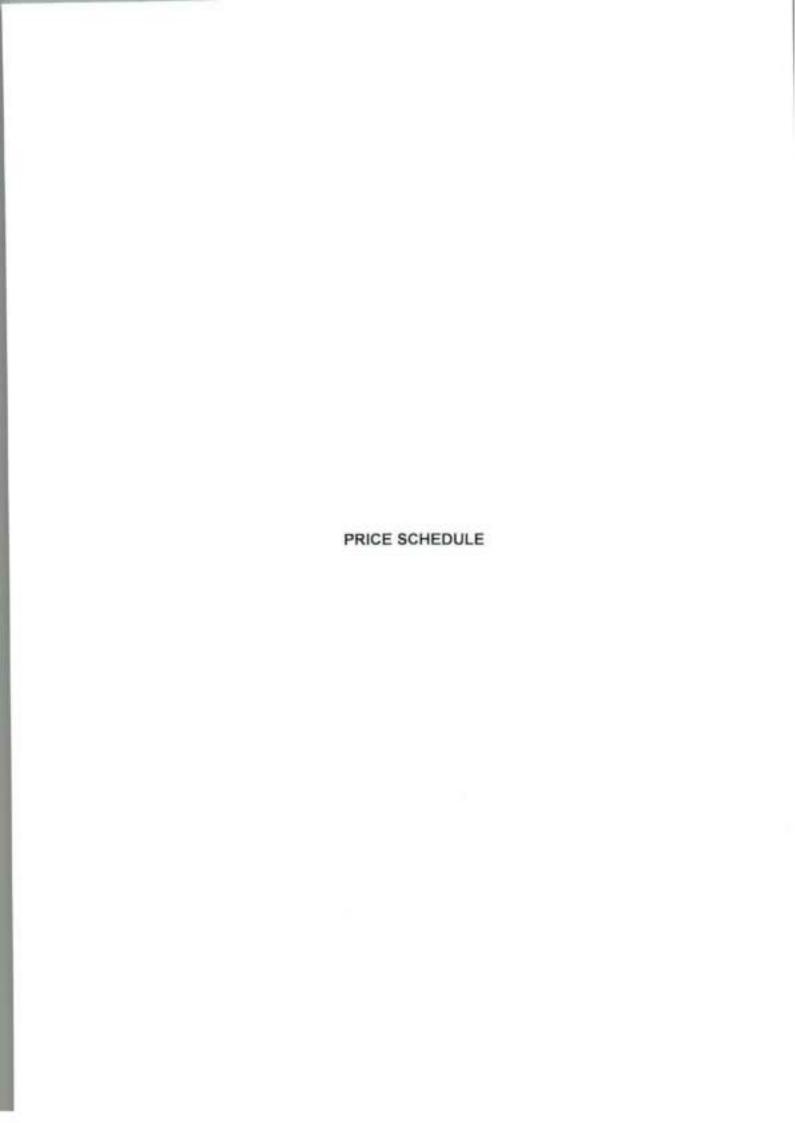
Z. MANDATORY REQUIREMENTS:

Vendor shall have to process the documents and get all the necessary clearances of the unit from all regulatory authorities such as TAEC, TMDA and TBS.

AA. TRAINING & DOCUMENTATION:

- At least 2 weeks on site training by application specialist for two radiologists, two radiographers.
- At least 6 weeks certified Comprehensive service training for Biomedical Engineer at Manufacturer's site.
- · Safety aspects of Radiation dosage leakage should be spelt out.
- · User manual in English incorporating the newer applications.
- Service manual in English
- Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist,
- The job description of the hospital technician and company service engineer should be clearly spelt out.
- · Adequate books and journals within the warranty period

NB: Non declaration will lead to penalty or disqualification.



COMPUT CH INSPIRED TRUSTED

Price Schedules for Goods and Related Services Offered from Abroad Name of Tenderer COMPUTECH ICS (T) LTD TENDER NUMBER:ME/007/MBY/2021/22/G/MS/09 CT

1	2	3	4	5	6	7	I	9
ltem	Description of Goods	Country	Delivery Date as defined by Incoterms		Unit price! CIP Site (5 Years of Warranty)	Total cip priceper item (5 Years Warranty)	Unit price of inland delivery to final destination and unit price of other incidental services ³	Total Price per line item (Col. 7 +8)
	LOT SUPPLY OF MEDICAL EQUIPMENT							
1	CT SCAN MACHINE 64 SLICES WITH INSTALLATION AND 5 YRS MAINTANANCE PLAN(GE REVOLUTION MAXIMA)	China	16 weeks		1,446,939,999	8,681,639,994		8,681,639,994
2	Site Construction (Assume some sites are new and some existing)	Tanzania		6	72,859,900	437,159,400		437,159,40
3	Maintenance for 6th, 7th, 8th, 9th and 10th years			6				
	6th Year				144,694,000	868,163,999		
	7th year			6	151,928,700	911,572,199		
	8th Year			6	159,525,135	957,150,809		
	9th Year			6	167,501,392	1,005,008,350		
	10th Year				175,876,461	1,055,258,767		
	4			otal(TAX E	ver nenzes			9,118,799,394

Name Michael Samwel Mpeka in the capacity of Country Sales Manager

Signature of Tenderer:

Duly authorized to sign the Tender for and on behalf of COMPUTECH ICS (T) LTD Dated on 10th day of February, 2022 Note: In case of discrepancy between unit price

P. O. Box 5171
DAR ES SALAAM

SCHEDULE OF REQUIREMENTS

SCHEDULE OF REQUIREMENTS

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery (i) at EXW premises, or (ii) to the carrier at the port of shipment when the contract is placed on FOB or CIF terms, or (iii) to the first carrier when the contract is placed on FCA or CIP terms. In order to determine the correct date of delivery hereafter specified, the Purchaser has taken into account the additional time that will be needed for international or national transit to the Project Site or to another common place.

Number	Description of the goods	Quantity	Delivery schedule in months
1	CT SCAN 64 SLICES	6	Three months





KENYA | TANZANIA | UGANDA | KWANDA | ZAMBIA sales@computech-ics.co.tz www.computechlimited.com

MEMORANDUM (Format 1)

To Date: 10.2.2022 Executive Director Mbeya Referral Zonal Hospital P.O.Box 419 Mbeya Tanzania

This company COMPUTECH ICS(T)LTD places importance on competitive. Tendering taking place on a basis that is free, fair, competitive and not open to abuse. It is pleased to confirm that it will not offer or facilitate, directly or indirectly, any improper inducement or reward to any public officer their relations or business associates, in connection with its Tender, or in the subsequent performance of the contract if it is successful.

This company has an Anti-Bribery Policy/Code of Conduct and a Compliance Program which includes all reasonable steps necessary to assure that the No-bribery commitment given in this statement will be complied with by its managers and employees, as well as by all third parties working with this company on the public sector projects, or contract including agents, consultants, consortium partners, sub-contractors and suppliers. Copies of our Anti-Bribery Policy/Code of Conduct and Compliance Program are attached

More

P. O. Box 5171
DAR ES SALAAM

Authorized Signature:

Name and Title of Signatory: Michael Mpeka -Country Manager Name of Tenderer: Computech ICS(T)Ltd

Address: P.O.Box 5171 Dar es Salaam, Tanzania



EENYA | TANZANIA | UGANDA | EWANDA | ZAMBIA soles@computech-ics.co.fz www.computechlimited.com

Tender Securing Declaration

Tender No.PA/007/MBY/2021/22/G/MS/09CT

To

Date: 10.2.2022

Executive Director Mbeya Referral Zonal Hospital P.O.Box 419

Mbeya, Tanzania

We, the undersigned, declare that:

We understand that, according to your conditions, Tenders must be supported by a Tender-Securing Declaration.

We accept that we will automatically be suspended from being eligible for tendering in any contract with the PE for the period of time determined by the Authority, if we are in breach of our obligation(s) under the Tender conditions, because we:

- (a) have withdrawn our Tender during the period of Tender validity specified in the Form of Tender; or
- (b) having been notified of the acceptance of our Tender by the Purchaser during the period of Tender validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB.

We understand this Tender Securing Declaration shall expire if we are not the successful Tenderer, upon the earlier of (i) our receipt of your notification to us of the name of the successful Tenderer; or (ii) twenty-eight days after the expiration of our Tender.

Signed:

In the capacity of Country ManagerName: Michael Mpeka

Duly authorized to sign the Tender for and on behalf of: Computech ICS(T)Ltd Dated on 10th February, 2022

P. O. Box 5171
DAR ES SALAAM



COMPUTACH INSPIRED TRUSTED

Dar es Salaam, Tanzania. Tel: +255 22 2111010/2/3

Email:michael.mpeka@computech-ics.co.tz

CT scan 64 Slices specifications	TENDER NUMBER:ME/007/MBY/2021/22/G/MS/09 CT	
64 Slice CT-Scan. 2 Years warranty, three years comprehensive Maintenance and spare parts inclusive.	5 years warranty included (Inclusive of spares)	YES
The system shall be of latest technology allowing full and continuous rotation, multislice scanning (64 slice acquisition per rotation) with true isotropic volume acquisition and sub-millimetre resolution of at least 0.4mm for body, cardiac and vascular application. Pitch to be specified used for each application to achieve the resolution. True future upgradability to higher slices perrotation and future applications should be possible. The speed should be adequate to all body, neurological and cardiovascular examinations	GE's Revolution Maxima is a new standard computed tomography, powered by artificial intelligence technology that delivers a streamed line workflow for better ease of use and operational efficiency. • Smart Flow • 40mm coverage Clarity Detector /DAS • ASiR-V*, up to 82% dose reduction relative to FBP at the same image quality and acquires 64 slices per rotation. ASiR-V improves spatial resolution upto 2.07X (107%) at same image noise. Revolution Maxima has a High resolution: 0.28mm The system is intended to produce cross-sectional images of the body by computer reconstruction of x-ray transmission data taken at different angles and planes, including Axial, Cine, Helical (Volumetric), acquisitions. The Revolution Maxima 64 Slice CT scanner is indicated for head, whole body, cardiac and vascular X-ray Computed Tomography applications in patients of all ages. The speed is adequate for all body, neurological and cardiovascular examinations. The revolution Maxima can be upgraded to a 128 slice CT. Helical Pitch (nominal): 0.516 to 1.531	Exceed
Feehnical Specifications or Requirements:		
A. CT EXAMINATIONS:		
Head and Neck CT		YES
2. Cardiothoracic CT	THE CONTRACTOR OF THE PROPERTY	YES
3. Abdominal CT	The state of the Control of the Cont	YES
L Pelvic CT	A CONTRACTOR OF THE PROPERTY O	YES
S. Spine CT	The Property of the Control of the C	YES
6. Museuloskeletal CT	Because the Control of the Control o	YES
7. CT Angiography	Standard on Revolution Maxima	YES
1. DETECTOR:		

Should be 64 detectors array system	The Revolution Maxima • 54,272 individual elements composed by 64 rows of 0.625mm thickness at isocenter. All data is acquired as thin slice at 1.25mm with the option of thicker slice from image reconstruction or processing.	YES
The detectors shall be large area detector with Z axis coverage of 38mm and/or above	Revolution Maxima has 40 mm of detector coverage along the Z axis	Exceed
 Detector system should not require frequent calibrations. 	Standard on Revolution Maxima	YES
 Specify the number of rows and the total number of detector cells. 	Revolution Maxima system has 54,272 individual elements composed by 64 rows of 0.625mm thickness at isocenter.	
12. GANTRY:		
a. Aperture : 70 cm or more	Aperture 70 cm	YES
b. Control Panel: on either side	Xtream Tablet Xtream Tablet is a multi-purpose user interfaceon gantry sides and supports following features. • Wide monitor: 12.1 inch • Touch screen operation • Patient and protocol selection • Patient information display • Motion axes display • Related Protocol • Default Patient Positioning • Scout scan range setup and confirmation • ECG waveform display • Collision indication • Emergency Patient	
c. Entire range of rotation times for full 360 degree should be specified. Minimum rotation time should be 0.4 seconds or less for whole body application.	Provides the capability of a 360-degree rotation in 0.4 seconds. This additional rotation time will enhance the user's ability to reduce exam times and potentially lower patient breath-holds, allowing up to 153 mm/sec acquisition speeds	YES
 Should have positioning laser ights. 	Standard on Revolution Maxima	
. Maximum scan FOV should be at least 50 cm	Maximum SFOV 50 cm	YES

g. Specify Focal Spot size and number according to IEC recommendation.	PerformicTM 40 Plus X-ray Tube Dual Focal Spots			YES
	Focal Spot	IEC 10336-1993	IEC 60336; 2005	
	Small	0.790.6	0.9x0.7	
	Large	0.9x0.9	1.2d.1	
h. The tube should have dynamic focal spots.	Dynamic Z-axis tracking provides automatic and continuous correction of the x-ray beam shape to blockunused x-ray at the beginning and end of a helical scan to reduce unnecessary radiation.			YES
i. The X-ray cooling unit should be inbuilt in the gantry.	Standard on Revolution Maxima		YES	
j. Warranty of tube: Comprehensive warranty for all parts including x-ray tubes for at least 2 years irrespective of number of scans	5 years warranty included for all parts includings ray tubes		YES	
15. PATIENT TABLE:				
a. Minimum Load capacity of at least 200Kg ±10% with 1 mm positioning accuracy.	Revolution Maxima has a Table load capacityof 227kg		Exceed	
b. Table speed: Horizontal up to	Cradle Speed Max Horizontal Speeds 175(150) mm/sec		Exceed	
c. Vertical Table travel: 50mm/sec or more			Exceed	
d. Minimum table top height should be 55cm or less from the ground level for easy transportation of trauma patient.	Minimum table top height 43cm		Exceed	
e. Longitudinal Scan Range: at least 150cm or more	Horizontal Scannable Range (Axial) 1730mm		Exceed	
f. Manual movement of the table should be possible in case of power failure.	Standard on Revolution Maxima			YES
g. Reproducing positional accuracy should be mentioned.	Position re	peatability =0.2	5mm	YES

 h. Remote Up/Down and forward /backward should be standard. 	Standard on Revolution Maxima	YES
 Facility of positioning aid for horizontal isocentric positioning of the patient. 	Standard on Revolution Maxima	YES
 Should have Carbon Fibre Table Top. 	Standard on Revolution Maxima	YES
16. SPIRAL CT:		+
Scan Time: Minimum scan time 0.4 sec or less for full 360 deg rotation.	Provides the capability of a 360-degree rotation in 0.4 seconds. This additional rotation time will enhance the user's ability to reduce exam times and potentially lower patient breath- holds, allowing up to 153 mm/scc acquisition speeds	YES
 b. Min slice thickness should be 0.625 mm or less 	32x 0.625mm or 32x1.25mm scan mode.	YES
c. Max slice thickness: 10 mm or more	Standard on Revolution Maxima	YES
d. Slice increment-specify scan and selectable slice thickness	1.25mm, 2.5mm, 3.75mm, 5mm, 7.5mm, 10mm	YES
e. Pitch Factor (volume pitch): variable between 0.5 sec to 1.5 sec or more and should be user selectable. Specify all possible bitch selections.	Helical Pitch (nominal): 0.516 to 1.531	YES
Single Continuous scan time hould be at least 120 sec.	Revolution Maxima Single Acquisition: 120 second scan maximum	YES
. Should optimize radiation dose nd resolution for each selection.	For years GE has followed the ALARA principle in helping its customers optimize dose. GE has provided many tools to help the clinician minimize dose while achieving diagnostic quality images. • CT 4Kids: The pediatric protocols are based upon a child's size, age, and weight and tailor the dose or treatment to the size of the patient. The Head and Orbit categories are age based. The rest of the categories are height and weight-based protocols. • Color Coding KidsTM provides pediatric scan protocols based on the Broselow- Luten systemTM Pediatric System. This Color-Coding system is incorporated into the protocol	Exceed

	selection on the operator's console. • SmartTrack: The tracking collimator keeps the beam focused only on the active detector cells, and makes submillimeter scanning possible with high dose efficiency. • SmartBeamTM: The collimator contains two independently controlled tungsten cams. The rotation of the cams provides continuous variable beam thickness and Z-axis position. The collimator also contains three bowtie beam filters that filter and shape the beam to optimize dose and image performance.	
h. Bolus Triggered Spiral acquisition should be possible.	Standard on Revolution Maxima	YES
i. Facility of multi-spiral, bi- directional spirals and back to back spirals.	Yes, Revolution Maxima Helical scan mode isa continuous 360 degrees scanning with table incrementation and no inter scan delay	YES
 Facility for monitor contrast enhancement and automatically commenced scanning. 	Yes SmartPrep, which allows intermittent monitoring of IV contrast enhancement in an area of interest. The contrast flow is monitored by Low-Dose scans until the contrast enhancement reaches the preferred point and then the user initiates the scan prescription.	YES
17. TOPOGRAM:		
a. Length and width: Specify range	Maximum Display FOV: 50 cm	YES
b. Scan Time: Specify range	Table speed: 100 mm/s or 175mm/s	YES
c. Views: Frontal & lateral views.	Orientation: AP, RLAT, PA, LLAT (preset); or angle from 0° - 359° (manually selected).	YES
d. Should be able to interrupt acquisitions manually once the desired anatomy is obtained.	Standard on Revolution Maxima	YES
L DATA ACQUISITION SYSTEM:		
 Detector should be capable of acquiring 64 slices per 360 deg of rotation. 	Revolution Maxima acquires 64 slices per 360 degrees of rotation	YES
Number of rows with their thickness, number of element in each rows	54,272 individual elements composed by 64 rows of 0.625mm thickness at isocenter. All data is acquired as	YES

	thin slice at 0.625mm with the option of thicker slice from image reconstruction or processing.	
 Inbuilt mechanism for adapting the tube current during each scan this should enable radiation dosage reduction where body part thickness is less. 	During the scan, real-time, 3D dose modulation helps deliver consistent image quality becauseit automatically accounts for the changing dimensions of your patient's anatomy. 3D mA modulation acquisitions may reduce dose compared with fixed mA acquisitions. Organ Dose Modulation ODM provides reduction of radiation dose via X-ray tube current modulation for superficial organs and tissues, such as breasts while maintaining diagnostic quality without decreasing productivity (as the result of not using externally applied shields).	YES
Detector system should not require frequent calibration.	Standard on Revolution Maxima	YES
 Should have inbuilt paediatric protocols based on patient weight. 	 CT 4Kids: The pediatric protocols are based upon a child's size, age, and weight and tailor the dose or treatment to the size of the patient. The Head and Orbit categories are age based. The rest of the categories are height and weight-based protocols, • Color Coding KidsTM provides pediatric scan protocols based on the Broselow-Luten systemTM Pediatric System. This Color-Coding system is incorporated into the protocol selection on the operator's console. 	YES
J. IMAGE RECONSTRUCTION:		
Real Time reconstruction speed: images per sec or moreat 512x512 matrix.	Reconstruction speed with Standard reconstruction: Up to 50 frames per second. Revolution Maxima supports 1024 reconstruction matrix.	Exceed
2. Display Matrix: 1024x1024 or more	Display Matrix: 1024 x 1024	YES
 Reconstructed slice thickness: ≤1mm to 10mm. 	443 reconstructed slices (images) per rotation: under 64ch x 0.625mm, 1.375 helical pitch, 6	YES

	rotation, 266mm coverage, 0.1mm recon interval condition	
Should have selectable Scan Field and reconstructed field.	Standard on Revolution Maxima	YES
K. OPERATOR CONSOLE:		-
Monitor Resolution: 1280x1240	Revolution Maxima Monitor 1280 x 1024 dot resolution	YES
2. Pixel Size < 0.3 mm.	Helical Minimum Pixel Size: 0.10 mm	Exceed
 Two Flat screens medical grade LCD Type of at least 24" with fast image refresh rate should be fast and preferably instantaneous and flicker free. 	Revolution Maxima has Color LCD monitors (2	
Should be non interlaced and progressive display type & sturdy.	Standard on Revolution Maxima	
5. Should perform Registration, scheduling, protocol selection, volume rendering, Volume measurements, Multiplanar Reconstruction, and standard evaluation application and all available post processing functions without the help of the satellite workstation as well as film exposure.	The Exam Rx desktop environment provides the clinical tools necessary for comfortable, efficient control of patient studies. These tools include patient scheduling and data entry, examprotocol selection, protocol viewing and editing, scan data acquisition, image reconstruction, image display and routine analysis, AutoFilm or manual filming, AutoStore and AutoTransfer.	
5. Should have 3GHz or latest processor with at least 16GB RAM.	Scan control unit 10006 000 101 a 20 region and 1020 april ordinate at 61 data (80,000 011 a 20 region and 1020 april ordinate at 61 data (80,000 011 a 20 region and 1020 april ordinate at 61 data (80,000 011 a 20 region and 1020 april ordinate (80,000 april ordinate at 62 data (80,000 april ordinate (80,000 april ordinate at 62 data (80,000 april ordinate (80,000 april ordinate at 62 data (80,000 april ordinate (80,000 april ordin	YES

