



MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION

INVITATION TO REGISTER INTEREST

AS

UNIVERSAL SERVICE PROVIDER

Ref: MCMC/RDD/PDD(4)/T3_Extn(P2)/TCA/12/14(12)

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ABBREVIATIONS

- AA - Apparatus Assignment
- AC - Alternating Current
- AFS - Antenna Feeder System
- BTS - Base Transceiver Station
- C&S - Civil And Structure
- c/w - Complete With
- CD - Compact Disk
- Cu - Copper
- Dia - Diameter
- ID - Identification
- kVA - Kilo Volt Amps
- LAT - Latitude
- LED - Light Emmiting Diode
- LOA - Letter Of Award
- LONG - Longitude
- LOS - Line Of Sight
- M&E - Mechanical And Electrical
- MCMC - Malaysian Communications And Multimedia Commision
- MOCN - Multiple Operator Core Network
- MORAN - Multiple Operator Radio Access Network
- MSC - Mobile Switch Centre
- NFP(I) - Network Facilities Provider Individual
- NOC - Network Operation Centre
- NSP(I) - Network Service Provider Individual
- OMC - Operation And Maintenance Centre
- PDH - Plesiochronous Digital Hierarchy
- PE - Professional Engineer
- PLMN - Public Land Mobile Network
- PVC - Polyvinyl Chloride
- QoS - Quality Of Service
- RAN - Radio Access Network
- Ref - Reference
- RF - Radio Frequency
- RNC - Radio Network Controller
- SESB - Sabah Electricity Sdn Bhd

SESCO	-	Syarikat Sesco Berhad
SMS	-	Short Message Service
SRSP	-	Standard Radio System Plan
SWG	-	Standard Wire Gauge
T3E	-	Time 3 Extension
TNB	-	Tenaga Nasional Berhad
USP	-	Universal Service Provision
UST	-	Universal Service Target
VSAT	-	Very Small Aperture Terminal

INTERPRETATION

Any terms or words used in this Invitation shall, unless expressly stated or if the context otherwise requires, shall have the same meaning as provided in the Communications and Multimedia Act 1998 (the "Act"), the regulation(s) and/or the instrument(s) made under it.

- a. "Licensee" means a person who either holds an individual licence, or undertakes activities which are subject to a class licence, granted under the Act 588.
- b. "Interested Licensees" means any person who holds an individual licence and interested to participate pursuant to this Invitation.
- c. "Designated Universal Service Providers" means any licensees designated under the Regulations pursuant to this Invitation.
- d. "Regulations" means the Communications and Multimedia (Universal Service Provision) Regulations 2002.
- e. "Work" means the entire work to be undertaken and completed by the universal service provider for Part 1 and/or Part 2.
- f. "Sites" means locations stipulated in the **Appendix 1** of this invitation for the provision of Time 3 Extension (T3E) under Phase 2 for Public Cellular Services including the spokes.

SECTION I INTRODUCTION

1 BACKGROUND

- 1.1 The Universal Service Provision (USP) project is an ongoing effort to promote the widespread availability and usage of network services and applications services by encouraging the installation of tower and infrastructure and the installation of equipment and electronics and applications services in underserved areas and/or for underserved groups within the community (“universal service targets”).
- 1.2 The Malaysian Communications and Multimedia Commission (MCMC) had, pursuant to Regulation 4(1) of the Communications and Multimedia (Universal Service Provision) Regulations 2002 [*P.U.(A) 419/2002*] (as amended by *P.U (A) 258/2008*) (“the Regulations”), issued and published notifications specifying universal service targets under Notification Ref. No: NT/USP/1/04, Ref. No: NT/USP/08/01, NT/USP/2/02 and NT/USP/01/11 (“the Notifications”). The list of the universal service targets relevant to this Invitation and some relevant information in relation thereto are contained in **Appendix 1** of this Invitation.
- 1.3 This Invitation is made pursuant to regulations 3(1), 5(1) and 19(2A) of the Regulations (“this Invitation”) to invite the Interested Licensees to register their interest to be the universal service provider for the provision of Time 3 Extension (T3E) Phase 2 for the Public Cellular Services nationwide.
- 1.4 Under this Invitation, the provision of radiocommunications and transmitters links shall be operated by using Radio Access Network (RAN) Sharing network as detailed out in this Invitation and **Appendix 2** of this invitation. In addition, for several sites as listed in **Appendix 1**, the coverage objectives are extended further via the deployment of hub and spoke.

**SECTION II
INVITATION TO REGISTER INTEREST**

2 GENERAL DESCRIPTION OF THE FACILITIES AND SERVICES TO BE PROVIDED

- 2.1 This Invitation is made with respect to the universal service objectives set out in Regulation 3(1) of the Regulations. The facilities and services to be installed and provided under this Invitation are the installation of tower and infrastructure (Part 1) and the installation of equipment and electronics related to public cellular service under the concept of Radio Access Network (RAN) Sharing Technology (Part 2).
- 2.2 The scope of work pursuant to this Invitation is divided into PART 1 and PART 2 as set out in **Appendix 2** of this Invitation.
- 2.3 The details of the specifications and technical requirements for the facilities under PART 1 and PART 2 in **Appendix 2** are stipulated in **Appendix 9** of this Invitation.
- 2.4 The installation of equipment and electronics under PART 2 to be provided in **Appendix 2** shall meet the following requirements:
- (a) Service requirements:
- (i) the provision of public cellular service comprising of 2G and 3G services with the capability of providing voice and data services to meet the requirements of the general public;
 - (ii) the provision of public cellular service shall be accessible in all of the universal service targets including the rural and remote parts of the universal service targets and the spoke sites (if applicable);
 - (iii) coverage of the public cellular services must include at the minimum of coverage objectives within the universal service targets as stipulated in **Appendix 1** including the coverage objectives for the spoke sites (if applicable);
 - (iv) the quality of public cellular service including the signal level and signal quality should be consistent with the Variation to Commission Determination on Mandatory Standards for Quality of Service (Public Cellular Service), [Determination No. 2 of 2002], Determination No.1 of 2013 or such other standards for quality of service on public cellular service as may be required by MCMC;
 - (v) the network services shall enable public cellular service, under normal operating conditions, to be made available 24 hours per day, 7 days a week and shall enable interconnection with networks of other licensed service providers; and

- (vi) Interested Licensees shall undertake the measures to avoid or limit the interference to the adjacent areas and overall cellular network efficiency.
- (b) Continuity of service requirement during natural disaster :
 - (i) the provision of public cellular service shall be made available 24 hours per day, 7 days a week at the area of coverage objectives within the universal service targets included to the area that is prone to natural disasters such as flood.
- (c) Technical requirement:
 - (i) the specifications in respect of cabins, power supply and etc. as stipulated in **Appendix 9** of this Invitation.

3 RAN SHARING TECHNOLOGY INTRODUCTION

- 3.1 Radio Access Network (RAN) Sharing Technology provides the most suitable, cost-effective solution with reduced operating expenditure.
- 3.2 Through shared RAN, Public Cellular Network Providers can save the initial network construction investment, accelerate network construction speed, increase the initial coverage and attract more users in the new service provided areas.
- 3.3 Besides sharing the infrastructure; RAN Sharing can also support different services and applications from different Public Cellular Network Providers to maintain good competitiveness with adopting different RAN sharing solutions by considering the frequency resources, network resources and business strategy, and supporting multiple Public Cellular Network Providers sharing network resources simultaneously by flexible software and hardware configurations.
- 3.4 The RAN Sharing technology will also facilitate Public Cellular Network Providers to satisfy their obligation in providing basic communication services to the underserved community.

4 RAN SHARING SCOPE OF WORK PART 2

- 4.1 The RAN Sharing solution shall be based on the following basic principles:
 - a) The RAN sharing equipments shall have the capability to provide 2G and 3G services. It shall be configured so that it can serve a minimum of 1000 subscribers per site for 2G networks and a minimum of 1 number of carriers per sector for 3G networks;
 - b) RAN sharing equipment shall be able to cater the usage of minimum 3 Public Cellular Network Providers comprising of 2G and 3G services with the capability of providing voice and data services at broadband speed and 4G-LTE ready;

- c) The Interested Licensee shall be able to understand the overall RAN Sharing system by having either the Multi – Operator Radio Access Network (MORAN) or Multi – Operator Core Network (MOCN) for 2G or 3G services with supporting multiple PLMN broadcast;
- d) In the event of the unavailability of line of sight (LOS) and wired infrastructure, the Interested Licensees may opt to use very small aperture terminal (VSAT) as a transmission backhaul solution depending on the surrounding landscape terrain;
- e) Interested Licensees shall ensure that the transmission backhaul should be capable to cater the usage of minimum 3 Public Cellular Network Providers in supporting 2G and 3G services;
- f) In the RAN Sharing system, billing system is independently controlled by each Public Cellular Network Provider; and
- g) Any component related 2G and 3G services are required to be included among others the BSC, RNC, the associated BTS, links, NOC and associated ancillaries facilities with full connectivity to the MSC of Public Cellular Network Providers.

5 HUB AND SPOKE CONCEPT

- 5.1 The primary advantage of deploying the hub and spoke concept is to further extend coverage to the scattered low population areas and other suitable areas to improve the signals.
- 5.2 Furthermore, it can significantly enhance the network capacity and enabling more efficient use of shared resource.
- 5.3 The deployment of the hub and spoke concept shall be based on the following basic principles:
 - a) The capacity of transmission backhaul for the hub tower should be capable to cater usage of minimum 3 Public Cellular Network Providers in support of 2G and 3G services for the hub as well as the spoke; and
 - b) Other general description of the facilities and services to be provided by Public Cellular Network Providers are as per **Item 2.3 and 2.4**

6 STANDARD ACCESS OBLIGATIONS FOR FACILITIES AND SERVICES

- 6.1 The Designated Universal Service Provider for Part 2 shall make a written access request to network facilities provider and network service provider to access to their network facilities or network services to achieve the interoperability and interconnection for the RAN sharing services according to Chapter 3 of Part VI of the CMA.