7. Raw Data storage with at least	Scan cont	rol unit	YES
TB Hard disc having a minimum of 1,500,000	 2,000 DB bits (appears, image, searches) stores up to eE0,000 532 x 25 region and 5570 wipe total time at 64 visus emple or up to 1,500 stant 645 feet priap to 300 exams. 		
mages storing capacity in 512x512 format.		or speed with Standard reconstruction; this to	
	YOUR THINGUEST	Symplifications	
	CNU	David Antial Number 41/10/2/3/CHV SECTOR	
	0.%	54 52	1
	Cacher	1.3 x 117M stared 6403.008 47556MHz or equivalent	
	part partnamen	Martin Quarte 7620 PCI Express 16+17	
	Fecaratriation and	Committee Off the Short Graphics Processor with record	
 Additional external hard disk of minimum 2TB should be provided. 	INCLUDE		YES
System should be menu driven operation. Applications like image reconstruction, filming, curve MPR, CT Angiography; VRT, auto bone removal.	clinical too control of patient sche selection, patient sche selection, patient sche selection, patient scheduling, Auwith Autorealtime disfully corrective coronal, an automated created and location. V Analysis, 3 Virtual Engelinical needs from the la	Rx desktop environment provides the Is necessary for comfortable, efficient patient studies. These tools include eduling and data entry, examprotocol protocol viewing and editing, scan ition, image reconstruction, image routine analysis, AutoFilm or manual toStore and AutoTransfer, irect MPR Batch feature, affording automatic rect reconstruction and transfer of each multiplanar images, also allows be from routine 2D review to a 3D image review of axial, sagittal, distinguished oblique planes while enabling protocol-driven batch reformats to be inetworked to their desired reading olume Viewer; includes Volume olume Viewer; includes Volume and doscopy. Volume viewer serves your eds by using the volume information rige series of images acquired. A large of applications enables fast and	

	facilitate segmentation of bony structures and calcifications for CT Angiography exams. VessellQ Xpress provides the ability to interact with 3D data set, to track the centerline of any vessel, and to perform multiple measurements.	
10. Lung nodule evaluation software to be provided in workstation, and not in operator console.	Lung VCAR. Key features include: a Digital Contrast Agent (DCA)- Automatically visualizes and highlights abnormal and potentially cancerous pulmonary solid nodules o Bookmarking Tools for ease of image review and analysiso Correlated Workflow-Synchronized 2D, DCA and Segmented Analysis o One Click Solid Nodule Segmentation from vessels and pleural wall a Segmentation Analysis of all nodule types Solid, Non- Solid and Part Solid a Automatic Nodule Analysis Provides: a Percent Growth a Doubling Time o Volumes o Automatic Segmentation of both the right and left lungs thus reducing the visual distractions associated with anatomy not of interest a Cross Reference/Correlation Bar Provides a quick reference to aid in the localization of a nodules global location o image Display Tools for comparison of initial and follow-up exams a Automatic Bookmark Propagation from previous to current or current to previous exams a Automatic Image Registration for image review synchronization o Temporal Statistics Display for fast informed decisions a Customizable Personal Review Layouts a Interactive Patient Reporting (DICOM SR) Provides both structure and flexibility Lung. Lung VCAR only provided in the Radiologist workstationonly	YES
L. CONSOLE COMMON FEATURE: 1. The workstation should be interconnected for two-way transfer of images and reports.	Standard on Revolution Maxima	YES



2. Spatial alignment and visualization of two different data sets of one patient generated on different modalities or with different acquisition time.	comparison of three dimensional (3D) anatomical images from Computed Tomography (CT), MRI (Magnetic Resonance Imaging), PET (Positron Emission Tomography), Single Photon Emission Computed Tomography), Single Photon Emission Computed Tomography (SPECT) and X-Ray Angingraphy (XA)*. It allows registration and fusion between two volumetric acquisitions, which come from either the same or from different acquisition modalities. Major features and enhancements are: o Ability to combine any two of the S modalities together. o Automatic propagation of registration across series acquired in the same patient exam (i.e. same frame of reference) and to any series from any loaded exam that have been manually grouped together. o Full compatibility of the 3 different registration methods: automatic, manual and landmark that can be combined together to provide an optimal result. o 2D, 3D and hybrid 2D/3D Fusion capabilities. o Access to Volume Viewer** functionalities including MPR, Slab and oblique reformations, triple oblique easy definition. Volume Rendering, 3D display, distance and ROI measurements. (The ROI measurement only work on the rigid registered images), layout management, segmentations, film and save. o Ability to save registered data as new DICOM series or as Registered DICOM object (except from SPECT saving which is currently a limitation). o Ability to draw and save contours as RTSS DICOM objects.	
 Cine display should be available, both interactive and automatic. 	Standard on Revolution Maxima	YES
 Window width and centre should be freely selectable. 	Standard on Revolution Maxima	YES
 Patient online Registration, pre registration facility and transfer of information from HIS/RIS via DICOM should be possible. 	Standard on Revolution Maxima	YES
The second secon	 CT 4Kids: The pediatric protocols are based upon a child's size, age, and weight and tailor the dose or treatment to the size of the patient. 	YES



 Should have dedicated pediatric protocol for low dose imaging. 	The Head and Orbit categories are age based. The rest of the categories are height and weight-based protocols. • Color Coding KidsTM provides pediatric scan protocols based on the Broselow-Luten systemTM Pediatric System. This Color-Coding system is incorporated into the protocol selection on the operator's console.	YES
M. WORKSTATIONS: (Total TWO-1 at operator console room & 1 at Radiologist room) 1. Should have Flat screen Medical Diagnostic monitor (minimum 1 Mega pixels coloured) of at least 24" with fastimage refresh rate should be fast and preferably instantaneous and flicker free with Hard Disk of 1TB or more, capable of simultaneous viewing of all post processing functions and filming independently without the help ofmain console, Data transfer between the operator console & the satellite workstation should be instantaneous.	Operator console: Color LCD monitors (2 standard): • 19-inch diagonal width • 1280 x 1024 dot resolution • Horizontal & Vertical viewing angle: 170 degrees • Horizontal synchronization range: 31.0 – 80.0 kHz • Vertical synchronization range: 31.0 – 80.0 kHz • Vertical synchronization range: 50 - 75 Hz, offering much more flexibility for Radiologist and technologist than single monitor operator console. Radiologist Work Station: Monitors • (2) 19" color Flat Panel LCD monitors • DICOM Part 14 factory calibrated • Native resolution 1280 x 1024 (5:4 aspect ratio) • Approximate Weight: 7.2 Kg (15.87 lbs) • AC 100 - 120 V, 200 - 240 V: 50 / 60 Hz, offering much more flexibility for Radiologist and technologist than single monitor operator console in term of space for image display and image comparison.	
Workstation Configuration • HP Z440 2. Should have 3GHz or latest processor with 16GB RAM. Workstation • Intel® Xeon® E5-1660 v3 Core 3.0 GHz CPU with 20MB Shared L Cache • 2133 MHz Front Side Bus • 32Gi (4x8GB) DDR4 2133 MHz ECC Register DIMM • RAM upgradable to 64GB (8x8) NVIDIA Quadro NVS 310, 1024MB Gracard • 1 x 256GB Solid State Drive for O Applications • 2 x 512GB Solid State Drive RAID-0 for image cache. • Car		YES



 It should be specified at the lowest scan time available at the system.

 High Contrast Spatial Resolution should be 17 LP/cm or higher (Mention slice thickness, scan time phantom, mA, scan field, dose and MTF) up to 10% full FOV.

 Low contrast detect ability should be 5mm at difference using 20cm CATPHAN (please mention phantom, scan time, mA, filter for image reconstruction, scan field, dose, slice thickness).

 High Contrast Resolution and Low Contrast Resolution for spiral must be same as that for axial. militar Standinger Quality

* Ogh recovered School

10 MH

Type at PET by the recording bold on a finite contingent to wise and a LONG of CO2 finite post field processing for the prime and a place and a place

high record or wigoritime.

	WYSIGH	France
100)	181	11.3
HTN:	16.0	12.0
49.	18.9	242
679	716.5	28.7

the Contract Selections.

DVS PVT S20 P3 CatyRan I pharton.

P. DOSE REDUCTION TECHNIQUE:

- 1. Should be available.
- Pre-patient collimation to reduce unnecessary dose to patient.
- Specify the Dose reduction software.

Dose reduction technology and management Revolution Maxima introduces Volume CT capabilities while incorporating the following GE dose reduction features. OptiDoseTM For years GE has followed the ALARA principle inhelping its customers optimize dose. GE has provided many tools to help the clinician minimize dose while achieving diagnostic quality images. • ECG mA Modulation*: For cardiac applications, prospective ECG mA modulation automatically adjusts the mA to minimize the patient's exposure to X-rays reducing mA during systolic phases of the cardiac cycle. This provides clear images and allows you to reduce mA primarily in the systolic phases of the cardiae eyele - yet gives you enough power to obtain quality images for functional analysis. • CT 4Kids: The pediatric protocols are based upon a child's size, age, andweight and tailor the dose or treatment to the size of the patient. The Head and

categories are age based. The rest of the

P. O. Box 5171
DAR BS SALAAM

Mil

Exceed

a past bracesing	• Color Coding KidsTM provides pediatric scan protocols based on the Broselow-Luten systemTM Pediatric System. This Color-Coding system is incorporated into the protocolselection on the operator's console. • SmartTrack: The tracking collimator keeps the beam focused only on the active detector cells, and makes submillimeter scanning possible with high dose efficiency. • SmartBeamTM: The collimator contains two independently controlled tungsten cams. The rotation of the cams provides continuous variable beam thickness and Z-axis position. The collimator also contains three bowtie beam filters that filter and shape the beam to optimize dose and image performance.	
Q. POST PROCESSING TOOLS:		
1. 2-D, including image zoom and pan, image manipulations, including averaging, reversal of grey-scale values, and mirroring; image filter functions, including advanced smoothing algorithm and advanced bone correction.	Standard on Revolution Maxima	YES
2. Real-time multi-planar reconstruction (MPR) of secondary views, with viewing perspectives in all planes including curved & orthogonal MPR.	Standard on Revolution Maxima	YES
3. Standard 3D applications: CT angiography, MIP, MinIP, SSD, VRT, and other advanced 3D applications and colour coding for different tissues.	Standard on Revolution Maxima	YES



4. Post Processing Software: Perfusion CT, Image Fusion, Image reconstruction, filming, Curve MPR, CT Angiography, Auto bone removal, Vessel segmentation, Virtual Endoscopy software to be provided in all workstations.	CardIQ Xpress 2.0 Reveal SmartScore 4.0 Software VesselIQ Xpress & AutoBone Xpress DentaScan Software Lung VCAR CT Perfusion 4D Complete provided in the AW VolumeShare 7 work station Image fusion has been provided.	Exceed
 Spatial alignment and visualization of two different data sets of one patient generated on different modalities or with different acquisition times. 	System has capability	Yes
6. Volume measurements.	Standard on Revolution Maxima	YES
R. PATIENT COMMUNICATION SYSTEM: An integrated intercom and Automated Patient Instruction System (API) should be provided.	Standard on Revolution Maxima	YES
S. CONNECTIVITY AND ARCHIVAL 1. DICOM connectivity (specify version) should be compatible and optimised for networking with other imaging systems. 2. DICOM converters for linking the camera with other imaging systems of the department should be provided, if required separately. 3. It should have sufficient memory to store images from the CT as well as other systems connected to it.	DICOM connectivity is standard inRevolution Maxima Filming parallel to other activities, including independent scanning, documentation and post-processing and configurable image text. This is standard on the Revolution Maxima	YES



4. Filming parallel to other activities, including independent scanning, documentation and post-processing and configurable image text. 5. Archiving: Multi - burner DVD/CD writer should be provided for archival. Specify minimum number of uncompressed and compressed images that it can store per disc. 6. Option of viewing these discs on any PC without DICOM viewer should be available. 7. Should be capable of IT System integration with PACS storage capacity of atleast 30T		
UPGRADABILITY: Software upgrades that enhance existing applications must be provided by the vendor indefinitely at no cost to the purchaser. These no charge upgrades shall include any circuit boards or parts if software is added to enhance existing capabilities. System should have capability to being upgraded as new technology emerges for at least 10 years Additional or new software must have the capability of being downloaded by remote computer	Upgradability Considered	YES

The

access. Software must include a		
/380-480VAC, 50Hz, as appropriate fitted with for required items.	The system operates on three-phase power that meets the following specifications: • Voltage: 200 to 240 VAC, 380 to 480 VAC • Capacity: 100 kVA • Frequency: 50 or 60 Hz ± 3 Hz • Maximum power demand = 100 kVA @ 0.85 PF at a selected technique of 140 kV, 515 mA. • Average (continuous) power demand at maximum duty cycle = 20 kVA. • Idle power demand (without rotation and X-ray) = 5.0 kVA. • ABB UPS PowerWave 33, 120 kVA, three phases provided	YES
V. ACCESSORIES, SPARES AND CONSUMABLES: 1. Standard Patient positioning acc and restraining devices: 2 sets 2. Good quality light weight vinyl Lead Eye Goggles, Thyroid Shields, Aprons and of .5mm lead equivalent: 3 units each 3. Lead Glass 150x100cmx 2mm lead: 1 unit 4. Patient transport trolley: 2 units 5. Instrument trolley: 2 units. 6. Non Invasive Monitor of 12" screen with TFT colour display with the following accessories: • Should be USFDA & CE (Notified body) • ECG /Resp: 5 lead ECG cable with clip – 2 sets per monitor and	ALL ARE INCLUDED.	YES

Mil

10 lead ECG cable with clip 1 set per monitor. NIBP: Adult cuff -2 units per monitor and two sizes of Pediatric Cuffs —one per monitor. (Complete sets) SpO2: Adult SpO2 sensor with cable — two units per monitor and Pediatric SpO2 Sensors — one unit per monitor. Temperature: Central temperature Probe — two per monitor and Skin temperature probe — one unit per monitor. Defibrillator Monitor/ Inbuilt Recorder Biphasic with auto and manual mode up to 360 Joule: Should be USFDA & CE (Notified body), It should be mains and battery operated. Should deliver at least 25 shocks with fully charged battery with the following accessories: Adult and paediatric paddle: 1 each Disposable pads: 10 units. ECG Cable- 5 lead: 1 units.		
ECG Electrodes : 100 units.	The Nemoto DUAL SHOT alpha7 injector helps	YES
10. Dual head Pressure Injector with the following: • Should be CE (Notified body) approved. • Flow rate 0.1-10 ml/sec, Volume - 1 ml to syringe capacity, programmable pressure limit of 325 psi with 200 ml disposable sterile syringes. Syringe heater range 35 deg C+/- 5 deg C. • Should be provided	optimize contrast procedures and contrast usage as well as attenually contrast procedures and contrast usage as well as attenually clinical workflow. With its innovative design and intuitive operation, facilities, patients and clinicians alike benefit from this exceptional injection system. Innovation New design with only two components Body Weight protocol for optimized image quality in IV contrast management Advanced protocols with dilution (simultaneous saline and contrast), multi-phases, and saline flush) Ea



with head mounting device and integral IV pole. • 1000 units syringes with tubings to be provide with the machine. • Unit will be provided with display monitor to provide Pressure Monitor graph, Flow Profile, StopWatch Feature, Scan Display, multiphase capability and protocol locking capabilities.

- Innovative syringe design provides the option of offline filling of syringes
- SD memory card for protocol saving, quick retrieval, sharing and easy updates
- Dual control of injection pressure to secure injection continuity

Ease of Use

- Intuitive auutomical protocol selection complements the GE CT scanner protocol setup
- · Minimal button presses required to create protocols
- · Real-time injection pressure graph
- · Indicator of selected protocol name
- Thumbnail style display for visual protocol settings
- Easy syringe loading and unloading, one touch syringe adapter with snup lock
- . Air Check button on head and selectable on console
- · Adjustable quick return for easy syringe refill
- · Timing bolus injection
- · Needle placement test
- · Home button for quick return to main menu
- Injection results screen of the last 100 injections, in a table or pressure graph format
- · Low pressure warning
- · Adjustable maximum pressure per protocol

System Specifications

- . Flow Rate Range
- o A-side and B-side (Contrast Media and saline)): 0.1 ml/s -- 10 ml/s (0.1 ml/s increments)
- · Volume Range
- A-side and B-side: I ml to syringe size (by 1 ml increment) 200 ml and 100 ml (with syringe adapter) disposable syringes
- · Pressure Range
- o 200 ml syringe: 10 300 psi (by 10 psi increment)
- o 100 ml syringe: 10-300 psi (by 10 psi increment)
- · Pressure Limit: 300 pai
- · Forward/Reverse jog button: 3 speeds up to 8 ml/sec
- · Phases: up to 5 phases
- Protocol Memory Capacity: up to 400 injection protocols
- · Injection Delay Time: 0 300 sec (by 1 sec increment)
- . Pause: 0 300 sec (by 1 sec increment)
- . Hold: Indefinite HOLD time
- · Quick Return
- · Air Check button on head and selectable on console
- · Built-in Syringe Heater: 35°C +/-5°C
- . Electrical Requirements: 100 240 VAC, 50/60 Hz
- . Power Consumption: 160 VA max
- Dual Injector Head: 600 × 112 × 180 mm / 8.5 kg.