- 6.2 Notwithstanding the above, the Designated Universal Service Provider for Part 2 is encourage to develop a comprehensive commercial bussines model where the basis of commercial business model should be the operating expenditure involved for this project only. This commercial model may include the following items, but not limited to:
- a) Land rental;
 - b) Utility rental and other administration;
 - c) Transmission backhaul lease;
 - d) Preventive and corrective maintenance services;
 - e) Managed services for the complete project;
 - f) Apparatus Assignment fee for transmission backhaul and radios;
 - g) Data centre lease services for hosting BSC and RNC (if applicable); and
 - h) Other necessary operating costs which are related to this project.
- 6.3 The above commercial bussines model may be the basis for Interested Licensees to determine the monthly operations and maintenance chargers to the Public Cellular Network Providers.

7 INTEROPERABILITY AND INTERCONNECTION FOR THE OVERALL NETWORK

- 7.1 The Interested licensee should propose the interoperability and interconnection for the overall network. The mode of transmission from a Time 3 Extension location based on line of site, terrain and availability of infrastructure may depend and the options that most likely available will be VSAT, Microwave or Fiber.
- 7.2 The technology proposed should be flexible with different types of backhaul systems and should not be restricted to one (1). Interested Licensees must take care of the quality of service (QoS) for end-to-end system from BTS and NodeB to BSC and RNC. The BSC and RNC together with OMC should be at strategic location so that the interconnection with Public Cellular Network Providers can be easy and smooth. Public Cellular Network Providers and the Designated Universal Service Provider PART 2 should meet at common location for interconnect of the Time 3 Extension sites and BSC and RNC to Public Cellular Network Providers Core Network.
- 7.3 The proposal for interconnect and interoperability should include:
- a) Site Location for BSC and RNC;
 - b) The architecture of connectivity from different transmission modes to the MSC, BSC and RNC;

- c) Proposed design of interconnectivity from RAN Sharing BSC and RNC to MSC Public Cellular Network Provider's Core Network;
- d) Bandwidth Dimensioning from BTS and Node-B to the BSC and RNC;
- e) Proposed Network Block Diagram for RAN Sharing System;
- f) Detailed Network Topology from Time 3 Extension BTS and e-Node B to BSC and RNC and from BSC and RNC to Public Cellular Network Providers Core Network;
- g) Proposed Network Equipment; and
- h) Detailed Implementation timeline.

8 SPECTRUM FREQUENCY AND AA PROCEDURE

- 8.1 The Designated Universal Service Provider for Part 2 is allowed to use the spectrum for the provision of the Work only after the issuance of the requisite Apparatus Assignment(s) in accordance with the Communications and Multimedia Act 1998 and the Communications and Multimedia (Spectrum) Regulations 2000.
- 8.2 The use of spectrum band for 2G and 3G services will be determined by MCMC or via collaboration with Public Cellular Network Providers and subject to requirements stipulated in the relevant Standard Radio System Plan or guideline issued by MCMC including any revision thereafter.

9 TESTING PROCEDURE

- 9.1 The Designated Universal Service Provider for PART 2 should propose the complete test procedures to be conducted during integration of RAN Sharing infrastructure with the Public Cellular Network Providers.
- 9.2 For the smooth integration of RAN Sharing network to the Public Cellular Network Providers, the Designated Universal Service Provider for PART 2 may propose, but not limited to, the following testing procedures:
 - a) Connectivity Test;
 - b) Functionality Test;
 - c) Network Test; and
 - d) Service Test.

- 9.3 The above test will be conducted by Designated Universal Service Provider PART 2 with individual Public Cellular Network Provider and subsequently with all the Public Cellular Network Providers.
- 9.4 All related cost for the testing conducted as stated in **Item 9.2** shall be borne by the Designated Universal Service Provider for PART 2.
- 9.5 During the testing and any other procedure for the integration, the Designated Universal Service Provider for PART 2 must ensure to undertake certain precaution methods to avoid severe impact that affecting the subscribers of Public Cellular Network Providers.
- 9.6 All the Public Cellular Network Providers for each site must have given their prior written consent to the Designated Universal Service Provider for Part 2 based on the test conducted above before operation commencing the RAN sharing operation.

10 GREEN TECHNOLOGY

- 10.1 The Interested Licensees are encourage to include the use of the green technology pursuant to this Invitation to achieve the following objectives in line with the National Green Technology Policy Objective:
- a) To reduce the energy usage rate and increase economic growth;
 - b) To facilitate the growth of the green technology industry and enhance its contribution to the national economy;
 - c) To increase national capability and capacity for innovation in green technology development and enhance Malaysia's competitiveness in green technology in the global arena; and
 - d) To ensure sustainable development and conserve the environment for future generations.
- 10.2 Notwithstanding the above, the proposed solution by the Interested Licensees should be proven to be feasible in provisioning the public cellular shall include but not limited to the following areas:
- a) Techniques to enable energy efficiency such as to use high efficiency devices in electronic equipments;
 - b) Green energy and green facilities such as the optimization of hybrid power or alternatives supply such as fuel cell energy especially for the site without TNB/ SESCO/SESB supply; and

- c) Providing total flooding fire suppression with automatic detection, control and eco friendly to reduce the greenhouse gas emissions e.g CO2.

11 ASSIGNMENT OF LOCAL CONTRACTOR

- 11.1 The Designated Universal Service Provider is encouraged to invite qualified local contractor(s) to carry out the work. This is in line with the Malaysia's Government Procurement Regime which prime objective is to obtain value for money through acquisition works, supplies and services.
- 11.2 In addition, the assignment of local contractor is to stimulate the growth of local industries through the maximum utilization of local materials and resources as well as to encourage and support the involvement of Bumiputera entrepreneurs.

12 REGISTRATION OF INTEREST REQUIREMENTS

- 12.1 The Interested Licensees who wish to register their interest to become the Universal Service Provider pursuant to this Invitation must hold the requisite licences that enable them to carry out the scope of work under this Invitation within the scope of their licences and meet the requirements as specified below:

(a) The Interested Licensees are require to hold:

- (i) A Network Facilities Provider Individual [NFP(I)] licence for the scope of work in PART 1, under the Communications and Multimedia Act 1998, and is authorized to own or provide **ALL** of the following network facilities under Regulation 19 of the Communications and Multimedia (Licensing) Regulations 2000, as amended:
 - i. Towers, poles, ducts and pits used in conjunction with other network facilities.
- (ii) A Network Facilities Provider Individual [NFP(I)] and Network Service Provider Individual [NSP(I)] licence for the scope of work in PART 2 under the Communications and Multimedia Act 1998 with the following condition:
 - i. The licensed area specified under both the [NFP(I)] licence and the NSP(I) licence of the licenses **shall be within "Malaysia"**; and
 - ii. The list of network facilities permitted in the licensees's [NFP (I)] license shall include radio communications transmitters and links.
 - iii. There shall be no last mile limitation specified in the [NFP (I)] licence.

(b) Notwithstanding the above, the Interested Licensees are required to have at least one **(1) year** experience with good track records and/or engage in a

collaboration or Memorandum of Understanding (MOU) with other qualified contractors or Public Cellular Network Provider.

- 12.2 Notwithstanding the above, to be eligible to register an interest, the Interested Licensees shall not have any outstanding amount due to MCMC including but not limited to the following:
- (a) any license fees due to MCMC under the CMA;
 - (b) Universal Service Provision Fund (USP Fund) Contribution; and
 - (c) Apparatus Assignment fees.
- 12.3 MCMC shall have the right to forfeit the registration or to disqualify the submission of the Interested Licensees who have failed to comply with the requirement stated in **Item 12.2**.
- 12.4 For the purpose of this Invitation, MCMC has grouped the universal service targets into 30 clusters as stated in **Appendix 1** of this Invitation. The Interested Licensees may register interest to become the Universal Service Provider for:
- a) PART 1 – Installation of Tower and Infrastructure ; or / and
 - b) PART 2 – Installation of Equipment and Electronics
- for each of the cluster(s) of their choice.
- 12.5 The Interested Licensees may choose to register their interest to become the Universal Service Provider for:
- (a) any one (1) cluster; or
 - (b) two (2) or more clusters; or
 - (c) all clusters
- of the universal service targets listed in **Appendix 1**.
- 12.6 For the avoidance of doubt, MCMC will not accept registration of interest for **part of a cluster** or any combination of clusters which includes **a part of a cluster**. Similarly, in relation to the scope of work, MCMC will only accept registration of interest for **the entire of PART 1, the entire of PART 2 or both PARTs**.
- 12.7 The Interested Licensees shall register their interest with MCMC by completing the form enclosed in **Appendix 3** of this Invitation. Please note that the deadline for submitting the duly completed registration of interest form in relation to the universal service targets is stated in **Item 15.1** of this Invitation.
- 12.8 The Interested Licensees are hereby reminded that pursuant to Regulations 6(1) and 7(2) of the Regulations, those who have registered their interest will be legally obliged to submit their draft universal service plan(s) for their scope of work and cluster(s) of the universal service targets and such further information

requested by MCMC. The scope of the draft universal service plan and the manner of submission are specified in **Item 13 and Item 14** of this Invitation.

- 12.9 The Interested Licensee who fails to comply with Regulations 6(1) or 7(2) commits an offence under Regulation 39 of the Regulations and shall on conviction be liable to a maximum fine of RM300,000.00 or imprisonment for a maximum term of 3 years or both.
- 12.10 All Interested Licensees shall register their interest with MCMC by submitting the duly completed form as enclosed in **Appendix 3** of this Invitation by hand to the following address:

Malaysian Communications and Multimedia Commission
Off Persiaran Multimedia
63000 Cyberjaya
(Attn : Secretary of the Tender Committee)

- 12.11 The Interested Licensees must fill up the acknowledgement form provided at the registration counter and MCMC will not accept the registration of interest by email, fax, and mail.