	Control Console: 107 x 270 x 248 mm / 3.7 kg Remote Stand: 600 = 600 = 1200 mm / 11.5 kg	
Post processing room chairs: 5 units Executive Chairs for reporting: 2 units Executive Tables for reporting: 2 units Executive Tables for reporting: 2 units Patient waiting chairs: 8 units in 2 rows (4 Chairs in one row) One laptop and one laser printer with scanning & copy facility should be provided with latest specification for reporting & teleradiology. NB. The make & model of all the additional equipment should be specified in the compliance statement for the technical evaluation, assessment & record.	ALL INCLUDED Model will be agreed before delivery	YES
W. SITE: 1. A complete site preparation plan will be required to be submitted along with its financial components in separate cover. The vendor will be eligible to inspect the proposed site after obtaining permission. Care must be taken to address placement of the equipment, sitting, viewing and reporting area, patient preparation space, storage area etc.	Generic Site plan attached and approximate costs included in the price sheet. If there will beany variation after visiting the sites, we will sit down and discuss the magnitude and importance of variation.	Yes

Made

 Requirements of power and air conditioning must be clearly specified in a separate section of the offer. The temperature of the gantry room to be maintained at 20oC. 		
Should have 2yearswarranty, and three years comprehensive and collective maintenance inclusive spare parts for entire CT system (X-ray TUBE and all accessories) including all turn key items (Patient Monitor, Defibrillator, Laser Imaging Camera, Digital film printer, Pressure Injector, UPS, Air Conditioner).	7 Vanco and an artist of the second second	Yes
Cost of CMC (Comprehensive Maintenance Contract) mustbe quoted in the price bid forthe next 5 years after the expiration of the warranty period (i.e.: 6th, 7th, 8th, 9th, 10 th).	Cost of CMC after warranty attached separately	Yes
Lifetime support; spare parts, consumables should be available throughout the lifetime period of the machine.	Considered	Yes
Uptake time should bea minimum of 90%.	90% Uptake time committed	Yes



Proof of locally available technical support personne including CVs and wor permitfor foreign personnel.		Yes
Availability of technical personnel within the country should be stated; this should include CVs, work permits for foreign personnel.	Technical Personnel available within the country	Yes
Software should be flexible and provide the room for upgrade to add new parameters to be measured by the Machine and report format.	Software is flexible and upgradable. System canbu- upgraded to 128 Slices without changing the detector as 40mm detector has been used.	Yes
Y. MANDATORY REQUIREMENTS: Vendor shall have to process the documents and get all the necessary clearances of the unit from all regulatory authorities such as TAEC, TMDA and TBS.	All documents will be processed	Yes
• At least 2 weeks on site training by application specialist for two radiologists, two radiographers.	Training will be arranged	Yes
 At least 6 weeks certified Comprehensive service training for Biomedical 	Biomedical Training to be arranged at a designated site	

COMPUTECH-ICS (T) LTD.
P. O. Box 5171
DAR ES SALAAM

The

Engineer at Manufacturer's site.		
	To be provided in documentation	
 Safety aspects of Radiation dosage leakage should be spelt 		
 User manual in English incorporating the newer 	Yes	
 Service manual in English 	Yes	
 Log book with instruction for daily, weekly, monthly and quarterly 	Available	
 maintenance checklist. The job description of the hospital technician and company service 	Will be provided with system documentation	
engineer should be clearly spelt out. Adequate books and journals within the warranty period	To be provided	

CT 64 SLICES TECHNICAL SPECIFICATIONS

Level of use: Regional Referrer Hospital and above

£7.64 bloom £7 tears accurantly. If Front Compositionsine Maintenance and spare ports beloake

COMPUTECEMENT (T) LTD.

F.O. Box 5171
DAN ES SALAAM

No.	Technical specification	COMMENTS RECEIVED ON GE OFFERED SPECIFICATIONS		COMPUTECES COMMENTS	
	NA SECTION	Supplier states there is no frequent entitlestion conduct. However User manual segmentarity that warm up must be door. If machine is not used for 2 hours.	Processor Lines manual varys charfy that, was on you must be about it relations it and used for Z Avenue. From Californius has to be stone if Detector gives Cold. Frags 8: 30 of Lines manual.	At one have already meritinand, our detactor over not require the same called to a Virtual the case discussion in referring to use "equipment" of a meriting moneter to actual the CT builds is respective. He is a meriting to the case of X ray future beat. As we have see no the comments. The author noted above his ring on accusa of X ray helpt, which we are able to offer inspection. It is author noted above his ring on accusa of X ray helpt, which we are able to offer inspection. It is topic ordered to a situation for example order to be a situation for examples system loss passes for two troops and called ordered to example system loss passes for two troops and called ordered to example a processing. This dissect our happens required.	
	5. Till-Remote >++/- N/deg	DIGITAL TILTI	PROTAL TOTAL DISEASED, THERE ARE CLEAR STUDIES IN REDUCTION OF REGISTROS TO PROTEST USING PROTECTS. THE TRANSPORT OF PROTEST TOTAL THE BRANCH PROTEST OF HIGHER RADIATION DOSE, IN SCARE CALLS TO OVER 80%. BROKE, Lyes are trightly sensitive to reduction, and come physical list protests from higher reduction. See studies inclose. Inter-//pubmed radiation.new.em.gov/24120016/ Inter-//pubmed radiation on CT. dose discussion/800011_A_C are protested, of greater and come.	The discovantages is gringless for digital for an involvent for 60 aptions at we can a extrated Cigen been Modulation (COM) series which redone the data algorithment, the series shall work are accretion for all global migrature backs on favore and USA. Thing a increasingly becoming unuspales (it was secure in less matter and USA. Thing a increasingly becoming unuspales (it was secure in less matter and USA). But when resided sight (Blong is the lens) and for an extracting which is user friendly and allows a secure observed in the continuous observed in the desire COM and Alphi V curricum with the fundir line doze. This is amount to 61 system.	
-	X-RAY GENERATOR:				
	and recommendations	726W		Revolution Maxima has 72KW proper sepacity. With ASR V (zone instudion algorithm) are actions regulated proper of 40006	
-	X-RAY TURE:			action regarders power of 400000	

Technical specification	COMMENTS RECEIVED ON GE OFFERED SPECIFICATIONS		COMPUTECE'S COMMENTS	
The District Control	1000 KHU/min	price the specification resists with the requirements, there is a symplete from customers that the system cannot perform long helical wans out the total energy long.	DOTO to full/year in very accough the Lang shelled bases. As we don't have a respection. Marrier in Far seeks, we don't know with an those substance. This system is lested used globally in a development. This system is lested used globally in a development transient and we don't socialize such prompts in a. We do offer those development in among on face to do long notice soon with the existence.	
PATIENT TABLE:				
fo 10. Should have Carbon Fifter Tuble Top.	Supplier does not say if they comply	The Compliance statement is blank.	Dur sampkerne ned "Standard in Bereikhon Making" end our compliance imper "FET". Aufbe might be song is enough to militares shoot,	
OPERATOR CONSOLE:		INTERIOR MEET DESTRUCTIONS		
1. Badinings Montror Resolution 1280:1240	1395 x 1024 is offered			
Two Flot screens radicing: grade LCD Type of at 2 Breat 25" with fast image retrieb rate should be fast and preferably impactations and flicker free.	19' menius is offered	DOES NOT WISC SPECIFICATIONS	Specifications are remed and replaced to a specimentalism. We are offering 18" a 2 - 34" of some study 4.0" a 2-14" of specimentalism are fulfilled by 66 notation.	
 Rose Data storage with at least ITB Hard discharing a minimum of 1,500,000 images storing carporate in 713-572 formed. 	460,000 images can be stored.	DOES HOT MEET IMEGRICATIONS.	We provided 3.10 hard Disc. 460,000 images at staned in 1st 1,10 hardfold and over 7m images the additional 1,10	
CONSOLE COMMON PEATURE				
WORKSTATIONS: Total two (1 at operation consule room & 1 at Radiologist room)		DORS NOT MITT INSCRICATIONS	This was discussed and agreed in registration	
 Should have Flat screen Medical Diagnostic mornior (minimum Huggs pixels) coloured) of a least 34° with faot image retrash rare should be fast and preferably instantaneous and flicker free with Hard Diak of 178 or more, capeble of situatianeous viewing of all post processing functions and slimms and appendently without the help of mun console. Data transfer between the operator console & the satellite workstation should be instantaneous. 		DESTRUCTION OF THE PROPERTY OF	reseting, different compenies have different ex- of disagning their series, (a) lighters comit will have mentions of 25° medical grade Mandans, 2 constitutes were not disagned and fasted with system. If we away the resorbing we can not governotes the same guality of mage speaking 2 2A° mention has no circuit attentions over 2 s. mentions (18° of versi). This is a reason this me discussed and closest in negotiation meeting.	
4. Radiology Monitor				

7	Technical appelification	COMMENTS RECEIVED ON GE OFFERED SPECIFICATIONS		COMPUTECH'S COMMENTS	
		IS country is affered	DURY NOT MILET SPECIFICATIONS	From a layer 18" comber to being efficied and is and filled by all global applicating tentors as being sufficient for CI exercises. All countries are beset to particular manufactures whose full tentors can judy produce quartly tragger with too a morning. this tentor is assume a net resent to the best of any particular manufacture! The same manufact has 1180 a 1204 consistence that	
	7. Native Resolutions 1536 a 2048 (3.4 aspect rotio)	1080 x 1024 is affered	DOES NOT MEET SPECIFICATIONS.	has been tested and approved by girlad has been tested and approved by girlad has those builtes as residial grade.	
125	IMAGE EVALUATION TOOLS:	The second of the second of the second		Tow Cardinic Detectability	
	 Low contrast detect shilty should be Soun at difference using New CATPHAN (please sacrition phanton: scan time. mA. filter for intage reoccustruction, scan field, desc. slice thickness). 		Most other competitive their time contract resolution at Electry to Mostle.	On Executivation (Catalogue abordone) Reconstruction Minio - Ability at with Standard Appet Son - Seem Topics Los - Seem No Contract - 0.3876 Date Seed (mily CTOxol) 20mm size - 4.57 (Please refer to our datasheet page 33)	
	 Suitable servo controller stabilizer provided with resettable over convent breaker shall be fixed for percetters. 	Serve final-timer is not provided	DOGS NOT MILLT SPECIFICATIONS.	Servic stabilizer is inhabit in the 1875.	
22	3. Online UPS of suriable rating for 30 extrates as more beckup shall be supplied for the complete system including computers. ACCUSSORIES, SIVANES AND CONSCINABILIES	UPS 120kVA is provided, 30 minutes backup is per stated.	DOES NOT MIST SPECIFICATIONS.	IPS for the complete CT Assemble of CT installation including computers is provided with Streetwise the freque	
-	Defibellator Montes/ Inhalt Recorder Eiphask with auto and manual mode up to 360 Josée	Does not state of Defibrillator is provided	DOES NOT MEET IMPORTANTIONS.	Two has over visited in regulation meeting the SOTH MONITOR and DEPRINGUATION will be provided. Fafor to regulation meeting monitor.	
	 1000 unit's syringer with tubing's to be provide with the machine. 	30 syringes provided	DOES NOT WEST SPECIFICATIONS	\$10 beautions in his 22 springers of \$1000 springers of the provided	
	TRAINING & DOCUMENTATION:				
	At least 6 weeks certified Comprehensive service training for Humardical Engineer	No clear materiess on Homedical engineer training	DOMESTIC AMET SPECIFICATIONS	This year (far fixed and agreed in negotiation meeting that not plean into their as many as possible engineers in a site that will be establish excite Tomperie it is a heavent and sundameter for being one frontier and four memy Tendemens, Wil have however an applier to take one ring from all CT mutable Tomperies to an already existing transporter.	

-	COMMENTS SECRIVED O	S GE OFFERED SPECIFICATIONS	COMPUTECE'S COMMENTS
Technical specification	COMMUNICATION OF THE PARTY OF T		Our system meets of gods I substance selects specifications and has been regulated by Tablah.) See of selection and has been regulated from committee and of the system. Reduction artists training will be effected as part of all looks commit and becoming any entries and outside commit-
The job description of the travelsta technician and No cle company service engineer should be clearly spole 25,000.	var atatementi un job descriptions	DOCUMENT MILET SPECIFICATIONS.	Their prices common with a fighter of separatory recognist Touchen/ser have the congernal broy of . 1. Recording of touche from Labor. 2. Perform Lovel 5 translationaring as well the connect by ES translation. 5. Installed Early in common translation provides touch . Maintain size installed receiving translation to the content of several content of

CURRICULUM VITAE

A.PERSONAL PARTICULAR

Full name:

Awadhi Ally.

Gender:

Male.

Nationality:

Tanzanian.

Date of birth:

15/07/1995.

Place of birth:

Singida.

Marital status:

Single.

Telephone number:

0713166755.

E-mail address:

engineerkim58@gmail.com.

Physical address:

Tegeta,Dar es salaam.

Language:

Swahili and English.

B.RESUME SUMMARY

I am hardworking and competent biomedical equipment Engineer, experiences in troubleshooting, repair, maintaining, calibrating and installing medical equipments as well as medical equipment inventory, marketing and sales of medical equipments.

C.EDUCATION BACKGROUND

2003-2009. Certificate of primary education examination from pius msekwa primary school.

2010-2013. Certificate of secondary education examination from Mtakuja secondary school.

2014-2017.Diploma in biomedical equipment engineering from dar es salaam institute of technology (DIT).

D.WORKING EXPERIENCES

<u>August to October</u>, 2015: working with Pacific diagnostic limited in installing, services, maintaining and repair of imaging medical equipments such as X-ray machine, ultrasound, CT scan, MRI and mammography as the trainee.

August to October, 2016: working with Lugalo general military hospital in maintenance department as the trainee to service, maintain, calibrate, repair and install different medical equipments in:

- Radiology department.
- Labaratory department.
- ICU department.
- > Theatre department.
- Dental department.
- Physiotherapy department.
- > OPD.
- Maternity department.
- Pediatric department.

As well as, Electrical installation (electrical activities) and repair of electric and electronic devices.

July, 2017 up to Janary, 2018: working with Le Matrix Co.Ltd as part time job to services medical equipments in different hospitals.

<u>February,2018 up to now:</u> I'm working with Computech Ltd,GE healthcare as the Field service Engineer to install,repair,maintain,services,troubleshoot all GE medical equipments which include Anaesthesia,Ventilator,ECG machine,Ultrasound,patient monitors and X-Ray machine.

TECHNICAL TRAININGS

13-15 August 2018: 9100c (Anaesthesia) Technical Training.

16-18 August 2018: Carestation 30 Product (Anaesthesia) Training Coarse.

E.COMPUTER LITERACY

- Microsoft office package.
- Computer aided design(AutoCAD).
- Basic of computer programming.
- Computer maintenance and repair.
- Internet and E-mail.
- Social networks marketing.

F.PERSONAL ABILITIES

- Ability to work efficiently under minimum supervision.
- Ability to prepare and present issue to the mass.
- Ability to work collaboratively as teamwork.
- Sales and marketing.
- Entrepreneurship.

G.HOBBIES AND INTEREST

- Playing football.
- Exchanging and sharing business ideas with different people.
- Reading books related to biomedical engineering.
- > Travelling.

H.REFEREES

1. Mr. Abdallah Ally

Environmental health officer Rombo district.

Telephone: 0757302132

: 0652911724

2. Anastars Kyoma

Electrical & Biomedical technician Lugalo general military hospital Telephone: 0713410240

3. Mahmoud Othmani

Service Engineer Pacific diagnostic limited Telephone: 0717252604

4. Samwel Julius

Sales and service engineer Vanguard (T) limited. Telephone: 0714180645

5. Bahati Nkingi

Field service Engineer Computech Ltd,GE healthcare Telephone: 0786959150

CURRICULUM VITAE (CV)



PERSONAL PROFILE

NAME:

Abdallah

FATHER'S NAME:

Masokola

DATE OF BIRTH:

20thJuly, 1994

NATIONALITY:

Tanzanian

RELIGION:

Muslim

PERMANENT ADDRESS:

P.O Box 2958, Dar Es Salaam

MOBILE NUMBERS:

+255 754381700, +255 715514170

EMAIL:

Masokolaabdallah@gmail.com

MARITAL STATUS:

Single

LANGUAGE:

Swahili and English

SEX-

Male

RESUME SUMMARY

I am self-motivated, energetic and hardworking. I have completed an Ordinary Diploma in Biomedical Equipment Engineering at Dar es salaam Institute of Technology (DIT) since June 2017, I am able to work and taking challenges as an opportunity to archive target with limited time, especially in the field of Biomedical Equipment Engineering.

CARRIER OBJECTIVES

Seek to work in an environment that will challenge me professionally and make me able to contribute to the growth and success of the organization/company and country. To have a working position that will provide me the ability to apply my skills and experiences in field of Biomedical Equipment Engineering, so as to gain and learn more experiences to advice my career further with the company. Also look forward to work with company that promotes high quality service and products.

EDUCATIONAL PROFILE

Year:

2016-2017

Institution:

Award:

Dar es salaam Institute of Technology.

Ordinary Diploma Certificate (ODC) in Biomedical Equipment Engineering

Year:

2015-2016

Institution:

Dar es salaam Institute of Technology.

Year:

2014-2015

Institution:

Dar es salaam Institute of Technology.

Award:

Basic Technician Certificate (BTC) in Biomedical Equipment Engineering

Year:

2009-2012

School:

Cheyo Secondary School in Tabora municipal

Award:

Certificate of Secondary Education Examination (CSEE).

Year:

2002-2008

School:

Isike primary School in Tabora municipal.

Award:

Certificate of Primary Education Examination (CPEE).

WORKING EXPERIENCE

DURATION	LOCATION	POSITION HELD
17/08/2015 To 25/10/2015	Ocean Road Cancer Institute (ORCI) Dar es salaam.	As Biomedical technician I had responsibilities to Service for all Hospital medical Lquipments Maintenance of Radiotherapy machines Maintenance of laboratory equipment Electrical and Electronics installation works Machine performance Analysis Maintenance of Brachytherapy machines

29/08/2016 To 28/10/2016	Ocean Road Cancer Institute (ORCI) Dar es salaam	As Biomedical technician i had responsibilities to: Service for all Hospital medical Equipments Maintenance of Radiotherapy machines Maintenance of laboratory equipment Maintenance of Brachytherapy machines Electrical and Electronics installation works Power system Faults and Analysis Machine performance Analysis
--------------------------------	---	--

28/12/2017 To 01/07/2018	Ocean Road Cancer Institute (ORCI) Dar es salaam	As Biomedical technician i had responsibilities to: Install of linac accelerator (LINAC) machine with Engineers (Expert from VARIAN) Install of CT-SCAN machine with Engineers (Expert from PACIFIC) Maintenance of Radiotherapy machine Maintenance of Brachytherapy machines Maintenance of simulation machines
--------------------------------	---	---

SKILLS

- ☐ Microsoft Office Application
 - -Word
 - -Excel
 - -Power point
- Presentation and Internet
- ☐ Computer Aided drawing i.e. AutoCAD
- ☐ Basic Computer Programming
- □ Professional proteus

OTHER PERSONAL ATTRIBUTES

D	Flexibility as situation demand.
D	Fast in learning new environment and technologies.
0	Minimum Supervision at work
D	Dynamic to any working environment
Ü	High degree of patient and tolerance
	Watching TV and Radio news.
_	The State of William Control of the
0	Tours and Travels.
D	Participating and sharing ideas with different people.
	Reading books, manuals and technical attachments.
D	Watching football

REFFEREES

REGINALD BEDA MATOLA

MACHINE MAINTENANCE MANAGER,

BIOMEDICAL ENGINEER

OCEAN ROAD CANCER INSTITUTE

P.O.BOX 3592

DAR ES SALAAM

Mobile: +255 714 026 666

Tel: +255 222 127 597

Email: reggymatola@gmail.com

SHAID YUSUFU

CHIEF MEDICAL PHYSICIST

OCEAN ROAD CANCER INSTITUTE

P.O.BOX 3592

DAR ES SALAAM

Mobile:+255782506139/+255653223143

Email: Shaid yusufu@vahoo.co.uk

CURRENT INFORMATION

I'm working with Computech ICS (T) Limited in Healthcare division as Field Biomedical Engineer Who certified with Engineering Registration Board (ERB)

DECLARATION

I Abdallah Masokola declare and certify to the best of my knowledge and belief that the above information is valid and correctly describe my qualification and experiences.

Abdallah Masokola,

Kuberakanthan Kuppuswamy

Senior Service Engineer

Professional Field Service Engineer with more than 7+ years of experience in the Medical Imaging Equipment's, service and development of new project management



KUBERAKANTHAN KOZ115FGMAIL COM @

+91 8056154810 /+255-677069157

CHENNAL INDIA Q

Dar es salaam, Tanzania

11 February, 1994 113

kuberakanthan.k0211 8

WORK EXPERIENCE

Protection Line Operator Avalon Technology Pvt Ltd,

09/2013 - 09/2014,

Chemnai, India

Avaion technology, is class A PCB manufacturing, testing and Assembling company

Achievements/Tosks

- Successful Protection line operator in SMT Division
- . Inspecting the final assembled product in AOI machine

Field Service Engineer Cura Health Care Pvt Ltd

11/2014 - 01/2019.