13 SUBMISSION OF DRAFT UNIVERSAL SERVICE PLAN

- 13.1 The draft universal service plan shall be divided into two separate documents as follows:

- (a) Technical Proposal; and
- (b) Financial Proposal.

As per **Item 14.2** of this Invitation.

- 13.2 The Interested Licensees shall submit the draft universal service plan for PART 1 or PART 2 or both parts for each cluster based on their registration of interest and separate the binding of each part of the draft universal service plan.

- 13.3 The submission of draft universal service plan shall be accompanied by a One Off Document which consist of :

- (a) licensee's information and other supporting documents as detailed out in **Appendix 4** ;
- (b) company profile;
- (c) Softcopy of the completed set of draft universal service plan; and
- (d) Letter of Collaboration or MOU between the Licensee and contractor in collaborative activities (if applicable).

- 13.4 In preparing the draft universal service plan(s), the Interested Licensees shall include the appropriate information relating to the technical and financial proposal for each of the universal service target.

- 13.5 For the avoidance of doubt, MCMC will not accept submission of draft universal service plan for **part of a cluster** or any combination of **clusters which includes a part of a cluster**. Similarly, in relation to the scope of work, MCMC will only accept submission of draft universal service plan for the entire of PART 1, or PART 2 or both Parts at its entirety.
- 13.6 Each technical and financial proposal mentioned above shall be submitted in DUPLICATE and the hard copies of the draft universal service plans shall be marked as follows:
- (a) one (1) copy to be marked "**ORIGINAL**";
 - (b) two (2) copies to be marked "**COPY**";
 - (c) all pages of the Financial Proposal of the draft universal service plan shall be duly initialed and affixed with a rubber stamp of the Licensee;
 - (d) all pages of the Technical Proposal of the draft universal service plan shall NOT bear the Licensee's name, logo and stamp; and
- 13.7 for ease of reference, the pages for the draft universal service plan shall be numbered in the following format: " 1 of (total pages of draft universal service plan), 2 of ..., 3 of ..." and accordingly thereafter. The submission of draft universal service plans shall be enclosed in a separate sealed envelope(s) and superscribed as follows:
- (e) Technical Proposal: **(Cluster No. #/Scope of Work: PART #)**;
 - (f) Financial Proposal: **(Cluster No. #/ Scope of Work: PART #)**; and
 - (g) One-Off basis as per **Item 13.3**.
- 13.8 All submissions of the draft universal service plan(s) shall be prepared in the prescribed format and properly put in box(es) with A4 size label :
- (a) MCMC's Invitation reference **(INVITATION REF. NO.: MCMC/RDD/PDD(4)/T3_Extn(P2)/TCA/12/14(12))** at the top left hand corner of the box(es);
 - (b) the description "**SUBMISSION OF DRAFT UNIVERSAL SERVICE PLAN - (Cluster No. #)**" at the central position of two sides of the box(es); and
 - (c) "**SUBMITTED BY: (Name of Licensee)**" at the central bottom position of the box(es).
- 13.9 In the event of discrepancies, the document marked "**ORIGINAL**" shall prevail.
- 13.10 All documents mentioned above, including any appendices annexed thereto, shall be taken as mutually explanatory of each other.
- 13.11 The Interested Licensees shall be deemed to have examined and understood all information and documents comprised in this Invitation.

- 13.12 All costs and expenses associated with and necessary for the preparation and submission of the draft universal service plan shall be borne by the Interested Licensees.
- 13.13 All corrections, changes, alterations and/or any other amendments whatsoever made in the draft universal service plan shall be initialed and affixed with the Interested Licensee's company stamp.
- 13.14 All documents which form part of the draft universal service plan shall be properly and securely bound. The draft universal service plan(s) shall be deposited in the box designated by MCMC for the receipt of the documents located at:

Malaysian Communications and Multimedia Commission
Off Persiaran Multimedia
63000 Cyberjaya
(Attn : Secretary of the Tender Committee)

- 13.15 Handbooks and any other literature, if any, shall be bound in separate covers.

14 SCOPE OF THE DRAFT UNIVERSAL SERVICE PLAN

- 14.1 The draft of the universal service plan to be submitted by the Interested Licensees for both scope of work, shall contain the following information (as may be applicable):
- (a) the coverage objectives (name of villages, settlement areas, plantations, highways, population etc) within the universal service target to which the universal service plan applies to;
 - (b) the exact location of the site within the universal service target, to be submitted in geographical coordinate in decimal format (Latitude/Longitude WGS84) with site name, address; and
 - (c) a detailed description of the infrastructure and/or equipments to be installed at the site including at spoke's sites (if applicable) as follows:
 - (i) a detailed description of site infrastructure and ancillaries including access road to be provided at the site (applicable to PART 1 scope);
 - (ii) the source of AC power supply for each site; i.e. TNB, SESB, SESCO, generator set etc. (applicable to PART 2 scope);
 - (iii) a detailed description of cellular and other related equipments to be installed at the site, together with Malaysian Standard Type-Approval details (applicable to PART 2 scope);
 - (iv) a detailed of network facilities and network services with contingency plan must be established to facilitate for emergency preparedness in the event of a regional, national or international disaster i.e flood;

- (v) detailed information and location of the existing network infrastructure, facilities and/or services owned or provided by the Interested Licensee within the universal service target and its adjacent areas; and
 - (vi) a detailed site design and network configuration to be deployed within the universal service target. The Interested Licensee shall have regard to maximizing the use of existing network infrastructure and facilities in a cost-effective manner; under such circumstances, this should reflect the incremental capital cost;
- (d) the project implementation timeline for the provision of the public cellular services indicating site planning, design, acquisition, approvals, procurement of materials, installation, testing and commissioning;
- (e) the capital cost for the installation of network facilities or the provision of network services within the universal service targets. Cost information must include all breakdown, complete computation and nett figure for the total costs without any form of conditional discounts or options. If discounts are indicated, MCMC will disregard the discounts in considering the total cost proposed by the Interested Licensee. If any options are provided, MCMC reserves the right to disqualify the submission of the draft universal service plan;
- (f) the arrangement of the sharing of network facilities and network services with other licensees;
- (g) the details of RAN Sharing solution for 2G and 3G services proposed by Interested Licensees with guidelines and standard principles as stated in **Item 3 and Item 4**;
- (h) the Designated service provider have to ensure that the facilities and services are continuously available for use in the universal service targets for a minimum of 3 years operation (applicable for Part 2 only) ;
- (i) information on project management team of the Interested Licensee for the universal service target which include names, designation, address, contact numbers etc;
- (j) Information on the Interested Licensee's and the collaboration partner's (if applicable) track record and relevant experience related to public cellular projects for the past 3 years. The Interested Licensee should also:
- (i) include information on its current projects;
 - (ii) distinguish their experiences as a contractor and as a network facilities provider;
 - (iii) specify the number of towers owned or provided by the Interested Licensee in the state where the universal service target is located; and

- (iv) Letter of Collaboration or MOU between the Licensee and contractor in collaborative activities (if applicable).

14.2 The format of the draft universal service plan in relation to both scope of work in PART 1 and PART 2 shall be as follows :

(a) Technical Proposal

SECTION	DESCRIPTION
SECTION A	EXECUTIVE SUMMARY OF (CLUSTER #)
	Overview of the technical proposal
SECTION B	TECHNICAL PROPOSAL OF (CLUSTER #)
B1	Summary of Technical Proposal <ul style="list-style-type: none"> • Refer to Appendix 5 for summary proposal template
B2	<p>Details of Technical Proposal</p> <p>1. Site A (Site ID & Coverage Objective)</p> <ul style="list-style-type: none"> • Details of Technical Proposal (as may be applicable) <ul style="list-style-type: none"> ○ Site ID ○ Coverage objectives ○ Site location (Long/Lat) ○ Site category (collector or spur) ○ Source of AC power supply ○ Site footprint & cabin size ○ Information on existing facilities and/or services ○ Equipment type, configuration & capacity ○ Details of supplier for materials and equipments ○ Implementation timeline ○ Equipment to be provided and installed as contingency plan for the natural disasters event such as flooding and etc ○ <p>2. Site B (Coverage Objective)</p> <ul style="list-style-type: none"> • Details of Technical Proposal (as may be applicable) <ul style="list-style-type: none"> ○
B3	<ol style="list-style-type: none"> 1. Comprehensive details of RAN Sharing solution for 2G and 3G services. (as per Item 3 and 4) 2. Proposed Network Block Diagram for RAN Sharing System. (as per Item 3 and 4) 3. Network Topology of Interoperability and interconnection for the overall network (VSAT, Microwave & Fiber) from BTS and Node B – BSC and RNC – Core Network (Public Cellular Network Providers) for every cluster. (as per Item 7)

SECTION	DESCRIPTION
	<ul style="list-style-type: none"> ○ Bandwidth Dimensioning for each link ○
SECTION C	OTHER INFORMATION
	<ol style="list-style-type: none"> 1. Track record and relevant experience related to public cellular projects. 2. Number of towers owned or provided by the Licensee in the state where the universal service target is located. 3. Brief Information on Project Management team and the contractors/subcontractor(s) that the Licensees intend to use. 4. Information on cooperation between licensees. 5. Detailed maintenance and operational support plan. 6. Other information deemed necessary.

(b) Financial Proposal

SECTION	DESCRIPTION
SECTION A	EXECUTIVE SUMMARY OF (CLUSTER #)
A	Overview of financial proposal
SECTION B	FINANCIAL PROPOSAL OF (CLUSTER #)
B1	Summary of Financial Proposal Refer to <u>Appendix 6</u> for summary proposal template
B2	<ol style="list-style-type: none"> 1. Site A (Site ID & Coverage Objective) <ul style="list-style-type: none"> • Details of Financial Proposal (itemized pricing by the following components) – please refer to <u>Appendix 7</u> for detail proposal template (as may be applicable) <ul style="list-style-type: none"> ○ Preliminaries ○ Tower ○ Site Infrastructure and Ancillaries ○ AC Power Supply ○ Additional Works ○ BTS Equipment ○ Equipment Shelter ○ Equipment to be provided and installed as contingency plan for the natural disasters event such as flooding and etc ○ • Details of Financial Proposal (itemized pricing) for

SECTION	DESCRIPTION
	<p data-bbox="776 233 1430 296">maintenance and operation support plan for Part 2 only (as may be applicable)</p> <ul style="list-style-type: none"> <li data-bbox="789 302 1455 396">○ Cost relevant to Part 2 scope of work and category B of Part 1 scope of work as stipulated in Appendix 2 for maximum of 3 years only. <li data-bbox="789 403 1409 497">○ The preventive and corrective maintenance includes operational checking and testing as stipulated in Appendix 8. <p data-bbox="656 533 1052 564">1. Site B (Coverage Objective)</p> <ul style="list-style-type: none"> <li data-bbox="716 571 1455 665">● Details of Financial Proposal (itemized pricing by the following components) – please refer to Appendix 7 for detail proposal template <ul style="list-style-type: none"> <li data-bbox="802 672 894 703">○ <li data-bbox="802 709 894 741">○
SECTION C	OTHER INFORMATION
	Other information deemed necessary

Note: Interested Licensees are required to list out details for each USP target under the Cluster(s).

14.3 The geographical coordinate/site locations as set out in **Appendix 1** are provided as a guide only. The Interested Licensees are responsible for the identification of actual sites and provide the geographical coordinate in decimal format when preparing their draft universal service plans. The choice of the actual sites shall reflect cost efficiency inclusive sites with flood history. Where possible, the site locations stated in **Appendix 1** should be followed by the Interested Licensees.

14.4 The Interested Licensees shall include in their draft universal service plans detailed information on the coverage objectives as required under **Item 14.1(a)** whether or not the site locations as set out in **Appendix 1** are followed.

15 CLOSING DATE

Registration of Interest

15.1 In relation to universal service targets listed in **Appendix 1**, all Interested Licensees shall register their interest with MCMC on **15 December 2014 from 9.00am till 5.00 pm.**

Submission of Draft Universal Service Plan(s)

15.2 All submissions of the draft universal service plan(s) shall be prepared in the manner prescribed and submitted at the place stipulated in **Item 13.14.**

15.3 All Interested Licensees who have registered their interest pursuant to the above shall submit the relevant draft universal service plan(s) **on or before 12.00 pm, 16 February 2015.**

16 MATTERS FOR CONSIDERATION FOR APPROVING DRAFT OF UNIVERSAL SERVICE PLAN

16.1 MCMC will consider the matters specified in Regulation 7 of the Regulations and all information included in the draft universal service plans in deciding whether or not to approve the draft universal service plans.

16.2 In addition to those matters, MCMC will also consider factors including but not limited to the following:

- (a) the Interested Licensee's financial capacity and capability to implement its draft universal service plan; and
- (b) the Interested Licensee's track record and relevant experience related to public cellular projects.

**SECTION III
PAYMENT FROM THE USP FUND**

17 CLAIM FOR PAYMENT

- 17.1 A universal service provider designated pursuant to this Invitation is entitled to claim its costs pursuant to Regulation 19(2A) of the Regulations, more particularly the avoidable cost as specified in Table AA of the Schedule in the Regulations. The Designated Service Providers are advised to refer to Part V and Table AA of the Schedule in the Regulations in relation to the costing and claim for universal service provision.
- 17.2 In essence, 'avoidable cost' means the costs that a Designated Universal Service Provider would avoid if it had not been required to provide facilities and services in a universal service target and for purposes of this Invitation.
- 17.3 It is an obligation on every Designated Universal Service Provider to submit, not later than 31 March of the relevant calendar year(s), a written claim to MCMC in accordance with Regulation 20 of the Regulations for the cost of universal service provision for the previous calendar year. Interested Licensees are reminded that this obligation is applicable notwithstanding any payments that may be made by MCMC under Regulations 12 or 20A of the Regulations.
- 17.4 A Designated Universal Service Provider should submit the claims using the Claims Form that will be provided by MCMC and to be submitted together with necessary documents.
- 17.5 Payment will be made upon a duly verified claim less any payments already made under Regulations 12 or 20A of the Regulations not later than thirty (30) days from the date of the verification is completed by MCMC.

18 ADVANCE PAYMENT AND QUARTERLY PAYMENT(S)

Advance Payment

- 18.1 MCMC may, under Regulation 12 of the Regulations, consider making an advance payment to a Designated Universal Service Provider towards the capital cost of implementation of the universal service plan approved pursuant to this Invitation ("Advance Payment"). A Designated Universal Service Provider may submit its written application for Advance Payment to MCMC for its consideration.

Quarterly Payment(s)

- 18.2 MCMC may under Regulation 20A of the Regulations, consider making quarterly payments to a Designated Universal Service Provider for the capital costs of implementing the approved universal service plan ("Quarterly Payment"). A Designated Universal Service Provider may submit its written application for Quarterly Payment(s) to MCMC for its consideration.

Obligation to refund

- 18.3 In the event that a Designated Universal Service Provider receives payment under Regulation 12 and/or 20A of the Regulations of a total amount which exceeds the cost incurred for a calendar year that it is entitled to claim pursuant to this Invitation, the Designated Universal Service Provider is required under Regulation 21A of the Regulations to refund to MCMC the monies paid in excess in accordance with the notice that MCMC may issue.
- 18.4 A Designated Universal Service Provider who fails to comply with the notice issued by MCMC commits an offence under Regulation 21A (2) of the Regulations.

19 PAYMENT IN CASE OF REVOCATION OF DESIGNATION OF DESIGNATED UNIVERSAL SERVICE PROVIDER

- 19.1 The designated universal service provider revoked under sub-regulation 16(1) of the Regulations, shall not be paid any cost and expenses incurred as set out in the approved universal service plan unless the designated universal service provider has reimbursed MCMC:
- (a) Overpaid monies under regulation 21A of the Regulations;
 - (b) Any payments due under sub-regulation 16(6)(b) of the Regulations;
 - (c) All costs incurred in restoring services in the universal service target; and
 - (d) Any other costs duly incurred by MCMC.

SECTION IV GENERAL TERMS & CONDITIONS

20 RIGHT TO ACCEPT ANY DRAFT UNIVERSAL SERVICE PLAN AND TO REJECT ANY OR ALL

20.1 MCMC reserves the right to accept or reject any draft universal service plan and to annul the USP tender process and reject all draft universal service plan(s) at any time prior to the notification of the MCMC's decision without thereby incurring any liability to the affected Licensee or Licensees or any obligation to inform the affected Licensee or Licensees of the grounds for the MCMC's action.

21 AWARD OF THE APPROVED UNIVERSAL SERVICE PLAN

21.1 MCMC may designate a Licensee as a universal service provider that submits draft universal service plan(s) offering the best value for money. The invitation to submit draft of universal service plan shall cover several universal service targets; MCMC reserves the right to award the approved universal service plan(s) for only some of the successful Licensee or Licensees.

22 IMPLEMENTATION OF APPROVED UNIVERSAL SERVICE PLAN

22.1 The Designated Universal Service Providers are reminded that in the event that MCMC approved the draft universal service plan(s) submitted under this Invitation, the Designated Universal Service Providers will be subject to an obligation under Regulation 11(1) of the Regulations to comply with the approved universal service plan(s).

22.2 Change of site location

(a) If the site locations and coverage objectives stated in **Appendix 1** are found by the Designated Universal Service Providers to be unsuitable, the Designated Universal Service Providers may propose a change of the site location. The Designated Universal Service Providers shall first attempt to identify a site (within 2 kilometer radius from the site location identified) which it considers suitable to meet the intended coverage objective in **Appendix 1**.

(b) If the coverage objective based on the proposed site location differs from the coverage objective in **Appendix 1**, the Designated Universal Service Providers are required to notify MCMC on the new coverage objective based on the proposed site location.

(c) The Designated Universal Service Providers must ensure that any new site location proposed is still within the same universal service target(s) as stated in **Appendix 1**.

22.3 The Designated Universal Service Providers are reminded that the selection of site locations and the corresponding coverage objectives shall be based on 2G and 3G network planning.

- 22.4 The Designated Universal Service Providers who fails to comply with Regulation 11(1) of the Regulations commits an offence under the Regulation 39 of the Regulations and shall on conviction be liable to a maximum fine of RM300,000.00 or imprisonment for a maximum term of 3 years or both.

23 ADDITIONAL SERVICES

- 23.1 As stated earlier, this Invitation is made with respect to the installation of tower and infrastructure and installation of equipment and electronics only pursuant to this Invitation is entitled to claim only such related costs.

Part 1 and Part 2

- 23.2 In the case of vandalism, the Designated Universal Service Providers for the both scope of work for PART 1 and PART 2 shall act accordingly on:

- (a) the process to investigate and verify the damage caused by vandalism and the apportionment of the cost for repair or replacement of any facilities that are vandalized; and
- (b) the mechanism to minimize the risk of vandalism including reasonable security measures to be implemented at the affected site. The Designated Universal Service Provider for the scope of work in both PARTs may recover costs and expenses for the agreed security measures.