Chennoi, India

Cura Health Care Pvt Ltd is the Medical Imaging Company of selling refurbished products of GE (CT, Mammography and BMD), Hitachi MRI & Philips SMRI and Digital X-ray

Achievements/Tasks

- . Installing the equipment and ensuring that it is operational
- During the warranty period, making site visits to ensure that equipment is being used in the correct manner
- Maintaining equipment after installation, preventive maintenance and corrective maintains, identifying the part that requires replacement, placing an order and ensuring follow-up for part delivery and correct installation is done in good time
- Approaching service contract proposal after end of the warranty period

Contact: Stalin Sebastiraj - +91 8072426909

Senior Service Engineer

Computech Limited

Dar es Solgam/ Tanzania,

Computech Limited is GE health care channel partner representative in Tanzania

Achievements/Tasks

02/2019 - Present

- . Installing the equipment and ensuring that it is operational
- During the warranty period, making site visits to ensure that equipment is being used in the correct manner
- Maintaining equipment after installation, preventive maintenance and corrective maintains, identifying the part that requires replacement, placing an order and ensuring follow-up for part delivery and correct installation is done in good time
- Approaching service contract proposal after end of the warranty period

Contact: George Kilapilo +255 757962014

CERTIFICATES

GE MRI (02/2019 - 02/2019) xuccessfully completed GE MRI proficient training in GE HEALTH CARE (Bangalore)

GE Digital MAMMO (02/2019 - 03/2019)
successfully completed GE MAMMOGRAPHY proficent
and advance level training in 64 HEAL HEAR (Bungary)

Power and Grounding (06/2019 - 06/2019) successfully completed POWER AND GROUNDING training in GE HEALTH CARE (Kenya)

Connectivity (06/2019 - 06/2019)
Successfully complete GE CONNECTIVITY IN GE HEALTH
CARE (KENYA)

GE Safety (03/2020 - 03/2020) Successfully completed online GE safety trainings

EDUCATION

Diploma in Electrical Communication Engineering Meenakshi Krishnan Polytechnic college - CHENNAI

05/2011 - 04/2011

CHENNAL/INDIA

SKILLS

Decision making | Negociation |
Project Management | Leadership

LANGUAGES

English

Professional Working Proficiency

Tamil

Full Professional Proficiency

INTERESTS

Reading Books



swimming

Travelling

Wetching movie

THE UNITED REPUBLIC OF TANZANIA



WORK PERMIT CLASS C



(Made under Section 12)
The Non-Citizens (Employment Regulation)
Act, No. 1 of 2015.

Ref. No: WPC/1302/19

Pursuant to the powers conferred upon me under Section 11(1) (a) of this Act, I hereby issue Work Permit to Mr. KUBERAKANTHAN KUPPUSWAMY of INDIA Nationality with Passport No. S9531410 to work as BIOMEDICAL EXPERT(FIELD ENGINEERING) in Tanzania Mainland with M/s LION HEALTHCARE SOLUTIONS TANZANIA LIMITED.

This Permit shall be Valid for the period of 2 YEARS with effect from 11TH JUNE, 2021 to 10TH JUNE, 2023 subject to the conditions specified overleaf.

Date 11.06. 2021.

Lilian D. Francis
For: LABOUR COMMISSIONER



REVOLUTION MAXIMA

Product Data Sheet (Global 55kW)

DOC2308562 rev3

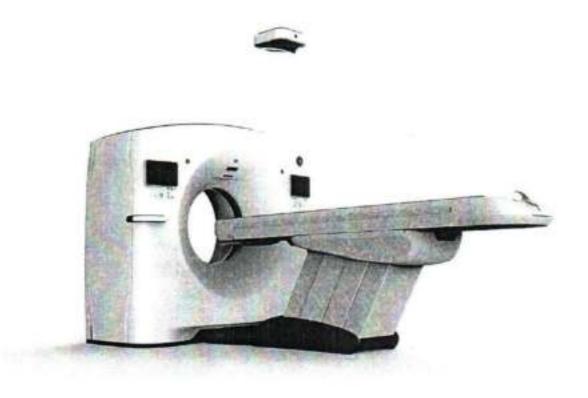




Table of Contents

		DEST.	
4	Intr	DOL	PETROL
		70007	

- 4 Indication for Use
- 4 Smart Flow
- 5 Clarity Imaging Chain
- 6 Primary Benefit Imaging Performance
- 7 Primary Benefit Advanced Dose Reduction Technology
- 7 Workflow Productivity Enhance
- 8 Increased Coverage
- 8 Cardiac
- 9 Intervention
- 9 Dose Reduction Technology and Management.
- 10 Main Productivity Features
- 10 | Scan Mode
- 13 | Imaging Performance Specifications
- 14 Desktop Exam RX and Image Works
- 15 Gantry Specification
- 15 Scan Control Unit
- 16 Patient Table

REVOLUTION MAXIMA

Peripherals 16 Image Networking 16 Dicom Conformance Standards 16 Filming Protocol 17 Anti-virus software 17 Energy Saving 17 17 Siting Requirement 17 Warranty Regulatory Compliance 18



Introduction

GE's Revolution Maxima is a new standard computed tomography, powered by artificial intelligence technology that delivers a streamed line workflow for better ease of use and operational efficiency.

- Smart Flow
- 40mm coverage Clarity Detector /DAS
- 0.35sec* rotation speed
- 0.28mm spetial resolution
- ASR-V*, up to 82% dose reduction relative to FBP at the same image quality?*

Key technologies enablers include:

- At based automatic patient positioning is an innovative, next generation technology. It is powered by Xtream camera that enables automatic landmark detection and auto patient centering. This function helps optimize the radiation dose and image quality and it may avoid the positioning error.
- Avoid a wrong scout scan by matching the direction of the patient orientation (head first, feet first, prone and supine) captured with Xtream camera and the selected protocol information.
- Related Protocol matches an order information transferred from RIS (Radiology Information System) with a user protocol and shows only necessary protocols to reduce complexity of protocol selection.
- Clarity imaging chain with new X-ray tube, Detector and IR technology overcome Image performance challenges such as noise, spatial resolution, low contract detectability or artifact.
- Performs: 40 Plus with liquid bearing tube realizes 0.35sec* rotation speed in routine and enables 6sec in 1000mm, combined with high helical pitch 1.531.
- ASIR-V* is an advanced model based iterative reconstruction technology, which can reduce the image noise by utilizing the models of the system noise statistics, objects, and physics.
- SnapShot Freeze* is designed to reduce blurring artifacts due to motion in coronary vessels that cannot be addressed by gantry speed alone. Providing up to a 6X improvement, while maintaining high spatial resolution.
- SnapShot Pulse" mode is for low dose imaging of the coronary arteries. SnapShot Pulse can also be used to image structures that are near to the heart and may be affected by heart motion such as thoracic aorta's or pulmonary arteries.
- Organ Dose modulation provides reduction of radiation dose via X-ray tube current modulation for superficial

- tissues, such as breasts. OOM may enable equivalent pixel noise standard deviation without decreasing productivity as with the use of conventional superficial dose reduction techniques.
- Volume Helical Shuttle* is a continuous scan technique that is a bi-directional scan mode, covers up to 312 5mm for 4D imaging.
- Smart MAR* helps reducing photon starvation, beam hardening and streak artifacts caused by metal in the body, such as hip implants.

Indications for Use

The system is intended to produce cross-sectional images of the body by computer reconstruction of x-ray transmission data taken at different angles and planes, including Axial, Cine, Helical (Volumetric), Cardiac, and Gated acquisitions. These images may be obtained either with or without contrast. This device may include signal analysis and display equipment, patient and equipment supports, components and accessories.

This device may include data and image processing to produce images in a variety of trans-axial and reformatted planes. Further the images can be post processed to produce additional imaging planes or analysis results.

The system is indicated for head, whole body, cardiac and vascular X-ray Computed Tomography applications in patients of all ages.

The device output is a valuable medical tool for the diagnosis of disease, traume, or abnormality and for planning, guiding, and monitoring therapy.

Smart flow

Auto Positioning*

With a current traditional scanner, an operation for patient positioning requires some manual settings such as scan range determination, centering or landmark setting, and challenges are time-consuming and variation by operators. On the other hands. Auto Positioning activates automatic table elevation motion to the centering height, and cradle motion to the scout start position, with one single click on the touchucreen. Moreover, it safeguards the positioning motion by checking possible collision of the patient body with the CT gantry. Auto Positioning with At tochnology realizes the auto scout scan range, anatomical reference detecting and centering by specifying the position and shape in three dimensions. This GE unique technology provides better patient throughput, ease of use, consistent image quality, standardization, and less error.

- Auto Positioning loads patient to the scan position with just one click. It provides better operational efficiency compared without this function.
- Auto centering optimizes the radiation dose and image

Page 10 (CD19). The Placton Laboratory, long-moder share restrict.

^{*}Consisted belief in PNTF 4% was in KW, 4% MST is measured union 120% x, 200 vs., 1,0xxx gallery (charum and Lifey Pas serve).

Famoge quality as stellment by loss constant detectability.

^{*} In claim at practice, there are of ASER V may reticus EX patient does increasing on the plantal tests, protect plan, analyzing at locations, and thereof practice, it consultations with a random get and a physical because the made to determine the argump-late does to obtain diagnostic image qualify be the partitionar afficial task. Live Cook and Determinability (CER) may get image, spatial exceptions and hydroxy even assessment using reference factory postar of managed grains of and 6 66. The NED

A.Co. organisment of metion-blur reduction while maintaining toght could invalid the demonstrated or cardiac phastion hashing. The enhances in rection a ship in a comparation to a 2006's layout left transport for the demonstrated or out for the property of 29 years, or demonstrated or out to control phastion feeting.



quality, and it helps in in minimizing positioning errors compared to manual positioning.

 Avoid a wrong scout scan by matching the direction of the patient orientation (head first, feet first, prone and supine) captured with Xtream camera and the selected protocol information.

Xtream Camera*

All based automatic patient positioning is an innovative, next generation technology. It is powered by Xtream camera that enables automatic landmark detection and auto patient contering.

The Xtream camera captures patient information, then uses a dedicated Al algorithm to detect the anatomical landmark automatically based on protocol input.

The Xtream camera provides automatic patient centering by determining the patient center within the scan range and aligning this patient center with CT isocenter automatically.

Xtream Tablet

Xtream Tablet is a multi-purpose user interface on gantry sides and supports following features.

- Wide monitor, 12.1 inch
- Touch screen operation
- Patient and protocol selection
- Patient information display
- Motion axes display
- Related Protocol
- · Default Patient Positioning
- Scout scan range setup and confirmation
- ECG waveform display
- Collision indication
- Emergency Patient

Related Protocols

Matches an order information transferred from RIS (Radiology Information System) with a user protocol and shows only necessary protocols. These protocols are showed on the gantry side Xtream Tablet and contribute to the shortening of scanning preparations.

Volume helical digital tilt

Volume helical digital tilt is an innovation in image reconstruction technology that allows clinicians to reconstruct tilted views of up to ± 30 degrees without the need for physically tilting the scanner. Digital tilt uses a resampling technology within the reconstruction pipeline to map vertical data samples to user specified tilted view angle.

Digital tilt exams are efficient since operators can setup the entire workflow from their console without the need for multiple trips between console and gantry controller. With helical scanning of a volume, clinicians have the additional advantage of leveraging powerful jurns processing and visualization tools for creating volume rendering, multiplanar reformatting (MPR), curved MPR views and any tilted images as needed.

Clarity Imaging Chain

Revolution Maxima's Clarity Imaging Chain consists of Clarity Detector, DAS, Performb40 Plus X-ray Tube and ASIR-V reconstruction, to deliver high resolution imaging.

For better performance Volume CT, Clarity Imaging Chain provides enhancement of spatial resolution up to 20% compared with previous GE technology⁴.

Clarity Detector and Data Acquisition System

- Designed as analog cable free between ASIC and Diode and has a capability to reduce electric noise.
- Designed for less beat generation, up to 90% compared with previous GE technology and all in one DAS / Detector, it has capability to reduce electric noise.
- Designed for less floor-noise, up to 44% compared with previous GE technology and it has capability to reduce electric noise.
- Optimized collimator with ability to reduce scatter noise.

Performix™ 40 Plus X-ray Tube

- PerformicitO Plus X-ray tube provides less focus movement.
- A liquid bearing tube that has a capability of less-wear of Tube bearing and is enabled up to 0.35sec rotation speed with a routine scan. Revolution Maxima allows users to utilize helical pitches up to 1.531 and 0.35sec rotation speed that meets GE's image quality specifications for lower pitch acquisitions. This high pitch and 0.35sec rotation speed enables faster scan times which may allow for shorter breadth holds, and may help to avoid seclation, simultaneously (or "as well as") reducing motion artifacts from patient and organ movement. As an example, using this higher pitch, a full-body trauma scan of 1000 mm can be acquired in as little as 6 seconds.

ASIR-VINE

ASIR-V is the newest technology in GE's family of industry loading iterative reconstruction techniques.

ASIR-V allows healthcare providers to lower dose by SO to 82% as compared to standard filtered back-projection (FBP) reconstruction at the same image quality'

ASR-V extends the advanced noise and dose reduction technologies of ASiR. Existing iterative reconstruction, such as ASiR, models the noise in a way that is adaptive to the mA, kV and body habitus of the patient.

ASSIT-V enhances the noise modeling of ASIR in two ways:

1) ASIR-V performs cophisticated statistical modeling of the projection samples by taking into account the confidence of each projection measurement in the reconstruction process; and

2) ASIR-V incorporates the user's special clinical needs, such as enhanced spatial resolution, into the statistical treatment of the

^{*20%} represent a compared to previous 60 CF research at the MTP with Edge hatrol



samples.

Compared to ASIR, ASIR V offers:

- Improved noise & dose performance beyond what is possible with ASIR.
- Improved spatial resolution without compromise in image noise.
- Reduced streak artifacts due to better handling of photonstarvation with its unique adaptive restoration algorithm.

Lower dose:

ASR-V reduces dose by 50% to 82% relative to FBP at the same. Image quality?

Low contrast detectability improvement;

ASIR-V emproves low contrast detectability by 59% to 135% at the same dose"

Image Noise improvement;

ASIR-V reduces image noise up to 91% at the same dose"

Spatial resolution enhancement;

ASIR-V improves spatial resolution up to 2.07X (107%) at same image noise*

Artifact reduction,

ASIR-V image reconstruction has the capability to reduce low signal artifact such as streak artifact compared to FBP

Primary Benefit – Imaging Performance

ASiR™ (Adaptive Statistical Iterative Reconstruction)

- ASIR dose reduction technology: A reconstruction technology that may enable reduction in pixel noise standard deviation. The ASIR reconstruction algorithm may allow for reduced mA in the acquisition of diagnostic images, thereby reducing the dose required.⁵
- ASIR dose reduction technology: A reconstruction technology that may enable improvement in low contrast detectability.⁵
- When imaging the same object, the Revolution Maxima system with ASIR may deliver pixel noise standard deviation equivalent to a higher mA acquisition such as that delivered by a higher power generator.⁵
- The use of ASIR may allow for scanning at lower mA and less anode heat input, thereby reducing the likelihood of encountering tube cooling delays.

High belical pitch

Revolution Maxima allows users to utilize helical pitches up to 1,531 and 0.35sec rotation speed that meet GE's image quality specifications for lower pitch acquisitions. This higher pitch and 0.35sec rotation speed enable faster scan times which may allow for shorter breadth holds, and may help to avoid sedation, simultaneously (or "as well as") reducing motion artifacts from patient and organ movement. As an example, using this higher pitch, a full-body trauma scan of 1000 mm can be acquired in as little as 6 seconds.

Smart metal artifact reduction (MAR) - Smart MAR*

Smart MAR* helps reducing photon starvation, beam hardening and streak artifacts caused by metal in the body, such as hip implants.

10 Enhance (Pitch Booster)

IQ Enhance is a special algorithm that can be prescribed to minimize commonly seen in thin slice helical acquisition.

1024 matrix reconstruction

Revolution Maxima supports 1024 reconstruction matrix.

Ultra Kernel

Adaptive Enhance Level Adjustment (AELA) may improve visual spatial resolution while maintaining pixel noise standard deviation and without introducing new artifacts.

AAR - Advanced artifact reduction

Advanced Artifact Reduction (AAR) Filter significantly reduces streaking artifacts when highly absorbent objects are in the field of view – ic: large shoulder.

Two Path Dual-Energy Acquisitions

GE's protocol management is improved with the addition of a workflow improvement feature, which allows easy configuration of back to back Asial or helical scans of the same anatomy at two different X-ray energies (kVps). To further improve registration accuracy, patient immobilization may be utilized. The additionally acquired dual energy data can be post-processed on console or AVV workstation using Add/Sub function to gain additional clinical information.

Overlapped reconstruction*

For 64ch based system, the overlapped reconstruction feature enables 128 slices per rotation in axial scanning modes and delivers improved Z-axis visualization performance relative to non-overlapped reconstruction.

For 32ch based system, the overlapped reconstruction feature enables 64 slices per rotation in axial scanning modes and delivers improved Z-axis visualization performance relative to non-overlapped reconstruction.

Conjugate Cone-Beam Back Projection

For 64ch based system, conjugate Cone-Beam Back Projection utilizes two sets of counter-opposed projections to provide 128 distinct projection measurements per rotation for axial and a helical acquisition mode to significantly improve 2-resolution.

For 32ch based system, conjugate Cone-Beam Back Projection

To along a practice, the one of ASSE may reduce CE parties their end represents a contract detectability depending on the close a case, potentially a national in our requirements be of contracted practice. A promobilities will actually a state of a phonoid of shadling to be detections. The appropriate three to obtain diagnostic reagn quality for the particular close of 2000.

The contract practice, the result AJAF is may reduce CT patient date depending on the characteristic patient size, another and contract and contract and a particle. A consultation with a radialogust and a physicial should be made to determine the experiptions does to obtain diagnostic major scalely for the particular clinical stable. Lone Contract before tablety, Inc.D. Integr. Notice, Japania Presentation and Archard were appropriate long ordered to tary particles on comparing ASAF is and RRF. The LCD was receivanted using DAJI mensions and below the soft based and body recolor using the MTA CT Of Province (CCTER, the Province Learnary), using a model observer method.



DOC2308562

utilizes two sets of counter-opposed projections to provide 64 distinct projection measurements per rotation for axial and a helical acquisition mode to significantly improve Z-resolution.

Thinner FWHM at Helical

GE's exclusive helical reconstruction technologies, crossbeam correction, conjugate ray interpolation and hyper plane helical reconstruction with alpha smoothing method, allow scanning at thin slice 0.66mm typically (40mm aperture, 0.516 holical nitch).

Short geometry design

The "Short Geometry Design" improves geometry efficiency compared to conventional long geometry system. For example, Revolution Maxima' distance between the focus to the iso center is 541 mm. The distance in a conventional long geometry system is 600 mm. The geometry efficiency of Revolution Maxima is approximately 19% higher than that of long geometry scanner.

Primary Benefit - Advanced Dose reduction technology

Organ Dose Modulation

DDM provides reduction of radiation dose via X-ray tube current modulation for superficial organs and tissues, such as breasts while maintaining diagnostic quality without decreasing productivity (as the result of not using externally applied shields).

Because attenuation data from the Scan Projection Radiograph is used to determine the mA modulation for acquisitions using Automatic Exposure Control, it is understood that when using externally applied shields that these shields should not be put in place prior to acquiring the scan projection radiograph(s). Placement of externally applied shielding prior to obtaining the scan projection radiograph(s) may adversaly affect the AEC performance.

3D mA Modulation utilizing SmartmA and AutomA

Having this kind of volumetric knowledge before you scan allows you to personalize protocols and optimize dose for every patient - large and small. During the scan, real-time, 3D dose modulation helps deliver consistent image quality because it automatically accounts for the changing dimensions of your patient's anatomy. 3D mA modulation acquisitions may reduce dose compared with fixed mA acquisitions."

Dynamic Z-axis tracking

Dynamic Z-axis tracking provides automatic and continuous correction of the x-ray beam shape to block unused x-ray at the beginning and end of a helical scan to reduce unnecessary radiation.

Workflow - Productivity Enhance

Image Check - Real time reconstruction

Image Check provides 340x340 matrix images for confirming

reconstructed image coverage in real time and tracking up to 1800mm length with less than 1 sec delay.

Reconstruction time is up to 55 fps.

Enhanced Xtream Injector*

Enhanced Xtream injector which is the same as Class 4 in CiA425, allows synchronized start of the CT scan and setting injection parameters from the CT scan. The CT scan and injector are operated independently after the start button is pressed on the system.

AWE connection*

The AW Server client on the CT console is a software option that provides access to applications hosted on an AW Server, at the CT console. It offers customers the use of applications on the CT console for improved workflow and productivity.

Direct MPR

Direct MPR with Auto-Batch feature, affording automatic realtime direct reconstruction and transfer of fully corrected multiplanar images, also allows user to move from routine 2D review to prospective 3D image review of axial, sagittal, coronal, and oblique planes while enabling automated protocol-driven batch reformats to be created and networked to their desired reading location.

Volume Viewer application is required as prerequisite.

Default Patient Positioning

Default Patient Positioning provides user friendly positioning. After patient is positioned on the table, the operator touches the target reference point button on the Xtream tablet. The table is transferred to the target reference point, once the foot pedal has been pressed.

Increased Coverage

Volume Shuttle*

Revolution Maxima provides a single-injection 80mm (2x wider coverage, 128 slice-width) Volume Shuttle acquisition scan.

Volume Shuttle is a repetitive axial scan mode where the table shuttles back and forth between two consecutive imaging locations (X-ray is off during table movement). Each location covers 40 mm in the 2-direction for a total of 80 mm of 2 coverage. The shuttle action repeats over a defined duration to enable evaluation of tissue changes over time.

Volume Shuttle is only available for VT1700v table.

Volume Helical Shuttle*

- Volume Helical Shuttle is a continuous scan technique that is a bi-directional scan mode, covers up to 312.5mm or 500 slices (0.625mm x 500 slice) for 4D imaging.
- Volume Helical Shuttle provides data to support up to 140 mm of coverage repeatability within 3.2sec.
- Dynamic Pitch Reconstruction extends Z-coverage and improves temporal sampling by utilizing acquired scan data

Total recognistion in designed to optimize the data for the user provided noise index, or effect on more depends on the patient looky haiding, and prescribed rather safely.



Latest update on Apr 27, 2020 Page 9 of 19



during table acceleration and de-acceleration.

Pre-requisite 0.4sec rotation speed

Volume Helical Shuttle is only available for 64ch based and VT1700v table system

Cardiac

Revolution Maxima has the ability to cover the heart in as little as 5 beats.

The following calculation is based on a patient heart rate of 60bpm, and a total coverage of 120mm (nominal scan length to cover the heart), using a helical pitch of 0.22:1, and a rotation speed of 0.35 sec rotation.

44msec cardiac temporal resolution with 0.35 second rotation and SnapShot scan algorithm. Revolution Maxima not only offers fast acquisition speed, it builds on GE's exclusive variable speed technology that has now been expanded for cardiovascular imaging to include 0.35, 0.375, 0.40, 0.425, 0.45, 0.475 and 0.50 second scans.

SnapShot imaging provides software and hardware to perform retrospective helical ECG-gated reconstructions of the heart with three SnapShot-imaging modes.

- SnapShot Segment is a single sector protocol.
- SnupShot Burst is a multi-sector protocol using up to two sectors.
- SnapShot Burst Plus is a multi-sector protocol using up to four sectors.

Variable image thickness: 0.625, 1.25 and 2.50mm

SnapShot^{ne}Freeze*

SnapShot Freeze is designed to reduce blurring artifacts due to motion in coronary vessels that cannot be addressed by gantry speed alone. Providing up to a 6X improvement, while maintaining high spatial resolution, the reduction in motion artifacts is equivalent to a 0.058s Equivalent Gantry Rotation Speed with Effective Temporal Resolution of 29msec?.

SnapShot Freeze requires CardIQ Xpress 2.0 Reveal on AW VS6. VS7 or AW Server

SnapShot Freeze is only available for 54ch based and VT1700v table system

SnapShot** Assist*

Helps users Optimize ECG-gated CT acquisitions based on patient heart rate characteristics. SnapShot Assist uses the patient's recorded heart rate information to display scan parameters (including scan mode, cardiac phases, padding and pitch) that could be used during the cardiac CT scan.

SnapShot Assist generates a cardiac scan parameter recommendation using the patient's ECG analysis and user defined protocol selection algorithm. It uses the patient's recorded heart rate information to predict the heart rate behavior during a CCTA scan to assist the user with optimization of the parameters on a per-patient basis. Acquisition parameters displayed include scan mode (Cine SnapShot Pulse, Helical SnapShot Segment, etc.), cardiac phases, padding, and pitch. User Profiles define scan parameters within the heart rate and variability categories for a specific patient group and cardiac scan mode.

SnapShot Assist is only available for 64ch based and VT1700v table system

SnapShot™Pulse*

- SnapShot Pulse mode is for low dose imaging of the coronary arteries. SnapShot Pulse can also be used to image structures that are near to the heart and may be affected by heart motion such as thoracic aorta's or pulmonary arteries.
- Prospective Gating based SnapShot Pulse achieves significant dose reduction compared to ECG gated belical acquisition mode.

SnapShot Plus is only available for 64ch based and VT1700v table system.

SmartScore** Pro*

Acquires prospective ECG gating measurements, which provide information that is valuable for scan timing. Using the measurements, the system synchronizes the collection of data with the cardiac cycle.

Cardiac enhance features

- Cardiac image Filters* provides users the capability to reconstruct filtered images using three steps of noise (pixel noise standard deviation) reduction for helical and axial cardiac imaging, which may allow a reduction of mA while maintaining an acceptable level of image performance.
- ECG mA Modulation*: For cardiac applications, prospective ECG mA modulation automatically adjusts the mA to minimize the patient's exposure to X-rays – reducing mA during systolic phases of the cardiac cycle. This provides clear images and allows you to reduce mA primarily in the systolic phases of the cardiac cycle. – yet gives you enough power to obtain quality images for functional analysis.
- ECG Waveform on the Console* will allow users to visualize the ECG waveform directly on the CT scanner console during the scan.
- ECG Viewer / Editor* provides users the capability to view and retrospectively modify intervals and adjust location of triggers for cardiac cycles based on the ECG waveform displayed on the console. This capability may improve successful cardiovascular acquisition rate in cases with suboptimal triggers or irregular heartbeats such as PVCs, PACs and arrhythmias.

Intervention

SmartView***

SmartView provides continuous, real-time CT fluoroscopy at 24 fps (3view ports at 8fps each) with in-room viewing and manual

¹ A fix improvement of months bits implicate while maintaining high spatial execution is destroyed with other maintain to be observed with a fixed and the property of the contract of the companion of the maintain of the maintain destroy fluid and the effect is temporal execution of the maintain demonstration of statements about its support of the maintain demonstration demonstratio



X-ray control. The intuitive user interface provides six userselectable display layouts, in-room image review and WW and WL control. Features ceiling-mounted in-room LCD monitor and full-featured handheld, cradle-mounted controller.

Real time performance

- FPS at single display mode: 12fps.
- FPS at three display mode: 24fps
- Nominal image lagr 0.2sec

Viewport	Slice thickness (mm)	Rotation speed (Sec)	
Single	2.5.5.0, 10	0.5*, 0.8, 1.0	
Three	1.25, 2.5, 5.0		

SmartStep*

SmartStep is an interventional mode providing step-and-shoot imaging with in-room viewing and manual X-ray control.

The three interventional viewports automatically update each time an exposure is made with the foot pedal.

Biopsy mode

Biopsy Mode improves the efficiency of setting up and acquiring slices during a biopsy. All biopsy scan parameters are available on a single screen from which you can launch the biopsy scan

Dose reduction technology and management

Revolution Maxima introduces Volume CT capabilities while incorporating the following GE dose reduction features.

OptiDoseTH

For years GE has followed the ALARA principle in helping its customers optimize dose. GE has provided many tools to help the clinician minimize dose while achieving diagnostic quality images.

- ECG mA Modulation* For cardiac applications, prospective ECG mA modulation automatically adjusts the mA to minimize the patient's exposure to X-rays – reducing mA during systolic phases of the cardiac cycle. This provides clear images and allows you to reduce mA primarily in the systolic phases of the cardiac cycle – yet gives you enough power to obtain quality images for functional analysis.
- CT 4Kids: The pediatric protocols are based upon a child's: size, age, and weight and tailor the dose or treatment to the size of the patient. The Head and Orbit categories are age based. The rest of the categories are height and weight-based protocols.
- Color Coding Kids³⁴ provides pediatric scan protocols based on the Brosefow-Luten system³⁴ Pediatric System. This Color-Coding system is incorporated into the protocol selection on the operator's console
- SmartTrack: The tracking collimator keeps the beam focused only on the active detector cells, and makes submillimeter scanning possible with high dose efficiency.

 SmartBeam⁽ⁿ⁾: The collimator contains two independently controlled tungsten came. The rotation of the cams provides continuous variable beam thickness and Z-axis position. The collimator also contains three bowtie beam filters that filter and shape the beam to optimize dose and image performance.

Dose Check

Dose Check provides users with tools to help them manage CT dose in clinical practice and is based on the standard XR-25-2010 published by The Association of Electrical and Medical Imaging Equipment Manufacturers (NEMA).

Dose Check provides the following

- Checking against the Notification Value if the estimated dose for the scan is above your site established dose value.
- Checking against the Alert Value where the user needs specific authority to continue the scen at the current estimated dose without changing the scan parameters if the estimated dose exceeds the alert value.
- Alert Values for Adult and Pediatric with age threshold
- Audit logging and review capability
- Protocol Change Control capability

Dose Reporting

- Dose Reporting: CTDL_H, DLP, Dose Efficiency displays during scan prescription and provides dose information. The CTDL_H, DLP and Phantom size used to calculate dose in automatically saved once the user selects End Exam.
- DICOM Structured Dose Report generates a CT Dose Report, which can enable tracking of dose (CTDL_s and DLP) for the patient by the hospital radiation tracking system/RSS/HIS.

Main productivity features

SmartPrep

SmartPrep, which allows intermittent menitoring of IV contrast enhancement in an area of interest. The contrast flow is munitored by Low-Dose scans until the contrast enhancement reaches the preferred point and then the user initiates the scan prescription.

Dynamic Transition

With SmartPrep procedure, Dynamic Transition allows the scan phase to start automatically when the HU of the transition ROI reaches the desired enhancement threshold.

Graphic Retro

Graphic Retro provides the capability to graphically prescribe retro reconstructions using an existing axial plane image as a reference image.

10 PMR

REVOLUTION MAXIMA

Latest update on Apr 27, 2020 Page 11 of 19

Prospective Multiple Reconstruction (PMR): Up to 10 sets of reconstructions can be pre-programmed as part of the scan protocol prior to acquisition. The operator can select different start/end location, slice thickness, interval, reconstruction algorithms and display helds of view for each reconstruction.

Copy PMR & Series

Automatically copy the parameters of an existing series when "Copy series" is solocted. The series parameters include: start location, end location, interval, DECIV, A-P center, and R-L center.

Connect Pro

With the Connect Pro option, the uner can view other valuable information about a patient such as allergies, pregnancy status, and medical alerts. This information is gathered from the HIS/RIS using a DICOM connection.

Connect Pro can be sustomized to fit the department's needs by using "filters" to pull only the information in which the user is interested, it can collect more than standard patient demographic information.

Prospective Exam Split*

Prospective Exam Split allows multi-anatomical exams to be read in separate anatomic sections. This allows specialists to roview only those images needed for a given requested procedure. Prospective Exam Split provides users with the capability to specify how to split the exam into separate billing groups for each scan.

Grayscale Presentation State

GrayScale Presentation State (GSPS) is a DICOM object which saves a range of images along with the image state and graphic annotations. The GSPS object can be displayed on the CT scanner or networked to a remote host that supports DICOM GSPS.

CD/DVD/USB

The CD/DVD/USB allows users to store DICOM images and a DICOM Viewer to a CD-R or DVD-R or USB media that can be played back on a PC or laptop with a Window* XP/Vista/7 operating system. Images stored on a CD-R, DVD-R or USB can be restored to the AW system or Revolution Maxima system.

Data Export

Data Export allows images to be stored on a CD-R or FTP or USB Images as JPEG, PNG, AVI, MPEG, or MOV formats.

The JPEG, PNG, AVI, MPEG, or MOV images can be viewed from a PC or laptop with a Windows* 2000 or XP operating system using Internet Explorer* 5.5 or later.

AutoVoice¹⁸⁶

Three pre-recorded voices are available in 13 languages (English-Male, English-Female, Japanese, French, German, Spanish, Mexican Spanish, Italian, Korean, Chinese, Portuguese, Brazilian Portuguese and Russian.). The operator can record an additional 17 voice instructions.

Learning Solution

The User Manual contains all the user information required to operate the scenner. It has detailed information as well as step-by-step procedures. The User Manual can be displayed on the Display monitor by clicking on the Learning Solution icon.

Scan mode - Helical

Helical scan mode is a continuous 360 degrees scanning with table incrementation and no inter scan delay.

Multiple-Thickness Reconstruction

40mm Aperture / 20mm Aperture

Slice	0.516.1/	0.984:1/	1.375:1/	1.531-1/
Thickness	0.531:1	0.969:1	1.375:1	1.531-1
0.625mm 1.25mm 2.5mm 3.75mm 5mm 7.5mm 10mm	20/10 mm/rot	39/19 mm/rot	55/27 mm/rot	61/30 mm/rot

For 64ch based system, generating images at 0.1mm intervals, enables reconstructed images that exceed 128 slices (images) per gantry rotation. The number of slices able to be generated per gantry rotation is a function of rotations and coverage.

Rotations	Z-coverage (mm)	Generated slices (Images/rotation*)
1.71	30	176
2.00	46	250
3.00	101	357
4.00	156	390
5.00	211	422
5.00	266	443

64 slice x 0.625mm & 1.375:1 helical pitch

For 32ch based system, generating images at 0.1mm intervals, enables reconstructed images that exceed 64 slices (images) per gantry rotation. The number of slices able to be generated per gantry rotation is a function of rotations and coverage.

Rotations	Z-coverage (mm)	Generated slices (Images/rotation*)
1.71	30	140
2,00	46	184
3.00	101	269
4.00	156	312
5.00	211	337
6.00	266	354

32 slice x 1,25mm & 1 375;1 helical pitch

Helical Scan Parameters



- DOC2308562
- Helical Scan Speed: 560° rotational scans: 0.35°, 0.4°, 0.5°, 0.6", 0.7, 0.8, 0.9, and 1.0
- Cardiac Scan Speeds*: 0.35, 0.375, 0.40, 0.425, 0.45, 0.475. and 0.50
- Helical Pitch (nominal): 0.516 to 1.531
- Cardiac Pitch: 0.16 to 0.325.
- Selectable kV: 80, 100, 120, 140
- 10 to 450mA at 120kV, 5mA increment
- Single Acquisition: 120 second scan maximum
- Minimum Inter-Group Delay (IGD): I second between adjacent helical scans

Maximum Display Fields of View:

- 32cm for pediatric head .
 - 50cm for body large
- 32cm for pediatric body
- 32cm for cardiac small
- 32cm for head
- 50cm for cardiac large
- 32cm for body small

Helical Image Reconstruction

- Reconstruction Algorithms: Soft Tissue, Standard, Detail. Chest, Bone, Bone Plus, Lung, Ultra, Edge, Edge Plus, Soft# and Standard#.
- Reconstruction Matrix: 512 x 512, 1024 x 1024
- Display Matrix: 1024 x 1024
- CT Number Scale: ±31,743 HU
- Minimum DFOV: 5.0 cm
- Minimum Pixel Size: 0.10 mm

Helical Scan Protocols

Single helical scans under 120kV scans (Maximum mA subject to system configuration)

Scan times (s)	Maximum mA
50	385
40	350
50	325
60	310

Multiple Helical Scans (IGD = 5 seconds) under 120kV scans (Maximum mA subject to system configuration).

MaximA			
No scans	10s scan time	20s scan time	30s scan time
2	460	360	315
3	425	335	285
4	405	315	240

Scan mode - Axial and Cine

Axial scan mode: axial slices acquired simultaneously with each 360-degree rotation, with the time between scans set by the user-selected interscan delay (ISD) or intergroup delay (IGD).

Cine scan mode: contiguous axial slices acquired simultaneously with each 360 degree rotation. Half-scan imaging and segmented reconstruction is supported with acquisitions times of 0.65 times that of the scan speed.

Multiple-Thickness Reconstruction

64ch based system

Collimation	Slice thickness	Recon Slice thickness
40mm / 64 x 0.625mm	0.525	128i - 0.625mm ⁶ 64i - 0.625mm ⁶ 32i - 1.25mm ⁶ 16i - 2.5mm 8i - 5mm 4i - 10mm
20mm / 52x 0.625mm	0.625	32i - 0.625mm 16i - 1.25mm 8i - 2.5mm 4i - 5mm 2i - 10mm
10mm / 16 x 0.625mm	0.625	16i - 0.625mm 8i - 1.25mm 4i - 2.5mm 2i - 5mm 1i - 10mm
5mm / 8 x 0.625mm	0.625	4i - 1,29mm 2i - 2,5mm 1i - 5mm
2.5mm / 4 x 0.625mm	0.625	2i – 1.25mm 1i – 2.5mm
1.25mm / 2 x 0.625mm	0.625	1i - 1.25mm

^{*}Retro Recon Only, *Overlapped Reconstruction

32ch based system

Collimation	Slice thickness	Recon Slice thickness
40mm / 32 x 1.25mm	1.25	32i - 1.25mm* 16i - 2.5mm 8i - 5mm 4i - 10mm
20mm / 32x 0.625mm	0.625	64i - 0.625mm*0 32i - 0.625mm 16i - 1.25mm 8i - 2.5mm 4i - 5mm 2i - 10mm
10mm / 16 x 0.625 0.625mm		16) + 0.625mm 8i - 1.25mm 4i - 2.5mm 2i - 5mm 1i - 10mm
5mm / 8 x 0.625mm	0.625	4i - 1.25mm 2i - 2.5mm



REVOLUTION MAXIMA

Latest update on Apr 27, 2020 Page 15 of 19

		1i - 5mm
2.5mm / 4 x 0.625mm	0.625	2i – 1,25mm 1i – 2,5mm
1.25mm/2× 0.625mm	0.625	1i - 1.25mm

^{*}Retro Recon Only, * Overlapped Reconstruction

Axial and Cine Scan Paramet	tors

- Axiab Scan Speeds: 0.35*, 0.4*, 0.5*, 0.6*, 0.7, 0.8, 0.9, 1.0;
 and 2.0 second full scans (360* acquisition).
- Cine: Scan Speeds: 0.55*, 0.4*, 0.5*, 0.6*, 0.7, 0.8, 0.9 and 1.0 second full scans (360° acquisition).
- Cardiac Scan Speeds*: 0.35.
- Selectable kV: 80, 100, 120, 140
- 10 to 460mA at 120kV, 5mA increment.
- Single Acquisition at Cine: 120 second scan maximum
- IGD between scans is from 1sec to 600sec

Inter-scan Delay (ISD)

Table Movements	Minimum ISD	
0 to 10 mm	1.0s	
10 mm to 20 mm	1.35	
20 mm to 30 mm	1.6s	
30 mm to 40 mm	1.75	

Maximum Display Fields of Views

- 32cm for pediatric heart
- Sticm for body- large
- 32cm for pediatric body
- E2cm for cardiac small
- 32cm for head.
- S0cm for cardiac larger
- 52cm for body small

Axial and Cine Image Reconstruction

- Reconstruction Algorithms: Standard, Suft Tissue, Detail, Chest, Bone, Bone Plus, Lung, Ultra, Edge, Edge Plus, Soft# and Standard#.
- Reconstruction Matrix: 512 x 512, 1024 x 1024
- Display Matrix: 1024 x 1024
- CT Number Scale: ±31,743 HU
- Minimum DFOV: 5.0 cm
- Minimum Pixel Size: 0.1875 mm

Axial and Cine Scan Protocols

55kW based system under 120kV scans

Scantime(s)	150(s)	mA	Number of scans
DENN CHARGES	130/41	11.00	scans

^{*} Beth 537 and 1074 recently like matter over these specifications.