- 23.3 Designated Service Provider for the both scope of work Part 1 and Part 2 shall establish one agreement with the land owner for the duration of the service. During the implementation timeline for Part 1, land rental shall be borne by designated service provider Part 1. Service Provider Part 2 will only resume the land rental upon tower hand over from service provider Part 1. This condition has to be stipulated in the agreement with the land owner, Part 1 and Part 2 during implementation.

Part 1

- 23.4 The Designated Universal Service Providers for the scope of work in PART 1 shall be subject to an obligation to provide, at its own costs, the following services:
- (a) Responsible for facilities in Category A and Category B as stipulated in **Appendix 2** and shall be valid within the warranty period; and
 - (b) The Designated Universal Service Provider is encouraged to invite qualified local sub-contractor(s) to carry out the work of PART 1 at the related site location.

Part 2

- 23.5 The Designated Universal Service Providers for the scope of work in PART 2 shall be subject to an obligation to provide the following services:

- (a) provide maintenance and operation support services to ensure that all the facilities provided at sites for both PART 1 (Category B) and PART 2 are continuously available, accessible and in good condition for use in the universal service targets upon the commencement date of PART 2.
- (b) subject to **item 23.5 (a)** as above, the Designated Universal Service Providers shall include in their draft universal service plans the details on the provisioning of maintenance and operation support services for 3 years including but not limited to the response times, hotline numbers, contact personnel, site and compound maintenance and all other relevant information as per **Appendix 8** of the Invitation.
- (c) notwithstanding the above, the Designated Universal Service Providers for the scope of work in PART 2 have to install and maintain their equipments for the provision of network services, cabins, power supply and all its accessories such as fire extinguisher, air conditioning, and electrical system.
- (d) ensure the availability of public cellular services for 24 hours per day, 7 days a week that under normal operating conditions, include the following features at all times (unless otherwise required by the customers):
 - (i) the ability to make and receive voice and to the networks of other licensed service providers;
 - (ii) the ability to make and receive automated national and international voice;
 - (iii) the ability to make calls to emergency numbers, which gives the customer access to emergency services, free of charge;
 - (iv) the ability to make calls to operator for directory assistance, national and international call connection and reporting of service difficulties; and
 - (v) the ability to use data services which includes SMS and internet browsing within 2G and 3G networks.
 - (vi) allow the sharing of towers with other licensed service providers.

24 QUALITY OF SERVICE AND RATES

- 24.1 The Designated Universal Service Providers shall comply with the quality of service standards as provided in any mandatory standards or consumer codes registered under the Communications and Multimedia Act 1998 including but not limited to the various Commission Determinations on the Mandatory Standards for Quality of Service.
- 24.2 The Designated Universal Service Providers must ensure that the services are setup and delivered with high quality of service.
- 24.3 The Designated Universal Service Providers shall comply with the Consumer and Content Codes registered under the Communications and Multimedia Act 1998.

24.4 In the event, any abstraction of coverage that includes the signaling level on Quality of Service must be adhere in consistent with the Commission Determinations on the Mandatory Standards for Quality of Service (Public Cellular Service) or such other standards for quality of service on Public Cellular Service as may be required by MCMC.

25 TECHNICAL COMPLIANCE

25.1 The Designated Universal Service Providers shall be solely responsible for the correct design and configuration of the network facilities, equipment and services offered as per the submitted Draft Universal Service Plan. Spectrum used for the equipment shall comply with the Standard Radio System Plan (SRSP) and any other relevant standards as and when required by MCMC.

25.2 If subsequent modifications or changes are necessary for the network facilities, equipment and services to function in accordance with the specifications, the Designated Universal Service Providers shall bear the additional cost involved in modifying the equipment and no such claims from the USP Fund shall be allowed.

26 AUTHORITY APPROVAL

26.1 The Designated Universal Service Providers shall be responsible to obtain the necessary approvals from the state authority, local authority, electrical authority or other relevant authority (if applicable) before commencing the Work.

26.2 The Designated Universal Service Providers shall be solely responsible for any failure to obtain the necessary approvals including any additional costs to comply with the authority's requirements.

26.3 The Designated Universal Service Provider will be responsible for any additional costs incurred to ensure infrastructure and services continue to be available in the event a change of site location is required as a result of the Designated Universal Service Providers non compliance to the authority's requirements.

27 SAFETY

27.1 The Designated Universal Service Providers shall:

- (a) be responsible to take all reasonable steps at all times to ensure the safety of persons and property at the sites;
- (b) enforce and take all reasonable steps to cause compliance of all safety measures for workmen, contractors and all other persons at the sites as stipulated in all relevant safety-at-work legislation and regulations; and
- (c) indemnify and keep indemnified, protect and defend at its own cost and expense, MCMC and its authorized officers from and against all actions, claims and liabilities arising out of acts done, omission or breach of any

conditions in this Invitation by the Designated Universal Service Providers, its employees or its agents.

28 IMPLEMENTATION TIMELINE

- 28.1 The maximum time frame to complete the implementation of the entire scope of work in **Appendix 2** (PART 1 and PART 2) shall not exceed a total of 7 months from the date of MCMC's approval based on the following breakdown:
- (a) PART 1- Implementation Period: maximum of 5 months; and
 - (b) PART 2 - Implementation Period: maximum of 2 months of the Completion date of Part 1.
- 28.2 Each Interested Licensee shall include a proposed detailed implementation timetable in its draft universal service plan.
- 28.3 The Designated Universal Service Provider shall complete the entire scope of PART 1 and PART 2 work **ON** or **BEFORE** the "Date for Completion" as stated in its Approved Universal Service Draft Plan or such extended of time may be allowed under the **Item 29** of this Invitation.

29 EXTENSION OF TIME

- 29.1 Notwithstanding anything contained in Regulation 38 of the Regulations, where a time period is specified under these Regulations or in any request by the Commission for an act to be done or a condition to be fulfilled, the Designated Universal Service Provider for scope of PART 1 and PART 2 may request for an extension of time in writing and MCMC may grant such extension of time as it deems fit.
- 29.2 Extension of time may be given to the Designated Universal Service Provider upon requested and subject to confirmation by MCMC if the completion of the entire scope of PART 1 and PART 2 work is likely to be delayed or has been delayed beyond the date for completion as stated in its Approved Universal Service Draft Plan and **Item 28.1** of this Invitation due to any or more of the following events:
- a) force majeure as provided in **Item 33** of this Invitation; or
 - b) exceptionally inclement weather.
- 29.3 **PROVIDED ALWAYS** that the Designated Universal Service Provider for scope of PART 1 and PART 2 has taken all reasonable steps to avoid or reduce such delay and shall do all that may reasonably required to proceed with the Work.
- 29.4 **PROVIDED THAT** all such delays are not due to any negligence, default or breach of contract at stated in the Letter of Award (LOA) by the Designated Universal Service Provider for scope of PART 1 and PART 2.

29.5 **PROVIDED FURTHER** that the Designated Universal Service Provider for scope of PART 1 and PART 2 shall not be entitled to any extension of time where the instructions or acts of MCMC are necessitated by or intended to remedy any default of or breach of contract.

30 LIQUIDATED DAMAGES

30.1 In the event of a delay on the part of the Designated Universal Service Provider to complete the services in the stipulated time frame, the Designated Universal Service Provider shall pay MCMC liquidated damages at the rate 5% per week, for a maximum of 2 weeks, of the value of the total cost and expenses of the approved universal service draft plan(s). In this respect, implementation time shall be of the essence.

31 WARRANTY PERIOD

31.1 A Designated Universal Service Provider for Part 1 shall be responsible to provide warranty for the items as stipulated in **Appendix 2** as follows:

a) Category A for a period of warranty by tower manufacturer; and

b) Category B for a period of 12 month

from the date of completion Work.

31.2 As stated in **Item 31.1** above, the obligation for a Designated Universal Service Provider for Part 1 under this warranty is to repair or replace for the items stipulated in **Appendix 2**.

32 PERFORMANCE BOND

32.1 A Designated Universal Service Provider is required to submit a performance bond upon acceptance of Letter of Award (LoA) in the form of Bank Draft or Bank Guarantee issued by a local licensed financial institution under the Banking and Financial Institutions Act 1989 prior to the execution of written notification of the approval of the universal service plan(s) with MCMC. This performance bond is equivalent in value of 10% of the approved universal service plan(s).

32.2 The Performance Bond **shall be kept valid** for a period of **12 months** from the date of completion of the Work.

32.3 In the event of a delay to complete the Work upon the expiry of the performance bond, the Designated Universal Service Provider is required to renew and submit a new performance bond with the validity period of 12 months from the date of its expiry.

32.4 Notwithstanding the above, in the event that the Designated Universal Service Provider is being terminated under this Invitation hereof the said Performance Bond or any balance thereof shall be forfeited.

33 EFFECT OF FORCE MAJEURE

- 33.1 An “Event of Force Majeure” is an event beyond the control for the delay of scope of PART 1 and PART 2 Work which are:
- a) war (whether declared or not), hostilities, invasion, act of foreign enemies;
 - b) insurrection, revolution, rebellion, military, or usurped power, civil war, terrorism;
 - c) natural catastrophe including but not limited to earthquakes, floods, subterranean spontaneous combustion or any operation of the forces of nature against which an experienced contractor could not reasonably have been expected to take precautions;
 - d) nuclear explosion, radioactive or chemical contamination or radiation (unless caused by the negligence act, omission or default of the workmen, contractors and all other persons at all times during the execution of Works;
 - e) pressure waves caused by aircraft or other devices travelling at sonic or supersonic speeds; and
 - f) riot, commotion or disorder, unless solely restricted to employees of the workmen, contractors and all other persons for the execution of Works.

34 QUALITY OF MATERIALS AND EQUIPMENTS

- 34.1 The Designated Universal Service Provider shall ensure that all items to be used in the provision of universal service in the underserved area shall be of the highest quality, fit for the purpose which they are intended and be free from defects arising out of faulty design, faulty and inferior material or faulty workmanship.