1	1.	440	45
1	1	360	68
1	1	320	86
1	1	280	110
1	1	240	135

Scan mode - Scout

Scout imaging is used for anatomical location in conjunction with scan and recon prescription, to provide an anatomical crossreference for axial images, and to provide quick feedback to the user as to the anatomy scanned. Revolution Maxima supports real time scout.

Scout Scan Parameters

- Aperture: 8 x 0.625 mm effective aperture
- Table speed: 100 mm/s or 175mm/s
- Maximum Display FOV: 50 cm
- Selectable KV: 80, 100, 120, 140
- 10 to 460mA at 120kV, 5mA increment.
- Orientation: AP, RLAT, PA, LLAT (preset); or angle from 0° -359° (manually selected).

Image performance specifications^a

Helical Scan Image Quality

High resolution: 0.28mm

3D MTF

Typical MTF is demonstrated on a 0.05mm tungsten wire and a 1.0mm x 0.025mm gold foil phantom for in-plane and z-plane, respectively.

High resolution algorithm

	X/Y lp/cm	Z lp/cm
50%	12.1	7.3
10%	16.0	52.2
4%	18.3	14.2
0%	>18.3	19.7

Low-Contrast Detectability

On 8-inch (20cm) Catphan® phantom.

Reconstruction Mode	Object Size	% Contrast	Dose Level (mGy CTDfvol) 10mm slice
ASiR-V* with Standard Algorithm	Smm	0.30%	4.87



Reconstruction	Object	% Contrast	(mGy CTDIvol)
Mode	Size		10mm slice
ASIR with Standard Algorithm	5mm	0.32%	5.69

Noise

On either an AAPM water phantom or GE Quality Assurance phantom with 5mm slice thickness equivalent:

- 0.45% at 4.70 mGy CTDNoI with ASIR-V Reconstruction Algorithm
- Q.43% at 11.1 mGy CTDIvol with ASiR Reconstruction Algorithm

CTDI

On CTDI Head and Body Dose Reference Phantoms CTDI_{mi} expressed in mGy/100 mAs (0.984:1 Pitch)

- Head: 17.0mGy/100 mAs.
- Body: 8.8 mGy/100 mAs

Axial Scan Image Quality

High Contrast Spatial Resolution

Typical in-plane MTF is demonstrated on a 0.05mm tungston wire.

High resolution algorithm

	X/Y lp/cm
50%	12.1
10%	16.0
4%	18.3
0%	>18,3

Low-Contrast Detectability

Reconstruction

On 8-inch (20cm) Catphan® phantom:

Object

Mode	Size		CTDEvoil 10mm slice
ASiR-V* with Standard Algorithm	Smm	0.30%	4.57
Reconstruction Mode	Object Size	% Contrast	Dose Level (mGy CTD(vol) 10mm slice
ASIR with Standard Algorithm	Smm	0.32%	6.09

% Contrast

Dose Level (imGy

Noise

On either an AAPM water phantom or GE Quality Assurance phantom with 5mm slice thickness equivalent:

- 0.43% at 4.95 mGy CTDIvol with ASIR-V Reconstruction Algorithm
- 0.43% at 11.0 mGy CTDIvol with ASIR Reconstruction Algorithm

CTDI

On CTD! Head and Body Dose Reference Phantoms:

CTDIW expressed in mGy/100 mAs:

- Head: 16.7mGy/100 mAs
- Body: 8.7Gy/100 m/As

Desktop – Exam RX

The Exam Rx desktop environment provides the clinical tools necessary for comfortable, efficient control of patient studies. These tools include patient scheduling and data entry, exam protocol selection, protocol viewing and editing, scan data acquisition, image reconstruction, image display and routine analysis, AutoFilm or manual filming, AutoStore and AutoTransfer.

Patient Scheduling

Patient Schedule allows users to preprogram patient information and exam protocols prior to the patient's arrival. At scan time, select from the created list, enter the patient ID number, enter the Accession number, or use the optional Bar Code Reader to call up patient information. Patient information can be easily added or deleted from this list.

Patient Data Entry

Patient data can be entered as part of New Patient set-up or can be recalled from the list of pre-scheduled patients. Common inputs for new patients include: physician, radiologist, technologist and contrast type (oral and IV).

Exam Protocol Selection

Two Anatomical Programmers - one for adults and one for pediatrics - provide quick and easy access to 6840 userprogrammable protocols (tistal). Each programmer has ten anatomical regions with 90 protocols for each region

Protocol View/Edit

When used in conjunction with the Show Localizer, changes made in the View/Edit Table that affect the number of scans, image interval, starting/ending locations, tilt, or display FOV are automatically shown on the Show Localizer.

Imaging Protocol Manager*

GE Healthcare's Imaging Protocol Manager is a cloud-based multimodality, protocol-management solution that provides access, insight, and governance for protocols on imaging devices to help providers effortiessly deliver the right exam for each patient and meet regulatory and accreditation requirements in an efficient manner.

See imaging Protocol Manager datasheet for more functionalities.



REVOLUTION MAXIMA

Latest update on Apr 27, 2020 Page 15 of 19

Auto Image Management

The Fisam for work environment conveniently provides for selection of Auto-Tim, and Auto-Transfer (across a network).

Manual Image Filming

On-screen filming is available for digital camera using a DICOM protocol.

Desktop - ImageWorks

ImageWorks software is designed to take advantage of the Revolution Maxima computer and image processor. This desktop environment includes image management and networking.

Image Analysis software

Revolution Maxima support following Image analysis tools on console.

- Volume Viewer*
- Auto Bane Xpress*
- Vessel IO Xpress*
- CT Perfusion 4D Neuro*
- CardiQ Xpress 2.0*

Image Display

- Viewer
- Mini Viewer

Image Management

Local Database

The Source menu controls the contents of the Patient List and displays the host databases to which the user is currently connected.

CD/DVD/USB

Allows storage of DICOM images and a DICOM Viewer to a CD-R or DVD-R or USB media.

Data Export

Allows storage of images on a CD-R or FTP or USB images as JPEG, PNG, AVI, MPEG, or MOV formats.

Filming

On-screen filming is available for digital camera using a DICOM protocol.

Image Networking

Exams can be selected and moved between the Revolution Maxima and the imaging system supporting the DICOM protocol for network send, receive and pull/query.

Gantry specification

Gantry

Silent design of Revolution Maxima gantry allows significant reduction of audible noise compared with previous GE

technology.

Aporture	70 cm
Focus to Detector	95 cm
Focus to iso-center	54 cm
Maximum SFOV	50 cm
Tilt	+/- 30 degree (Digital)

PerformixTM 40 Plus X-ray Tube

Dual Focal Spots

Focal Spot	IEC 60336: 1993	IEC 60336: 2005
Small	0.7x0.6	0.9x0.7
Large	0.9×0.9	1.2x5.1

Maximum mA for each kV selection:

kV.	Small Spot: Max mA	Earge Spot: Max mA
50	500	400
100	240	480
120	200	460
140	170	395

Thermal Ratings:

- Maximum Anode Heat Content (Reference: IEC 60613):
- Maximum X-ray Tube Assembly heat content: 7,7MJ (10.8 MHJ)
- Equivalent anode heat capacity with ASIR-V: 39MHU*
- The maximum anode heat capacity: 5.0 MJ (7.0MHU).
- Anode heat dissipation: 1070 KHU/min (13.2kW)
- Tuter outsidence is based on the image notice ratio wave between ASR V and HBP. The ratio application between image notice and doze corresponding mAs is defined as _USCopPYSDow_UP a tube rating?

High Voltage Generation

- kV: 80, 100, 120, 140
- Power (Hardware): 72kW
- Equivalent power with ASIR V: 310kW**
- mA range at 120kV: 10 to 460mA, 5mA increment
- ++ kW equivalence is based on the image cone ratio value between ASR-V and EBR. The ratio calculation between image notice and doce corresponding mAs is defined as [ISD₁₀]*/ISD₁₀₀*** generator rating]

Clarity Detector

64ch based system.

- 54,272 individual elements composed by 64 rows of 0.625mm thickness at isocenter. All data is acquired as thin slice at 0.625mm with the option of thicker slice from image reconstruction or processing.
- 98% absorption efficiency.
- 443 reconstructed slices (images) per rotation; under 64ch x 0.625mm, 1.375 helical pitch, 6 rotation, 266mm coverage, 0.1mm recon interval condition

32ch based system

- 54,272 individual elements composed by 64 rows of 0.625mm thickness at isocenter. All data is acquired as thin slice at 1.25mm with the option of thicker slice from image reconstruction or processing.
- 32 x 0.625mm or 32 x 1.25mm scan mode
- 98% absorption efficiency.
- 354 reconstructed slices timages! per rotation: under 32ch x 1.25mm, 1.375 helical pitch, 6 rotation, 266mm coverage, 0.1mm recon interval condition

Clarity Data Acquisition System

- 2,460 Hz maximum sample rate.
- 361 1968 views per rotation.

Scan control unit

- 2,000GB Disk (system, image, scan disks) stores up to 460,000 512 x 2images and 3520 scan rotations at 64 slice mode or up to 1,500 scan data files, or up to 300 exams.
- Reconstruction speed with Standard reconstruction: Up to 50 frames per second.

Host computer	Specifications
CPU	Dual Intel Xeon 4110 Z.1GHz 8Core
0/5	64-bit
Eache	L3 x 11MB shared
RAM	64G8 DDR-4 2666MHz or equivalent
Graphics card	Nvidia Quadro P620 PCI Express 16x or equivalent
Reconstruction unit	Commercial Off-The Shelf Graphics Processor add-in card

Patient table

Two configurations with 500fb (227kg) patient weight capacity, and up to 1700 mm scannable range (or 1600 mm), for longer runoff studies, flexible patient positioning, and easy room siting.

	VT1700V Table	Lite Table Plus
Vertical Range*	430mm to 991mm	441mm to 991mm
Vertical Scannable Range"	791mm to 991mm	791mm to 991mm
Elevation Speed Full range motion	Less than 22sec (Fast) Less than 45sec (Slow)	30 +/-10 seconds (full range)

Elevation Accuracy Position repeatability	±1.5mm	±5.0mm
Horizontal Range	1745mm	1620mm
Horizontal Scannable Range (Axial)**	1730mm	1610mm
Horizontel Scannable Range (Helical)**	1590mm	1460mm
Horizontal Scannable Range (Scout)**	1600mm	1450mm
Cradie Speed Max Horizontal Speeds	175(150***) mm/sec	100 mm/sec
Cradic Speed. Operator-controlled slow speed operation	5 or 10mm/sec ±3%	5mm/sec ±3%
Cradie Speed. Operator-controlled fast speed operation	125 or 175mm/sec ±2%	100mm/sec ±3%
Position repeatability	±0,25mm	±0.25mm
Longitudinal accumulated position error	±0.25mm±0.06%	±0,25mm±0.1%
Table Load Capability	227kg (500lbs)	205kg (450lbs)

^{*} The distance from the Table bottom to the cradle upper side surface

Peripherals

Scan control keyboard assembly with intercom speaker, microphone and volume controls.

Color LCD monitors (2 standard):

- 19-inch diagonal width
- 1280 x 1024 dot resolution
- Horizontal & Vertical viewing angle: 170 degrees
- Horizontal synchronization range: 31.0 80.0 kHz
- Vertical synchronization range: 50 75 Hz

DVD-R/CD-R (DICOM Interchange):

- 4.7 GB capacity (DVD)
- Approximately 7000 image storage (DVD)
- Supports CD-R, DVD-R
- 2-Button + Scroll Wheel Mouse

^{**} Accuracy is +/- 1%. Table Height and scanning software determine the scannable range.

^{***} During Move to scan operation



Image Networking

Image transfer time using DICOM protocols is 10fps on a 1000baseT network.

DICOM Conformance Standards

For detailed information, a DICOM conformance statement is available upon request.

- DICOM Storage Service Class
- Service Class User (SCU) for image send
- Service Class Provider (SCP) for image receiver
- Service Class User (SCU) for storage commitment
- DICOM Query/Retrieve Service Class
- DICOM Storage Commitment Class Push
- DICOM Modality Worklist
- DICOM Modality Performed Procedure Step
- DICOM Print
- DICOM Structured Dose Report

Filming Protocol

DICOM protocol

Important note: The Revolution Maxima comes standard with a DICOM Print Interface configurable for multiple DICOM Print destinations. Connections with cameras that do not support DICOM Print may require a filming interface (purchased separately).

Anti-Virus software

Standard McAFee Anti-Virus software

Energy saving

GE Healthcare's High Efficiency CT systems are designed to reduce electricity consumption for operation and ambient cooling by optimizing energy use based on a customer's usage profile. The Revolution Maxima system and its associated site cooling systems consume approximately 48,200 kWh of electricity per year, about 29% less than the previous generation GE system it replaces. For customers actively pursuing energy efficiency strategies, use of the innovative Energy Saving Mode software during evenings and weekends when the CT system is not in use can reduce annual electricity consumption by an additional 19,100 kWh, or a total of 58% per system compared to the previous-generation GE system.

		Previous- generation GE system	Revolution Maxima without ESM	Revolution Maxima with ESM
CT system*	Yearly Energy(kWh)	32722.8	12505.0	10588.4

	Reduction Energy (kWh)		20217.8	22134.4
	Reduction Energy (%)	*	52%	68%
Associated site cooling systems	Yearly Energy(kWh)	35708.4	35708.4	18008.7
Total	Yearly Energy(kWh)	68431.2	48213,4	28597.1
	Reduction Energy (kWh)	-	20217.8	59R34.1
	Reduction Energy (%)	*	29.5%	58.2%

[&]quot;Value of CT system was measured listed on COCIR (European Constination Committee of the Radiological) procedure.

Siting requirement

Rating

The system operates on three-phase power that meets the following specifications:

- Voltage: 200 to 240 VAC, 380 to 480 VAC
- Capacity: 75kVA
- Frequency: 50 or 60 Hz ± 3 Hz
- Maximum power demand = 75kVA @ 0.85 PF at a selected technique of 120kV, 400mA
- Average (continuous) power demand at maximum duty cycle = 20 kVA.
- Idle power demand (without rotation and X-ray) = 5.0 kVA.

Floor loading and component weights

System components	Net Weight Kg (fb.)	Overall Width v Depth mm (in.)
Gantry	1600 (3528)	2041 x 1020 (80.4 x 40.2)
Lite Table Plus	320 (705)	550 x 2243 (25.6 x 92.9)
VT1700V Table	445 (981)	650 x 2360 (25,6 x 93.3)
Power Distribution Unit	370 (816)	700 × 550 (27.6 × 21.7)
Consule	65 (143)	448 × 671 (17.6 × 26.4)
		At a control of the c



REVOLUTION MAXIMA

Latest update on Apr 27, 2020 Page 18 of 19

Monitor - LCD (each)	4.9 (10.8)	417 × 192 (16.4 × 7.6)
Standard desk	57 (126)	1300 x 895 (51.2 x 55.2)

Warranty

Revolution Maxima is designed to support GE Healthcare's figuid boaring X-ray tube technology. Posted advisory mossages will be present in the event a 3rd party X-liquid boaring tube is used.

The published Company warranty in effect on the date of shipment shall apply. The Company reserves the right to make changes.

General Electric Company reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation.

Regulatory Compliance

Laser alignment devices contained within this product are appropriately labeled according to the requirements of the Center for Devices and Radiological Health.



This product complies with NEMA Standard XR-29-2013

General Electric Company doing business as GE Healthcare.

Revolution, ASIR, Performix, Veo, SnapShot, OptiDose. SmartBoam and AutoBone are trademarks of General Electric Company or one of its subsidiaries

Broselow-Luten System and Color-Coding Kids are tredemarks of Carefusion, Inc.

Internet Explorer and Windows are trademarks of Microsoft Corporation Catphan is a trademark of Phantom Laboratory, Inc.

This data sheet is not available for the US market.

About GE Healthcare

GE Healthcare provides transformational medical technologies and services to meet the demand for increated access, enhanced quality and more affordable healthcare around the world.

GE (NYSE: GE) works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

GE Healthcare

3000 N. Grandview Blvd. Waukesha, WI 53188 USA

gehealthcare.com



©2020 General Electric Company - All rights reserved.

General Electric Company reserves the right to make changes in specification and features shown herein, or discontinue the product described at any time without notice or obligation.

GE and GE Monogram are trademarks of General Electric Company.

GE Healthcare, a division of General Electric Company.

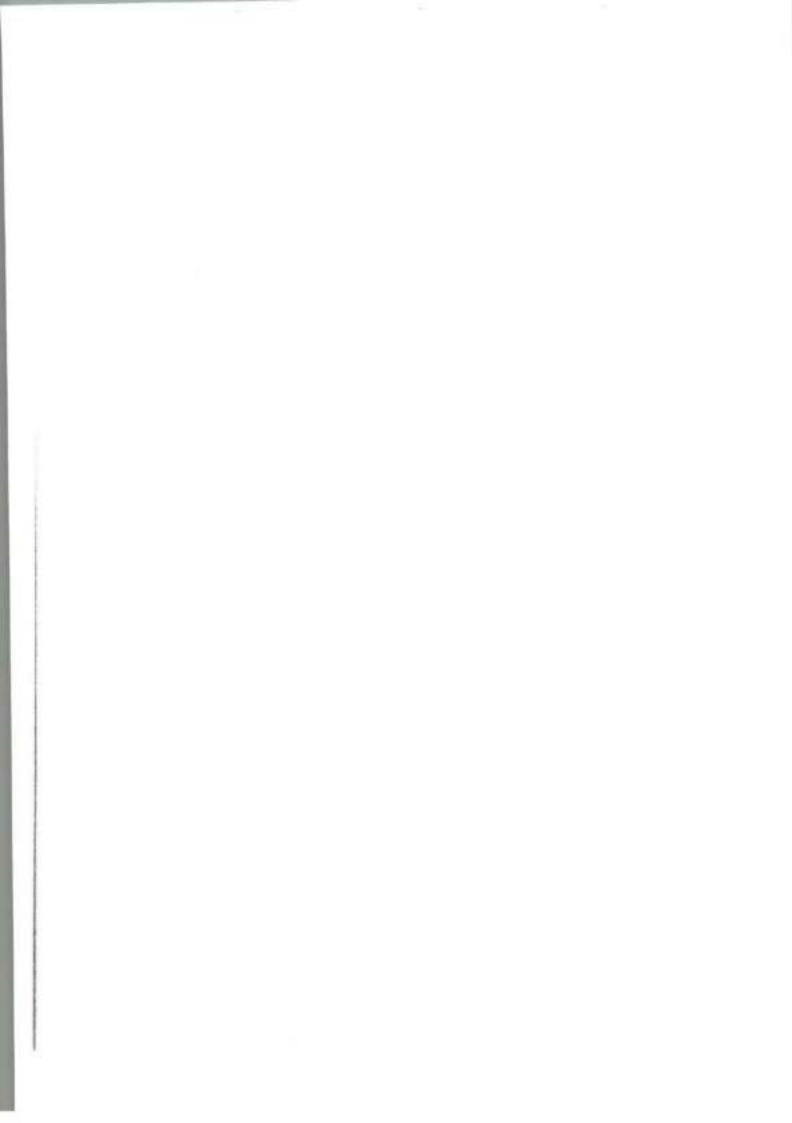
*Trademark of General Electric Company

"ME/DOLM/EVENDY/GENGEROR CT"

- 9	nem men'it to	Strong Set to	Street Works for	Terrentine to	Democratica politica	2.550.000 Ec	West .	Appen
THE RESIDENCE AND ADDRESS OF THE	100					1000		
State Service								
Street, Sec.								
		10.00		700.00	20.0	2.0	***	044
The Phone	307.17	SECTION AND ADDRESS.	COMP WIND N	877 N. VIII 1100	THE PARTY NAMED IN	The state of	The State of the S	March Street
The part continue to the partie	on Francisco State of the State							
- 4	ede Supple Trace (Calendary	Access -	10.00		76.00	**	10.14	Add
		-	**	77.6	***	**	10.07	18
Million or House be	bell I I	The same	CHECKIEN	SECTION IN	THE RESERVE	THE REAL PROPERTY.	48 W - San	- N. T. T. S. S. C. S.
Statement .								
Accordance 1997	-	LANGE THE REAL PROPERTY.	A STATE OF THE PARTY OF THE PAR		and the same of	- 12	70	17
Affacts (Stringshot of	-	-		-		No. State of Street, or other Street, or		
	100	100.00	4.0	1004	***		lands.	44
SELECTION STATE		of the state of	17.107.24.23			PROPERTY	THE RESERVE	THE RESERVE AND PARTY.
a Principal Control No.								
	lat:	186.00	10.0	16.0	2.0	10.0	144.00	10
ALCOHOLD STREET			Market Access to	NAME OF TAXABLE PARTY.	Contract of the Parket	-		
	S. Dec	-	46	79.0	76.0	19.0	100.00	100
AMERICAN VALUE OF THE	1000	APPLICATION OF THE PERSON NAMED IN	STATE OF THE PARTY.	DESCRIPTION	E-OTTURE PRINTED	o-E2matidas	THE RESERVE	THE PARTY OF THE P
01740 CHARLES NO.	to Princip							
	15	10.00	100	18.0	20.0	10.0	10.0	11
Trans.		MINISTER STATE	SECTION AND DESCRIPTION ASSESSMENT	THE RESERVE OF THE PERSON NAMED IN	THE OWNER OF TAXABLE PARTY.	MINERAL SERVICE		THE REAL PROPERTY.
Section 100 mile (SA)	70.71	LONE .	CONTRACT FACTOR		Mark Control of the Control	THE PROPERTY OF	- Dept. Street, Co.	NAME AND ADDRESS OF
of his na records	Name of Street, or other Desires.	the second	-	"There's "	100		Table 1	46
Sense State of the last	The second	The second second	STREET, SQUARE,	SHARPS NAMED IN	4200 Full 1	OCCUPATION.	MATERIAL PROPERTY.	THE RESERVE
Plan Sobert and Gillians and	Street Service Street Ser	-						
	E10004 (6)	ATTENDED (In A)	STREET, ST.	\$1000 March SE	O'TOTAL SEC.	American di	bi-bi-m	0.000
The Street or Street or	According to the latest dealers and	rates of Demarks, aready from	196	The same of				
Plantiment to invest in	and the same of a first to	THE PERSON AS A PROPERTY.		0.00			No. and see	NO.
-		70.00	100	100	100.00	1.00	leave.	200

List of Installation in Public Sector/ Private Sector

contact Person	Designination	Mobile No
Martin Kessy	Director Admin	0715 111 441
Edina	Head PMU	0713 950 272
Navin Agarwal	Chief Executive Officer	0622 510510
Eng Matee	Technical Director	0715 289 213
Muganyizi kairuki	Deputy Managing Director	0717 171500
Eng Jeremia Jackyson	Head Biomedical Dept	0765 343 348
Onaelly Mulumba	(i) Head of Radiology	0714 848 522
	Martin Kessy Edina Navin Agarwal Eng Matee Muganyizi kairuki Eng Jeremia Jackyson	Martin Kessy Director Admin Edina Head PMU Navin Agarwal Chief Executive Officer Eng Matee Technical Director Muganyizi kairuki Deputy Managing Director Eng Jeremia Jackyson Head Biomedical Dept





10th December 2021

To Whom It May Concern:

RE: LETTER OF RECOMMENDATION

Dear Sir or Madami

Kindly refer to the above-mentioned subject. This letter is issued to confirm that we, NSK Hospitals Limited have strong working partnership with GE Healthcare and its local distributors (GE Team) in The United Republic of Tanzania.

GE Team have supplied, installed and commissioned the following modalities at our facility in Arusha, Tanzania:

- MRI
- CT Scan
- Jirasound
- X/By
- Vianimography

We have had a good experience with the above modalities and therefore are in the obsition to recommend GE Modalities.

We hope this confirmation will suffice and enable you to assist the GE Team. Please feel free to contact us.

Note:

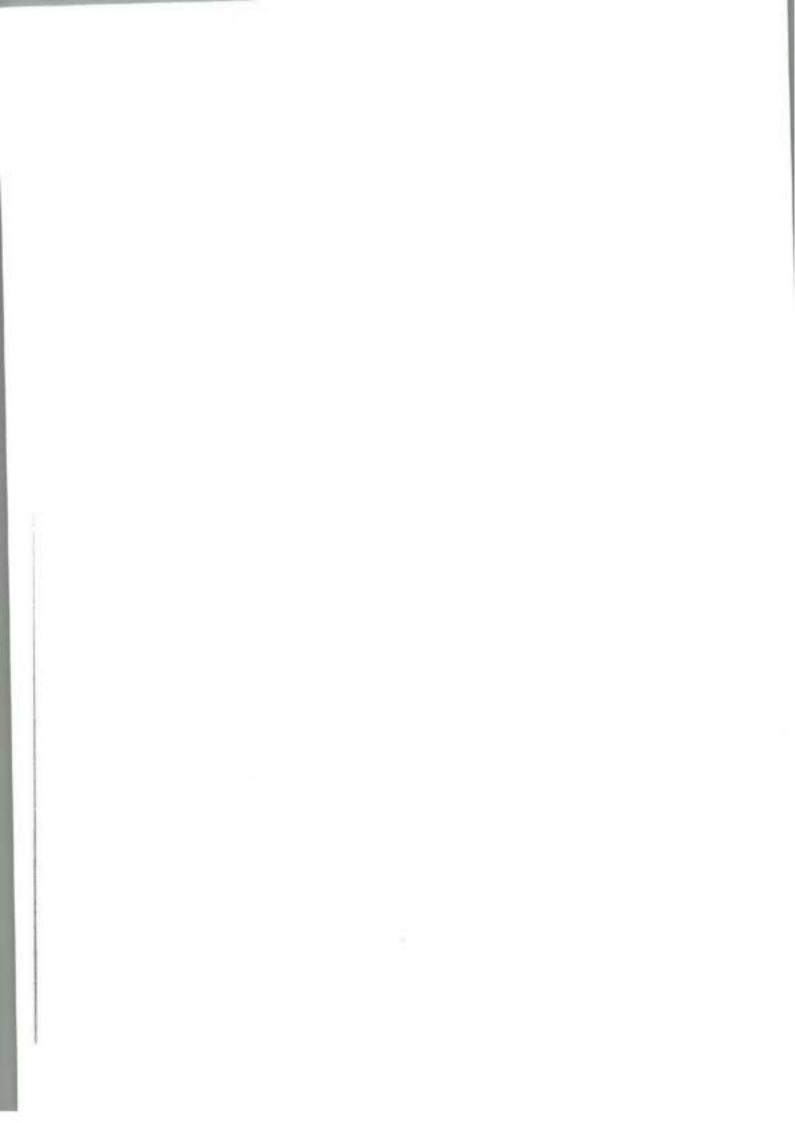
This letter is issued at the request of GE Team, for their official purposes only. Therefore, this letter does not contain / commit / entail any medical or financial information nor any son of liability or guarantee of any sort towards them from NSK Hospitals Limited, nor does it penals to any particular agreements between NSK Hospitals Limited and GE.

Yours Singerely.

Janandi Kaur

NSK - 105P17045110 PO 804 3114 A10444 13422413

Operations Manager NSK Hospitals Limited



Michael Mpeka

From:

Veilla Elisante. Matee <veilla.matee@mloganzila.or.tz>

Sent:

Friday, 10 December 2021 09:29

To:

Michael Mpeka

Subject:

COMPUTECH ICS LTD

To whom It May Concern.

GE Healthcare and their local partner, Computech ICS, have supplied, installed, commissioned the following systems to our Hospital:

- 1. GE MRI machine
- 2. GE CT Machine
- 3. GE Ultrasound Machine

We have had a very good experience with both GE and Computech teams in sales, delivery, installation, commissioning and after sales support.

Our staffs were also trained properly to use all the systems and Biomedical staff were also trained to attend minor repairs

Also the hospital has signed a contract for preventive maintenance as well as correct maintenance for the above equipment.

We strongly recommend GE and Computech for the supply of high quality medical equipment.

Thanks

Eng VEILLA E. MATEE Ag DIRECTOR OF TECHNICAL SERVICES -MLOGANZILA

Mobile: +255 754 289 213/715 289 213

CONTRACT FOR

SERVICE OF MRI AND CT SCAN AT MLOGANZILA
CONTRACT NO:

PA/009/2021-22/MLG/NC/33, 35, 36 & 37

BETWEEN

MUHIMBILI NATIONAL HOSPITAL MLOGANZILA

AND
COMPUTECH ICS LIMITED

ľ į ij øl į ij

FORM OF AGREEMENT

This AGREEMENT (hereinafter called the "Contract") is made theday of the month of Section 2021, between, on the one hand, MUHIMBILI NATIONAL HOSPITAL-MLOGANZILA-MLOGANZILA of P.O.BOX 65000 DAR ES SALAAM (hereinafter called the "Employer") and, on the other hand, COMPUTECH ICS LIMITED of P.O.BOX 5171 DAR ES SALAAM (hereinafter called the "Scrvice Provider").

WHEREAS

- the Employer has requested the Service Provider to provide certain Services as defined in the General Conditions of Contract attached to this Contract (hereinafter called the "Services");
- (b) the Service Provider, having represented to the Employer that they have the required professional skills, and personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract at a contract price of;

	Contracting Pricing	ntracting Pricing for Three Years(VAT-EXCLUSIVE)-COMPREHEN		OMPREHENSIVE	TOTAL
s/ n	Equipment	Price Year 1 (TZS)	Price Year 2 (125)	Price Year 3 (TZS)	Three Year Service Price (TZS)
1	OPTIMA CT 660	185,782,916.0 0	189,498,574.3 2	193,288,545.8 0	568,570,036.12
2	1.5T SIGNA CREATOR	184,613,462.0 0	188,305,731.2	192,071,845.8	564,991,039.10
	Annual Total (TZS)	370,396,378.0 0	377,804,305.5 6	385,360,391.6 6	1,133,561,075.22
- M	Quarterly Payments (TZS)	92,599,094.5	94,451,076.39	96,340,097.92	

(c) the Employer has set aside funds towards the cost of the Services and intends to apply a portion of the proceeds of these funds to eligible payments under this Contract, it being understood that such payments will be subject, in all respects, to the terms and conditions of the Contract providing for the funds and that no party other than the Employer shall derive any rights from the Contract providing for the funds or have any claim to the funds proceeds;



NOW THEREFORE the parties hereto hereby agree as follows:

- The following documents attached hereto shall be deemed to form an integral part of this Contract:
 - a) Contract Agreement
 - b) The General Conditions of Contract;
 - c) The Special Conditions of Contract;
 - d) The Priced Activity Schedule
 - e) Statement of Requirements (Spare parts)
 - f) Uptime Guarantee
 - g) The negotiation report
- The mutual rights and obligations of the Employer and the Service Provider shall be as set forth in the Contract, in particular:
 - a) The Service Provider shall carry out the Services in accordance with the provisions of the Contract; and
 - the Employer shall make payments to the Service Provider in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

For and on behalf of MUHIMBILI NATIONAL HOSPITAL-MLOGANZILA

Name Pro	F. LAWI	cinci l	1-1440	Ru DRE	CTOR
Name TRO Designation	Xyguy	of Die	LCZID PLEX	ECUTIVE DIRECTION OF THE SECURITY OF THE SECUR	V V
Signature	Lany	ush		P.O. HIM 650 DAR-ES-SALJ	MAN
(Authorized Re.	presentative]		V .		
Witness.				NA.	ON
Qualification.			MIHIMB	GAL SECTIONAL INTONAL INTO AND	9 7
Signature & St	amp.	طواروا		P. O. Box 65000	NZANIA
Signature & St Date 12 711	JEPICA	RER, D	O DAR E	S SALAMA	



	DIRE	J. K	S LIMITED	- service	5 (f) L(f)
Signature	J-> 0	·922	**************************************	V.O. Box	3.1 1 *
Authorized Rep	oresentative)	Mad			
Qualification	Countr	J Sely	Mana	ge/	
ignature & Sta	-10	7	Legit	STECHTICS!	TILLE .
Date	Sept	only, 20	4	O. Set St	Aŭ1

The land

H

2000

I Io

ol No. THE REAL PROPERTY. į ij

SUPPORT AGREEMENT (LASOUR ONLY) NUMBER 2-21

P. Control

TO A STATE OF THE PARTY OF STATE OF THE STATE OF T

1533

C. CEPE, L. C. E. S. L. F. L. D. Gorrod at Diamond Place, "Well-look & Morando Sensor Sanson, Number, Phys. No. 152 158, P. C. Boye S. T. Ligray Scham.

The properties sufferred as "LEVALLY LEGITL"

100 DEAL TO THE RAY TO SOFT ALL COMPLETE CHI faring understable referred to as the "Partie," and collectively referred to as the "Parties."

This Service Lond. Agreement is in relation to the Medical Esquiperior monthly of Erytheria. LL LEGISTAN EROSPIT Medicated in MANY SEA REAGERS, Lancaum.

ARTICLE 1-SCHEDULE OF EQUIPMENT & SERVICE COVERAGE.

HAUSTAIN

1.0

6.10.00.35, c.d. Halifest are and GLOSET TALE have entered two Disorderson Agreement for the pre-minimum value and written of general Halifesta, throbusts in Lateratic be some of Egyptiment No. 6.4.600 Tale 11.2.0.36.55. 2-11. Japanes over extend to as the Obserbation Section 2.

with an Asia matter Harathasen would introduce to interpretate the execution of a control of a control of a control of the con

Note: 1711 (Red with a mean moderance of the premises and manual undertaking turn in sections the Partie Agrees agree as follows:

ARTICLE & DEFINITIONS

For the purpose of this obstance, the terrories forth below shall research following in increas-

23 "Suppose Springer" shall evan the Suppose Springer. Suppose Fixthers: 17(2)(4): 2012-2013. The proposition server and optical returns the or it is not interest the part of the proposition of the proposition.



I. TERMS AND CONDITIONS

the state of the s	AND REPORT OF THE PARTY OF THE
S N SYSTEM (を開発され、 大学の大学を開発しない。
4 4 4 4 4 5 5 6 6 6	TILT MILTIPEL SC

	4.,	SERIAL NUMBER	COVERAGE
1 8 847	1	XX - + XX 11+	Response time during working hours. On site response time. 48 Hours
			3 • Preventive Maintenance annually
			3 » Corrective Maintenance Visits
			 Additional corrective Maintenance visits will cost USO 3 000 per visit.
			 Remote Diagnostics & Fix (if applicable)
			 Full Corrective Maintenance (Laportonia) Visits
			 Archual safety and environmental checks yearly once
			Exclusions

- · Injectors Comumación Mattresser strata-Handles Form Pairs 1075 and Batter +)
- Sele Montestion Instruction (FMI) Sometime updates where sop cable
- Spart Part (Norms: 15d Space)

ARTICLE A SPAREPARTS

As the community of the property of the HYDOM HETPLANS CONTINUES and refer to the property of the Association of the property of the property

ARTICLE + DISTRIBL TOR WARRANTIES

Over a state of autopation. The shade state in the survival orders were

ARTICLES COMPANY WARRANTIES

The company of the particular particular and the second of the second

ARTICLE & FINANCIAL CONDITIONS

Contra	7074.				
Equipment	Qrv	Price Year 1 (USD)	Price rear 2 (USD)	Price Year 3 (USD)	Three Year Service Price (USD)
xR9300 - XR118	1	10,070.00	10.070.00	10.670.00	30,210.00
	Total Cost	10,070.00	10,070.00	10,070.00	30,210.00
QUARTERLY PAYM (Vat exclusive)	ENT (USD)	2,517.5.00+ VAT	2,517.5.00+VAT	2,517.3.00+VAT	

- 1. The denomination systems is There I years, strong from 1: 4.8 (1.00) 2, 5:21.
- in The above price is evaluate of VAT and an Other Lavas applicable as new rules of Concernment of Europeans

PAYMENT TERMS

- · Sporture rule on interpretations.
- · In the separate Visit Finds, for some
- Operando le matero.

CLOSE THE HES Y THE SEE

WALLSON THREE PROPERTY AND

STATE OF STREET

ARTICLE ? TERM

* 1.— The Commershell beatiness comment in more lifecond Date 1.10x 1000 (8.2-2) and 1.5 x 0.14 00 (8.2-24 and unico-normalized carder in accordance with the form of the Disordance in Agreement Che Term?

2.1 has known as shall be progressed in secondaries to the provincies of the Distribution Agreement. Notwithstanding rational of the Support Agreement.

ARTICLE S: FORCE MAJEURE

If the second home Majoria shall relate Distributes from the lagrange and agency in the separations for seeking as such event shall a minute of the purpose of the agreement as court of the real Majoria shall include with our leminates. You of god, our end, the explosion accounts freed confugate, substage, malabels of distributes and fall excess of an alternative shall have been as the other part. The court of the best real malabels excess from a transfer of the stabilities between the shall have been also become on the stabilities of substage of the stabilities of substage of the stabilities of substage of the stabilities of the sta

ARTICLE W TERMINATION

The second second

THE RESIDENCE OF THE PARTY OF T

- 3.4 Discriber Part, of the little (fair full- to fair) its diligens to hence when the little and and also mentioned fair fair the other floor. Not do a from recept of a virtuent metal great his the mentioning Part.
- 13 The Terminan e and the experience of this Contract shall not give made to ten reminescents to employed and the province of the province of

ARTICLE 10 MISCELLANOUS

- 2.11 This agreement and the exhibits attached ben, to construct the attention between the Paris, with expect to the subsect matter thereof and suspended all prior execution agreements, understandings, a minimum row, representation, and or promotes whether in surrougher and or the parties relating there.
- 3.2 This agreement may not be modified except by a sention instrument dish, signed by the subtrimed representatives of high Parties.
- 1.3. The final organization separategraphs and either moments of a minerate on high least still even as a market of Montage organization in the first of a mining our arms in the montage position of the first of a mining of the arms out to the first district of the extension.
- The lift was removed the process of the agreement are at the turn found of a process is constituted as a final process of a supported periodicity of the otherwise modernal uncertainty of the process and the second of the agreement of the process of the process of the manufacture of the agreement of the process of the pr
- 1.3 This agreement does not make acres from of the employee, agent, or legal representance of the other for an income solution over. Notifice part to provide the right or sufficient in assume one treatment of slopes or responsibility expression implied on heliaff of our time name. From the Part, the fulfilling resolution in mace case is this agreement each from shall be nature as at make endors a strong or other or.