35 OMISSIONS OR ERRORS

- 35.1 The Designated Universal Service Providers are advised to study all terms, conditions and specifications very carefully and to make all necessary site survey, clarification etc., before finalizing their draft universal service plan under the Communications and Multimedia (Universal Service Provision) Regulation 2002 [*P.U. (A) 419/2002*] (as amended by *P.U (A) 258/2008*).
- 35.2 The Designated Service Providers shall be solely responsible for all such omissions/errors without any additional cost chargeable to MCMC. MCMC reserves the right not to entertain any request for variation of price(s) or submission of additional quotes for items left out in the original plan on the grounds of lack of knowledge, oversight etc.

36 CONDITION OF EQUIPMENTS

36.1 All items supplied shall be genuine, newly manufactured/factory fresh (i.e. not second hand, reconditioned and/or used items).

37 SOURCE OF SUPPLY

37.1 The Designated Universal Service Provider shall state the country of origin, place of manufacture and the registered name and address of manufacturer in their draft universal service plans. All equipment proposed is required to be in line with the Malaysian Standards type-approved.

38 INSPECTION AND AUDIT

38.1 MCMC shall have the right to inspect and verify that all obligations due from the Designated Universal Service Provider are fully complied with. The inspection and verification of the universal services provisioning may include:

a) Technical Audit

(i) Conducting a physical verification at the sites that the items and services are delivered according to the quantities, locations, timelines and specifications as contained in the approved universal service plan.

b) Commercial Audit

(ii) Verifying all relevant supporting documents submitted by the Designated Universal Service Provider in their claims for net universal service costs.

39 MONITORING AND REPORTING REQUIREMENT

39.1 The Designated Universal Service Provider shall, from time to time or upon request by MCMC, submit a report on the progress of the implementation of the Approved Universal Service Plan.

39.2 Notwithstanding the above, the Designated Universal Service Provider shall submit progress as may be determined by MCMC. The average number of different photographs to be taken shall be sufficient enough to show the progress of the Works but in any case the average number per month shall not be less than five set. The digital qualities photographs in 4R size shall be all titled and dated and keep in album for safe keeping.

40 DECLARATION

- 40.1 The universal service plan shall be signed by the Chief Executive Officer of the Designated Universal Service Provider or any other person authorised by the Company.

41 CLARIFICATIONS AND ENQUIRIES

- 41.1 It is anticipated that some matters may have to be clarified following the evaluation of the submission and during the early stages of installation of the equipment. In this respect, MCMC reserves the right to issue written clarification on the specifications to formalize its requirements more precisely.
- 41.2 By registering its interest and submitting its draft universal service plans, the Designated Universal Service Providers is deemed to consent to the use of any of the information in the draft universal service plans or part thereof by MCMC for any purpose whatsoever.
- 41.3 Should there be a need to seek clarification and additional information regarding this Invitation, all inquiries shall be directed to Secretary of the Tender Committee via email at tender@cmc.gov.my or contact number: **03- 8688 8000**.
- 41.4 All relevant enquiries pertaining to this Invitation should reach MCMC at the latest by 26 January 2015 at 5.00 pm before the closing date for the submission of the relevant draft universal service plan(s).

**SECTION V
COORDINATION OF PART 1 AND PART 2**

42 GENERAL

- 42.1 This section applies where MCMC designates two different Universal Service Providers for Part 1 and Part 2 scope of work for one particular cluster.
- 42.2 The Universal Service Providers for the same cluster shall cooperate in good faith and provide reasonable assistance to each other in a timely manner to enable the implementation of the universal service plans so as to ensure the universal service objective are achieved. This includes sharing relevant information, avoiding unnecessary disputes and resolving differences and disputes promptly.

43 CONDITIONS RELEVANT TO SCOPE OF WORK IN PART 1

- 43.1 The Designated Universal Service Providers for the same cluster shall cooperate at all times to ensure that the facilities to be installed can enable the requirements for the provision of network services set out in **Item 2.4** to be met, particularly in the following areas:
- (a) the Designated Universal Service Provider for the scope of work in PART 1 shall:
- (i) consult the Designated Universal Service Provider for the scope of work in PART 2 on all relevant matters before commencing the Works; and
 - (ii) promptly notify the Designated Universal Service Provider for the scope of work in PART 2 when the tower and its associated site/facilities are ready for use and allow the Designated Universal Service Provider for PART 2 to install their equipments for the provision of network services.
 - (iii) shall assist the universal service provider for the scope of work in PART 2 in all relevant matters to the commencement of any physical work related to site/access to site/towers.
- 43.2 The relevant matters include but not limited to, the confirmation of suitability of site location (for example, clarity of line of sight).

44 CONDITIONS RELEVANT TO SCOPE OF WORK IN PART 2

- 44.1 The Designated Universal Service Providers for the same cluster shall cooperate at all times to ensure that network services can be provided consistent with the requirement set out in **Item 2.4**, particularly in the following areas:

- (a) the Designated Universal Service Provider for the scope of work in PART 2 shall promptly attend to issues related to its equipments as and when notified by the universal service provider for the scope of work in PART 1.

SECTION VI NATURAL DISASTERS

45 CONTINUATION OF SERVICES

- 45.1 Since the communication network is quite likely to be affected during disasters, disrupting the communication connectivity (which is the most crucial for response and relief work), this Invitation is made with respect to the Installation of Equipment and Electronics only pursuant to this Invitation subject to **Item 2.4 (b)**, is entitled to claim only such related costs.
- 45.2 The primary terms and requirement are to establish and ensure the public cellular services still **IN-SERVICE**.
- 45.3 Notwithstanding the above and **Item 33**, the Designated Universal Service Providers shall establish a contingency plan as stated in **Item 14.1 (c) (iv)** with the following:
- (a) the Designated Universal Service Providers for the scope of work in PART 1 to perform any work deemed necessary to improve resilience and to protect the infrastructure following the natural disaster such as flood, erosion due to the climate and others.
 - (b) the Designated Universal Service Providers for the scope of work in PART 2 to install and maintain the equipment or to equip with the contingency plan during natural disasters events such as flood period especially at low-lying flood prone areas;
 - (c) the Designated Universal Service Providers for the same cluster (PART 1 and PART 2) shall cooperate in good faith and provide reasonable assistance to each other in a timely manner especially when dealing with natural disasters event such as flooding etc to enable the public cellular coverage is **IN-SERVICE**.

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APPENDICES

(Which are to be taken and construed as an essential part of this Invitation)

APPENDIX 1 – LIST OF UNIVERSAL SERVICE TARGETS

Cluster 1

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0401	Johor	Pontian	Kg. Melayu Raya, Kg. Paya Embun, Kg. Sri Gambut, Kg. Pak Kalib, Kg. Seri Menanti	1.5975	103.4765	Kg. Pak Kalib, Kg. Seri Menanti	1.5773	103.4771
							Kg. Sepakat Jaya	1.5800	103.5000
2	T3_0402	Johor	Pontian	Kg. Jeram Batu, Kg. Sungai Burung, Kg. Sungai Tempayan	1.4651	103.5272	Kg. Sungai Burung	1.4762	103.5116
							Kg. Sungai Tempayan	1.4598	103.4930
3	T3_0403	Johor	Sedenak	Kg. Sungai Sayong 1, Kg. Sg. Saong 2, Kg. Sri Muar, Kg. Murni Jaya, Kg. Sri Leban	1.7732	103.5577	Kg. Murni Jaya	1.7592	103.5535
4	T3_0404	Johor	Sedenak	Layang - layang - Sedenak (Railway)	1.7600	103.5002	NA	NA	NA
5	T3_0405	Johor	Sedenak	Kg. Seri Sampurna, Jalan Ke Layang-layang	1.7685	103.4428	NA	NA	NA
6	T3_0406	Johor	Rengam	Jalan Spg Renggam - Layang Layang, Ladang Sime Darby	1.8682	103.3680	NA	NA	NA
7	T3_0407	Johor	Kota Tinggi	Taman Bayu Permai (Plot A)	1.3870	104.2690	NA	NA	NA
8	T3_0408	Johor	Kota Tinggi	Kg. Punggai	1.4477	104.2857	NA	NA	NA
9	T3_0409	Johor	Gelang Patah	Kg. Spg Arang	1.4125	103.5671	NA	NA	NA

Cluster 2

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0410	Johor	Sri Medan	Kg. Parit Laman MK 18, Parit Lintang Laman, Kg. Laman Bukit, Kg. Parit Lapis Laman, Parit Tegak Laman, Parit Hj. Ismail, Kg. Parit Karjan,	2.0036	102.9294	Kg. Kangkar Merlimau	1.9814	102.9223
							Kg. Kassim Jaya, Jln Kangkar Senagar - Parit Sulong	2.0165	102.9157
2	T3_0411	Johor	Simpang Kiri	Parit Mustaffa, Pt. Lubok, Parit Puasa, Parit Muhammad, Parit Maimon	1.9637	102.8255	Parit Tengah	1.9515	102.7921
							Parit	1.9760	102.8473
3	T3_0412	Johor	Minyak Beku	Parit Aman Town, Kg. Bukit Batu	1.7398	103.0316	Parit Aman	1.7245	103.0499
4	T3_0413	Johor	Batu Pahat	Sri Badak	2.0371	103.0143	NA	NA	NA
5	T3_0414	Johor	Sri Medan	Desa Bakti	2.0377	102.9833	NA	NA	NA
6	T3_0415	Johor	Minyak Beku	Jalan Minyak Beku	1.8156	102.9088	NA	NA	NA
7	T3_0416	Johor	Minyak Beku	Kg. Parit Hamid, Jalan Gate Air - Senggarang	1.7658	102.9732	NA	NA	NA
8	T3_0417	Johor	Batu Pahat	Kg. Parit Lubok Darat	1.8969	102.8039	NA	NA	NA
9	T3_0418	Johor	Batu Pahat	Masjid Yong Peng to Ladang Paloh	2.0487	103.0522	NA	NA	NA