ARTICLE IL APLICABLE LAW AND IL RISDICTION

The sprinters will be ground to see if service is the source of the profession of the miles interpretation of the matter of the sprinters of the service of



the state of the s Land of brinding In the presence of: COMPUTECH ICS (T) LIMITED Name 21 2 1 120 3 Name and Signature of Authorized Signature 7 Representative Occupation DILSCTOR Signature , Occupation: Capentry Official Stamp: For and in banalt of in the presence of HYDOM LUTHERAN HOSPITAL Name and or Leista Name and Signature of Authorized Representative Name 1 Occupations A.J. N. C. Signature 1 Occupation Control of the Control Official Stamp: ALL SIGNATURE BEFORE Natha "Saffalfalfa Distance to one Service !

TENDER AGREEMENT BETWEEN BUGANDO MEDICAL CENTRE (BMC)

AND

M/S COMPUTECH ICS (T) LIMITED
P.O BOX 5171

DAR-ES-SALAAM - TANZANIA.

Tender no. BMC/HQ/G/2018-2019/15/LOT-02

DRAWN BY: BUGANDO MEDICAL CENTRE (BMC), P.O BOX 1370, MWANZA.

November, 2018

TENDER AGREEMENT

THIS TENDER AGREMENT is made this......day of.......2018

BETWEEN

BUGANDO MEDICAL CENTRE (BMC) P.O BOX 1370, MWANZA, a Public Private Institution operating under the Public Private Partnership of the Government of the United Republic of Tanzania and the Tanzania Episcopal Conference (TEC) (hereinafter referred to as 'Employer /the Buyer or BMC '') which expression shall, where the context so admits, include assigns and successors in title of the one part,

AND

M/S COMPUTECH ICS (T) LIMITEDP,O BOX 5171 DAR ES SALAAM-TANZANIA bereinafter referred to as ("The Tenderer/Company") which expression shall, where the context so admits, include assigns and successors in title of the other part.

NOW, THEREFORE, THE PARTIES here to agree and declare as follows:

- This Tender Agreement is Valid for a period of (8) months starting from the 1" November. 2018 and ending on the 1st June, 2019.
- 2 The Tenderer shall supply to the Employer Digital N -Ray, Machine floor mounted GE RAD NRA000+ XR 118 GE Brivo manufactured by GE HEALTHCARE, made in China under licenses of USA together with Installation, commissioning and giving extensive training to the BMC users of the equipments: (See Annex I Technical Specification) and to be supplied as per quotation in the tender.
- 3 The Supplier guarantees and warrants to the Buyer (BMC) that the Purchased equipment subject to Paragraph 2 of this Agreement is durable and it is in its origin nature and it has Maximum experience in supply and installation of heavy duty radiology equipments in big hospital of similar status of BMC in the Country or outside the country and it is able to fulfil the Employers' intended purposes of providing standardized radiology services (X ray services) for a Superspecialised Health Services increasing capacity by strengthening the Employer's X Ray Department in order to deliver Super-specialised Health services for a referral Hospital.

- 16 The warranty period for the Machines shall commence after full installation, commissioning, teaching of technical users and hand over of the equipment to BMC for use of the machines and after a certificate of handing over to that effect is signed by the parties and shall be in force for Twenty Four (24) months. Upon expiry of the warranty period, a maintenance contract may be executed between the parties and/or training of our technical staff to meet criteria standards for the service of the said machine to the agreed fee for the training.
- 17. Partial deliveries shall not be accepted by the Buyer unless a notice on that regard stipulating the reasons for the partial deliveries is prior sent and / or communicated to the Buyer and the Buyer so agrees prior to making those deliveries in writing,
- 18. No variation of this Tender Agreement shall be valid unless it is mutually agreed in writing and signed by both parties hereto;
 - 19. This Tender Agreement contains all the terms and conditions agree between the Buyer and the Tenderer. The parties hereto acknowledge that there are no understanding, representations or terms between the parties hereto with regard to this Tender. Agreement other than those set our herein.
 - 20. No act of relaxion or waiver on the part of the Buyer with regard to the carrying out of any of the Tenderer obligations under this Tender Agreement shall prejudice or be deemed to operate against the Buyer's rights in terms thereof.
- This Tender Agreement shall be governed by and construed in accordance with, the laws of the United Republic of Tanzania, and
- 22 In the event of any dispute in the interpretation or any claim arising from or a connection with this Tender Agreement, such dispute shall first be settled amicably by the parties and upon failure to reach a mutually acceptable decision, either party may refer such dispute or claim to a Court or Tribunal in Tanzania of Competent jurisdiction for adjudication.

IN WITNESS WHEREOF, the Tenderer and the Tenderer have dully executed these presents in the manner and on the respective dates hereinalities appearing

SEALED with the COMMON SEAL of the said BUGANDO MEDICAL CENTRE (BMC) And delivered at MWANZA in the presence of us this said day of December 2018 Name A Doll Allowed 2018 Signature (head and a said a said and a said a said and a said	Common Seal
Name (Witness) Signature: Postal address Designation:	
SEALED with the COMMON SEAL of the said M/S COMPUTECH ICS (T) LIMITED And delivered at MWANZA In the presence of us this Day of Sons Same Service of Us this Day of Sons Signature Postal Address Po Box 5171 Days Designation Planticipus Directors	Common Seal

Name (Witness) Elikia I Pidues:
Signature
Postal Address | Po Box SITI Day
Designation Live Geor



- The total Purchase Price for the one (1) digital X-Ray Machines complete sets model floor mounted GE RAD - XR5000+ XR (18 - GE Brivo manufactured by GE HEALTHCARE, made in China under ficenses of USA valued USD 112,000.00 only (US DOLLARS ONE HUNDRED TWELVE THOUSAND ONLY) VAT exclusive.
- The agreed mode of payment shall be as stipulated under Annex II herein and shall under no
 circumstances whatsoever change upwards during the tender period under execution.
- 6. The Supplier (Company) warrants to the Employer that it has the required expatriates in Supplying and distribution of Digital X- Ray machine in the Country and that it is amongst the Companies engaged in the distribution, installation, commissioning sale and maintenance of medical X - Ray machines and the Employer is guaranteed in this contract.
- 7 That based on the said warranties and guarantees by the Supplier, BMC is willing to purchase from the Company Machines (as defined in clause 2) and as shall be and that the company is willing to sell, install and maintain to BMC such machine within warranty period of Two (2) year and after warranty period as shall be agreed on new terms and conditions by the parties
- 8. Delivery Notes must accompany the individual consignment and it must be signed, stamped with BMC receiving stamp kept by the BMC authorized officer after full technical inspection in accordance with Clause 8 of this Agreement is completed and dated on the day of delivery.
- 9. It is agreed by the party that certification that the equipment is in good order and working properly as per the required Huspital Standards (full technical inspection of the X Ray machine) shall be conducted by the parties on the dated of handing over the equipment after completion of the Installation, commissioning and giving extensive training to the BMC users of the equipment and shall sign the inspection note thereto;
- 10. Deliveries must be made within 8–10 weeks after signing of this Agreement and from payment of first instalment of 40% per-centum of the purchase price by the Employer as stipulated under paragraph 4 of this Agreement and Annex II. 20% on delivery time. 20% at 30 days from delivery, 10% at 60 days of delivery and last 10% 90 days and highly durable. Any unreasonable delays caused by the Tenderer which warrants the Employer/The Buyer to outsource the same goods as ordered, any delay may render termination of the Tender Agreement and the paragraphs delivered after the said outsource at an above stage in central and the

recover the first instalment of 40% per-centum already paid to the supplier taken in accordance laws with this provision

- 11 Deliveries of goods should be made ONLY at the Bugando Medical Centre during working hours, (i.e. from 7: 30 a.m. to 03,30 p.m.), except for emergency deliveries and weekends which shall be made only upon sending a written request by the parties. Also delivery of the Machine shall be effected DDP (Delivery Duty Paid) to BMC (Incoterms).
- 12 Title to the machine shall pass to BMC as soon as they are delivered to the BMC and fully inspected as in accordance to paragraph 8 of this Agreement and shall be entitled to make use of the machines following completion of the full installation, commissioning, training of the user department and handing over and a certificate to that effect issued.
- 13. Company warrants that the Machine shall be fit for the Employer's intended purposes, of correct design and workmanship in accordance with its specifications and of good quality. The Company furthermore warrants that the machine shall be free from errors, defects and failures for whole warranty period of Two (2) year. These warranties shall be valid until end of the warranty period of Two (2) year.
- 14. If at any time prior to the expiration of the warranty period of Two (2) year, BMC discover that the Machines does not conform to the warranties described in this Agreement above, company shall, within Forty Eight hours (48) after receiving BMC written notification thereof, search for the cause of any defect, deficiency or fault and promptly perform or arrange, at its own costs for the performance of any remedial work required to make the Machine conform to the aforesaid warranties.
- 15 Should the Company fail to comply with the terms and conditions of this Agreement. BMC shall at its sole and absolute discretion, undertake itself to perform or to have others perform some or all remedial work at the Companies own costs which shall be reimbursed to BMC or deducted from the outstanding balance (if any) Doing so, BMC shall be entitled to recover the actual cost incurred by BMC from the company. The Company warrants to the employer that only the Companies trained personnel technicians by the Manufacturers shall be used for any such work.



PURCHASE ORDER

Lessing 70.1	Age from Holgetel Cor es Saletin	Purchase Order		Ь	and the				
Supplied Value	CONT. THE R DOS (F) 480	OHLUTY Trains							
Special Control	L CV DECLESSION	Why.							
	Lingu Names		Die Date	Faci	915 1924	Table Lame	Apre	Amesti	
	MACHINE WITH THEORIE		DATE OF STREET				13 25 7000	17,530.09	
100 577	A MARTHER TON BOND OF THE	574 X AMI 1554 340	1410 ME	2101			4010 10000	ORDON	
	A Profession Francisco								
			TOTAL SET						
					200				
4					Contract of the last	60			

Dr. Wargh, principal and the second distribution of the second second

Equation 78 ms

Series and the series of the s

Notice 2

KAIRUKI HOSPITAL

Incorporated in the Mission Mikocheni Health and Education Network

Tel: 255-22-2700021/4 255-653-723707 (mobile) Fax: 255-22-2700017



322 Regent Estate P. O. Box 65300 Dar es Salaam. Tanzania

E-mail: info(a kairukihospital.org Website: www.kairukihospital.org

Ref: No.KH/CG/EM/1/21

10/12/2021

To Whom It May Concern

Dear Sir, Madam

RE: RECOMMENDATION LETTER

GE Healthcare and their local partner, Computech ICS (T) Ltd have supplied, installed, commissioned the following systems to our Hospital:

1. GE CT Machine

2. GE Ultrasound Machine.

3.GE Mobile X Ray

4.GE Mammography

5.GE Patient Monitor

We have had a very good experience with both GE and Computech teams in sales, delivery, installation, commissioning and after sales support.

Our staffs were also trained properly to use all the systems.

We strongly recommend GE and Computech for the supply of high quality medical equipment

Yours Faithfully,

DIRECTOR GENERAL

P.O. Pata Sociolo



MANUFACTURER'S AUTHORIZATION FORM

Wednesday, December 08, 2021

EXECUTIVE DIRECTOR
MBEYA ZONAL REFERRAL HOSPITAL
P.O.BOX 419
MBEYA, TANZANIA.

TENDER FOR SUPPLY INSTALLATION, TESTING COMMISSIONING, AND TRAINING OF CT SCAN 64 SLICE EQUIPMENT, TENDER NO. ME/7/MBY/2021/22/CS/MS/09

Whereas We GE Healthcare FZE of PO BOX 261395, Plot No. MO0531 JAFZA North Zone, Jebel Ali, Dubai, UAE who is part of GE Healthcare, the official manufacturers of the following product at the corresponding GE Healthcare associated company below:

Revolution Maxima, manufactured by:

GE Hangwei Medical Systems Co., Ltd. West Area of Building No.3, No.1 Yongchang North Road, Beijing Economic and Technological Development Area, BEIJING 100176 CHINA

(Individually a "Product" and collectively the "Products")

Do hereby authorize Computech ICS (T) Limited, registered at P.O. Box 5171, Diamond Plaza, 7th Floor, 8 Mirambo Street/Samora Avenue, Dar-es-Salaam, republic of Tanzania to submit a quote, and subsequently negotiate and sign the Contract with you against for the above goods manufactured by us.

We hereby extend our full guarantee and warranty with respect to the goods offered by the firm, in accordance with "GE International Warranties to Distributors".

This authorization shall be valid until the signature of the contract pursuant to the Tender or until 30th March 2022 whichever comes first.

Duly authorized to Sign for and on behalf of GE Healthcare FZE:

Name: Ehab Zawaideh Title: General Manager - ME

Signature:

جس شي هيلٽكير ۾ م GE HEALTHCARE FZE Plot No. MD 0533, JAFZA North Zone Jebel All Free Zone, P.O.BCX 261395 Dubol, United Arob Emirates

Famario

THE UNITED REPUBLIC OF TANZANIA TANZANIA MEDICINES AND MEDICAL DEVICES AUTHORITY





CERTIFICATE OF MEDICAL DEVICES REGISTRATION

(Made under Section 53(4) (iii) of the Tanzania Medicines and Medical Devices Act, Cap 219)

Registration number:

TAN 21 MDR 0201

This is to certify that the Medical Devices described below has been registered in Tanzania subject to conditions indicated:.

Trade name of the device:

REVOLUTION MAXIMA

Common Name:

COMPUTED TOMOGRAPHY (CT) SYSTEM

Class of the device:

CLASS C

GMDN Code and Term:

37618 & FULL-BODY CT SYSTEM

Commercial Presentation:

UNIT PACK

Name of Marketing Authorization Holder:

GE INTERNATIONAL INC

Name and address of the Manufacturer:

GE HANGWEI MEDICAL SYSTEMS CO LTD

WEST AREA OF BUILDING NO. 3, NO. 1, YONG CHANG NORTH ROAD, BEIJING ECONOMIC TECHNOLOGICAL DEVELOPMENT ZONE

BEIJING CHINA

Local Responsible Person:

GE INTERNATIONAL INC

Issued on

April 22, 2021

Expires on:

April 21, 2026

A. M. FIMBO

DIRECTOR GENERAL

The certificate must be returned to the Authority if canceled, invalidated or if registration of the medical devices is withdrawn or when requested to do so by the Director General.

The conditions for registration are outlined overlead:

Conditions of Registration:

- The medical devices shall comply with all relevant provisions of the Tanzania Medicines and Medical Devices Act, Cap 219 and regulations made there under at all bookantiqua.
- The marketing authorization holder shall ensure that the medical devices complies with specifications approved by the Authority at all beokantiqua.
- The marketing authorization holder shall ensure that the medical devices complies with Tanzanian labeling requirements at all bookantiqua.
- The marketing authorization holder shall ensure that the manufacturing facilities where a registered medical devices is produced comply at all bookantiqua with applicable ISO Standards.
- The marketing authorization holder and Local Responsible Person shall ensure that medical devices within their control are stored and transported in accordance with the instructions and information provided by the manufacturer.
- The marketing authorization holder shall ensure that application for renewal of registration is made 90 days before expiry of registration.
- The resgistration of the medical devices shall continue to be valid for 5 years provided that annual retention fee is paid annually before 31st of January each Year.
- The marketing authorization holder is duty bound to conduct periodic post-marketing surveillance and safety studies of registered medical devices and report the outcome of such studies to the Authority.
- All changes with regard to a registered medical devices should be notified to the Authority for approval prior to their implementation.
- 10. The Authority reserves the right to withdrawal this certificate when conditions 1 to 9 are contravened and when the risks of the medical devices outweighs the benefits or it is in public interest to do so.

STANDARD POWER OF ATTORNEY

TO ALL IT MAY CONCERN

THAT BY THIS POWER OF ATTORNEY given on the 09of February, 2022 We the undersigned COMPUTECH ICS (T) LIMITED of 7TH FLOOR DIAMOND PLAZA, SAMORA AVENUE/MIRAMBO STREET, PO BOX 5171, DAR ES SALAAM, by virtue of authority conferred to us by the Board Resolution No. 36 of 08th day of January ,2022, do hereby ordain nominate and appoint full power and authority, for us and in our names, and for our accounts and benefits, to do any, or all of the following acts, in the execution of TENDER No. ME/007/MBY/2021/22/G/MS/09 CT FOR SUPPLY, INSTALLATION, TESTING, COMMISSIONING AND TRAINING OF CT SCAN 64 that is to say:

To act for the company and do any other thing or things incidental for; TENDER No. ME/007/MBY/2021/22/G/MS/09CT SUPPLY, INSTALLATION, TESTING, COMMISSIONING AND TRAINING OF CT SCAN 64 SLICES AAT MBYA REFERRAL HOSPITAL

AND provided always that this Power of Attorney shall not revoke or in any manner affect any future power of attorney given to any other person or persons for such other power or powers shall remain and be of the same force and affect as if this deed has not been executed.

AND we hereby undertake to ratify everything, which our Attorney or any substitute or substitutes or agent or agents appointed by him under this power on his behalf herein before contained shall do or purport to do in virtue of this Power of Attorney.

SEALED with the common seal of the said COMPUTECH ICS (T) LIMITED and delivered in the presence of us this 69 FEBRUARY 2022

IN WITNESS whereof we have signed this deed on this 9TH FEBRUARY,2022 DAR ES SALAAM for and on behalf of COMPUTECH ICS (T) LIMITED.

SEALED and DELIVERED by the Common Seal of COMPUTECH ICS (T) LIMITED This 09TH FEBRUARY,2022 Name: Elikira J.Ndosi – Director

DONOR

P.O. Box 5171 DRARES SALAAM

ACKNOWLEDGEMENT

I Michael Mpeka doth hereby acknowledge and accept to be Attorney of the said COMPUTECH ICS (TANZANIA) LIMITED under the terms and conditions contained in this POWER OF ATTORNEY and I promise to perform and discharge my duties as the lawfully appointed Attorney faithfully and honestly.

Advocate, Natary Public

Commissioner

SIGNED at DAR ES SALAAM by the said Michael Mpeka, Identified to me by Stella Wanna The latter known to me personally This 9th February, 2022

March .

DONEE

BEFORE ME

Full Name

Qualification: Advocate

Postal Address: 75480

Signature:

COMMISSIONER FOR OATHS

Section 2.0: Minimum Room Layouts

This room layout provides less than 711 mm (28 in.), but greater than 356 mm (14 in.) of space on the gantry left side, measured from covers to left-side wall, compromising service, egress, and workspace on the gantry's left side.

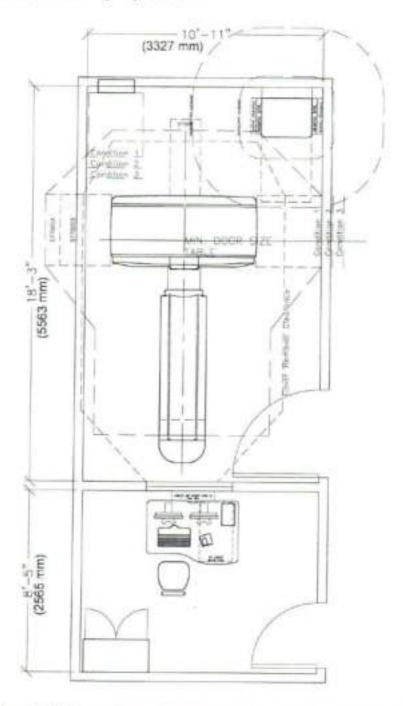


Figure 7-1 Minimum Room Size for Revolution EVO w/ GT1700V Table

Note: This minimum room size does not allow for the UPS option or Surface mounted floor duct.