Cluster 3

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0419	Johor	Grisek	Kg. Melepong Gantian, Bukit Gambir	2.2853	102.7120	NA	NA	NA
2	T3_0420	Johor	Serom	Parit Belemang	2.1528	102.6221	Kg. Telok Bakong, Kg. Wali, Kg. Kolam Air	2.1349	102.6232
3	T3_0421	Johor	Tangkak	Kg. Kenangan Gemeh, Kg. Keledang	2.4650	102.6256	NA	NA	NA
4	T3_0422	Johor	Serom	Serom 4, Serom 3	2.2065	102.5985	Serom 2, Parit Turun	2.1800	102.5804
5	T3_0423	Johor	Tangkak	Taman Negara Johor (Taman Hutan Lagenda Gunung Ledang)	2.3412	102.6174	NA	NA	NA
6	T3_0424	Johor	Muar	Kg. Teluk Rimba	2.1811	102.5123	NA	NA	NA
7	T3_0425	Johor	Muar	Kg. Panjang Sari	2.1111	102.7555	NA	NA	NA
8	T3_0426	Johor	Muar	Jln Pt Sulong-Pagoh	2.0710	102.8436	NA	NA	NA
9	T3_0427	Johor	Muar	Kg. Raja	2.1640	102.7571	NA	NA	NA
10	T3_0428	Johor	Muar	Kg. Liang Batu	2.2311	102.7981	NA	NA	NA

Cluster 4

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0429	Negeri Sembilan	Jempol	Jalan Ke Sempadan Pahang	2.8859	102.6654	NA	NA	NA
2	T3_0430	Negeri Sembilan	Jempol	Kg. Orang Asli Panchor, Kg. Orang Asli Sg Kelebang	2.7365	102.4678	NA	NA	NA

3	T3_0431	Negeri Sembilan	Jempol	Ladang Batu Bersawah Jeram Padang, Kg Baru Rompin	2.6944	102.5266	NA	NA	NA
4	T3_0432	Negeri Sembilan	Jempol	Middleton, Kg. Baru Bukit Pilah, Kg. Tanah Panjis, Pekan Rompin, Kg. Sri Rompin, Kg. Rompin, Kg. Balai Cina	2.7053	102.4822	NA	NA	NA
5	T3_0433	Negeri Sembilan	Gemas	Kg. Kumia Diraja, kg Lubok Jong, Kg. Panjis, Kg. Pahlawan, Kg. Danau Mengkuang, Kg. Pasir Besar	2.6315	102.5131	NA	NA	NA
6	T3_0434	Negeri Sembilan	Gemencheh	Kg. Sg Dua, Kg. Tenai Tengah, Kg. Ayer Gelugor	2.5495	102.4847	NA	NA	NA
7	T3_0435	Negeri Sembilan	Ayer Kuning	Kg. Ulu Ayer Kuning, Kg. Baharu, Kg. Tenagh Ayer Kuning, Kg. Paya Lebar, Kg. Ayer Kuning Selatan, Kg. Mantai	2.4753	102.4756	NA	NA	NA
8	T3_0436	Negeri Sembilan	Gemencheh	Jalan Utama Gemencheh - Kg. Bukit Rokan	2.6267	102.4256	NA	NA	NA
9	T3_0437	Negeri Sembilan	Tampin	Jalan Utama Batang Melaka	2.5021	102.4499	NA	NA	NA
10	T3_0438	Negeri Sembilan	Jempol	Kg Gatco	2.9913	102.4852	NA	NA	NA
11	T3_0439	Negeri Sembilan	Tampin	Kg. Pajak	2.5073	102.4908	NA	NA	NA

Cluster 5

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0440	Negeri Sembilan	Spri	Kg. Empang Batu, Kg. Batang Penajis, Kg. Solok Tontong, Kg. Tanjung Berangan	2.6471	102.0905	NA	NA	NA
2	T3_0441	Negeri Sembilan	Johol	Kg. Sg Sala, Kg. Malok, Kg. Tumang, Kg. Berambai, Kg. Ulu Temiang, Kg. Maha, Kg. Pasit, Kg. Chabang Dua, Kg. Kual Nuri, Kg. Balai Panjang, Kg. Balik Bukit, Kg. Simat Tengah	2.5767	102.2526	NA	NA	NA
3	T3_0442	Negeri Sembilan	Rantau	Rantau, Kg. Kanchong	2.5966	102.0016	NA	NA	NA
4	T3_0443	Negeri Sembilan	Legong Hulu	Kg. Semerbok, Kg. Tanjong, Kg. Legong Ulu, Kg. Sri Tambah, Kg. Bukit Keledang, Kg. Tiga Nenek, Kg. Paya Kumbah, Kg. Sri Melenggang, Kg. Istana Raja, Kg. Tg, Berangan, Kg. Padang, Kg. Baru Legong Jaya, Kg. Kendong, Kg. Semerbok, Kg. Batang Merbok.	2.4973	102.1433	NA	NA	NA
5	T3_0444	Negeri Sembilan	Nerasau	Kg. Mampat, Kg. Perigi Jernih, Kg. Mampong, Kg. Bukit, Kg. Bongek, Kg. Tanah Datar Bongak, Kg. Ulu Chenong, Kg. Chenong, Kg. Penajis Bandar, Kg. Bukit	2.5447	102.1133	NA	NA	NA

6	T3_0445	Negeri Sembilan	Titian Bintangor	Batu Melintang, Kg. Paya Lebar, Kg. Paya Lebar Dalam	2.5077	102.0816	Kg. Sawah Raja, Kg. Limau Kambing, Kg. Semin, Kg. Lubuk China, Kg. Sg Radin, Kg. Nerambai, Kg. Titian Akar, Kg. Baharu	2.4793	102.0773
							Kg. Kundor, Kg. Baharu Semin, Kg. Panchang, Kg. Hj Sulaiman	2.49842	102.06295
7	T3_0446	Negeri Sembilan	Spri	Kem Bina Negara Ulu Seperi, Kg. batang Spri, Kg. Air Sekapas	2.6332	102.0806	NA	NA	NA
8	T3_0447	Negeri Sembilan	Gadong	Hutan Lipur Gunung Datuk, Kg. Mayon, Tanjung Berangan	2.5433	102.1690	NA	NA	NA
9	T3_0448	Negeri Sembilan	Linggi	Kg. Barisan	2.5139	101.9682	NA	NA	NA
10	T3_0449	Negeri Sembilan	Gadong	Kampung Orang Asli Sri Kendong Kota	2.5465	102.1954	NA	NA	NA

Cluster 6

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0450	Negeri Sembilan	Jempol	Jalan N19, Kg. Perah, Kg. Masjid Terentang Seberang, Kg. Bukit, Kg. Terentang, Kg. Penghulu, Kg. Solok, Kg. Seri Melenggang, Kg. S. Talan, Kg.	2.8428	102.3078	NA	NA	NA

				Bukit Sempit, Kg. Ayer Sonsang, Kg. Bt Kerdas, Kg. Bkt Gombang, Kg. Anak Ayer Dedali, Kg Bkt Perah					
2	T3_0451	Negeri Sembilan	Langkap	Jalan Talang - Kuala Pilah , Mokek, Kg. Jeram	2.8134	102.1697	NA	NA	NA
3	T3_0452	Negeri Sembilan	Ulu Muar	Kg. Sg Tawang, Kg Sri Jemapoh, Kg. Anak Ayer Pisang, Kg. Anak Ayer Putih, Kg. Desa Jemapoh, Kg. Acheh, Kg. Kuala Sungkak, Kg. Sri Pandan, Kg. Pelan	2.7781	102.2648	Kg. Sawah Lebar, Kg. Kuala Dioh, Kg. Sg Dua Kechil, Kg. Teluk, Kg. Tg Jati, Kg. Tanjung Pauh, Kg. Kubang Rusa, Kg. Kuala Pandan, Kg. Sg Jernih, Kg Tebat Kering	2.7541	102.2655
							Kg. Beting Ulu, Kg. Desa Parit Tinggi, Kg. Baharu Parit Tinggi, Kg. Pelangai Ulu, Kg. Ranjau Hantu, Kg. Parit Seberang, Kg. Gentam	2.7783	102.2417
4	T3_0453	Negeri Sembilan	Pilah	Kg. Bemban, Kg. Dioh Besar, Kg. Ulu Sg Dua Kechil, Kg. Batu 1, Kg. Bukit Temensu Seberang, Kg. Batu 46, Kg. Air Petai, Kg. Tanah Merah, Kg. Perigi Jernih	2.7100	102.2684	NA	NA	NA

5	T3_0454	Negeri Sembilan	Johol	Inas, Kg. Tanah Melintang, Kg. Terap, Kg. Peraku, Kg. Ulu Senaling, Kg Maasop	2.6777	102.2516	NA	NA	NA
6	T3_0455	Negeri Sembilan	Kepis	Kg. Geduhom, Kg. Ayer Gapis, Kg. Org Asli Simpang Tering, Kg. Gedoh	2.6598	102.2981	NA	NA	NA
7	T3_0456	Negeri Sembilan	Kepis	Kg. Solok, Kg. Malan, Kg. Air Kempas, Kg. Ayer Taling	2.6763	102.3322	NA	NA	NA
8	T3_0457	Negeri Sembilan	Kepis	Kepis New Village, Kg. Baru Ilir, Kg. Baru Batu 10,	2.6887	102.3568	NA	NA	NA
9	T3_0458	Negeri Sembilan	Pilah	Kg. Ulu Pilah	2.6805	102.1868	NA	NA	NA
10	T3_0459	Negeri Sembilan	Kuala Pilah	Kg. Orang Asli Langkap Tanjung Ipoh	2.7501	102.1811	NA	NA	NA

Cluster 7

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0460	Negeri Sembilan	Teriang Hilir	Jalan N9, Simpang Durian, Kg. Mentaus	3.1335	102.2084	NA	NA	NA
2	T3_0461	Negeri Sembilan	Jempol	Kg. Serting Hulu, Kg. Bagong, Kg. Beragan, Kg. Padang Biawas, Kg. Bayai Lama, Kg. Kapok	2.9148	102.2984	NA	NA	NA
3	T3_0462	Negeri Sembilan	Jempol	Jalan Ke Sempadan Pahang (N10), Kg. Org Asli Sg. Sot, Kg. Baru Sg. Lui, Kg. Cherbang	3.1109	102.3692	NA	NA	NA
4	T3_0463	Negeri Sembilan	Jempol	Jalan Utama Ayer Kering	3.0649	102.3838	NA	NA	NA

5	T3_0464	Negeri Sembilan	Ulu Jempol	Jalan Kg. Ghalib - Kg. Gelang, Kg. Tapak Seberang, Kg. Majau	2.8934	102.2236	NA	NA	NA
6	T3_0465	Negeri Sembilan	Jempol	Hutan Lipur Serting Hulu	2.9276	102.2627	NA	NA	NA
7	T3_0466	Negeri Sembilan	Teriang Hilir	Kg. Lakai	3.0506	102.2611	NA	NA	NA
8	T3_0467	Negeri Sembilan	Jelebu	Kg. Temalang, Kg. Relong, Kg. Katup, Kg. Kenan, Kg. Kerian	3.0484	102.1056	NA	NA	NA
9	T3_0468	Negeri Sembilan	Jempol	Jalan Ayer Hitam - Kemayan	3.0210	102.3786	NA	NA	NA

Cluster 8

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0469	Pahang	Pekan	Kg. Kiambang	3.5418	103.3003	NA	NA	NA
2	T3_0470	Pahang	Pekan	Pulau Manis	3.5331	103.1892	NA	NA	NA
3	T3_0471	Pahang	Pekan	Tanjung Pulau	3.5244	103.1670	NA	NA	NA
4	T3_0472	Pahang	Pekan	Kg. Acheh	3.5437	103.2651	NA	NA	NA
5	T3_0473	Pahang	Pekan	Kg. Batu Balik	3.4652	103.0722	NA	NA	NA
6	T3_0474	Pahang	Pekan	Kg. Terlang	3.4851	103.1215	NA	NA	NA
7	T3_0475	Pahang	Pekan	Bandar 2 Paloh Hinai	3.3895	103.1177	NA	NA	NA
8	T3_0476	Pahang	Pekan	Leburaya Segamat - Kuantan	3.2357	103.1260	NA	NA	NA
9	T3_0477	Pahang	Pekan	Taman Agropolitan	3.5462	103.1027	NA	NA	NA
10	T3_0478	Pahang	Pekan	Kampung Peramu	3.5369	103.4211	NA	NA	NA
11	T3_0479	Pahang	Rompin	Jalan Keratong - Muadzam	2.9935	102.9969	NA	NA	NA

Cluster 9

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0480	Pahang	Bera	Kg. Batu Papan Tengah, Bera	3.3456	102.5238	NA	NA	NA
2	T3_0481	Pahang	Bera	Kg. Lubuk Lian	3.3934	102.5364	NA	NA	NA
3	T3_0482	Pahang	Bera	Kg. Batu Bor	3.4323	102.5777	NA	NA	NA
4	T3_0483	Pahang	Bera	Bukit Kuala Triang	3.3290	102.5089	NA	NA	NA
5	T3_0484	Pahang	Maran	Kg. Berkat	3.6014	102.7723	NA	NA	NA
6	T3_0485	Pahang	Maran	Kg. Bintang, Maran	3.5936	102.7929	NA	NA	NA
7	T3_0486	Pahang	Maran	Bukit Chempedak	3.5554	102.6342	NA	NA	NA
8	T3_0487	Pahang	Maran	Kg. Charuk Tualang	3.4852	102.5512	NA	NA	NA
9	T3_0488	Pahang	Bera	Tebing Tinggi	3.2715	102.5483	NA	NA	NA
10	T3_0489	Pahang	Bera	Bukit Serdang	3.3785	102.5721	NA	NA	NA
11	T3_0490	Pahang	Bera	Kg. Tengah Batu Papan	3.3643	102.5235	NA	NA	NA

Cluster 10

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0491	Pahang	Triang	Kg. Jeram	3.3546	102.4331	NA	NA	NA
2	T3_0492	Pahang	Perak	Kg. Tualang	3.4227	102.3967	NA	NA	NA
3	T3_0493	Pahang	Sanggang	Kg. Baru Bintang (Kg. Berhala Gantang)	3.4961	102.4400	NA	NA	NA
4	T3_0494	Pahang	Mentakab	Kemasul	3.4956	102.2932	NA	NA	NA
5	T3_0495	Pahang	Semantan	Kg. Jergoh	3.5874	102.1971	NA	NA	NA
6	T3_0496	Pahang	Semantan	Kg. Teris	3.5536	102.1853	NA	NA	NA

7	T3_0497	Pahang	Sanggang	Kg. Badok	3.5488	102.4414	NA	NA	NA
8	T3_0498	Pahang	Kerdau	Kg. Ketam	3.5457	102.3799	NA	NA	NA
9	T3_0499	Pahang	Lebak	Kg. Paya Badak	3.3719	102.4620	NA	NA	NA
10	T3_0500	Pahang	Lebak	Kg. Pulau Isi	3.3786	102.4423	NA	NA	NA
11	T3_0501	Pahang	Bangau	Kg. Bangau	3.4698	102.4362	NA	NA	NA

Cluster 11

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0502	Pahang	Jerantut	Kg. Sungai Bangkong (Ibol Jaya)	3.8670	102.5697	NA	NA	NA
2	T3_0503	Pahang	Jerantut	Kota Gelanggi 5	3.9616	102.5932	NA	NA	NA
3	T3_0504	Pahang	Jerantut	LKPP Sungai Rengai	3.9634	102.6603	NA	NA	NA
4	T3_0505	Pahang	Jerantut	Loji air Gelanggi 5-6	3.9903	102.6056	NA	NA	NA
5	T3_0506	Pahang	Jerantut	Lepar Utara 3	3.9124	102.7040	NA	NA	NA
6	T3_0507	Pahang	Kuantan	Jalan Utama Lepar 4 - Jerantut	3.8942	102.7693	NA	NA	NA
7	T3_0508	Pahang	Jerantut	Lepar Utara 5/Lepar Utara 10	3.8827	102.7355	NA	NA	NA
8	T3_0509	Pahang	Jerantut	Mahawangsa Timber	3.8576	102.6250	NA	NA	NA
9	T3_0510	Pahang	Jerantut	Kg. Perak	3.8700	102.5915	NA	NA	NA
10	T3_0511	Pahang	Maran	Simpang Kota Gelanggi	3.8845	102.4874	NA	NA	NA

Cluster 12

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0512	Pahang	Lipis	Kg. Kemahang Hilir	4.0307	102.0247	NA	NA	NA
2	T3_0513	Pahang	Lipis	Taman Tasik burung Mandi	4.0551	102.0237	NA	NA	NA
3	T3_0514	Pahang	Lipis	Desa Rimbulan Kaseh	4.0281	102.0593	NA	NA	NA
4	T3_0515	Pahang	Lipis	Jalan Benta - Kerambit (Kg Putu)	4.0798	102.1403	NA	NA	NA
5	T3_0516	Pahang	Lipis	Kg. Kuala Kechau	4.1971	102.0946	NA	NA	NA
6	T3_0517	Pahang	Lipis	Kg. Kuala Kenong	4.1748	102.1938	NA	NA	NA
7	T3_0518	Pahang	Jerantut	Kg. Jelai	3.8709	102.1930	NA	NA	NA
8	T3_0519	Pahang	Jerantut	Kg. Kor	3.9836	102.1395	NA	NA	NA
9	T3_0520	Pahang	Jerantut	Kg. Sungai Berjuang	3.9496	102.1576	NA	NA	NA
10	T3_0521	Pahang	Jerantut	Kg. Jaya Putra	3.9738	102.1925	NA	NA	NA

Cluster 13

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0522	Pahang	Sega	Kg. Sengkela	3.9598	101.8665	NA	NA	NA
2	T3_0523	Pahang	Sega	Kg. Sungai Rambai	3.9744	101.8810	NA	NA	NA
3	T3_0524	Pahang	Batu Talam	Pos Buntu	3.9889	101.6449	NA	NA	NA
4	T3_0525	Pahang	Lipis	Kg. Jeripai	4.1299	101.7078	NA	NA	NA
5	T3_0526	Pahang	Bentong	Kg. Jemampung	3.5398	102.0330	NA	NA	NA
6	T3_0527	Pahang	Bentong	Air Terjun Chamang	3.5095	101.8576	NA	NA	NA
7	T3_0528	Pahang	Bentong	Kg. Sungai Gapoi	3.2614	102.1116	NA	NA	NA

8	T3_0529	Pahang	Bentong	Kg. Teroh	3.4334	102.0833	NA	NA	NA
9	T3_0530	Pahang	Bentong	Kg. Baru Sungai Penjuring	3.6166	101.8788	NA	NA	NA
10	T3_0531	Pahang	Raub	Tanah Aina	3.6804	101.8325	NA	NA	NA
11	T3_0532	Pahang	Raub	Felda Klau 2	3.6443	101.9881	NA	NA	NA
12	T3_0533	Pahang	Raub	Jalan Lembah Klau - Sg Klau	3.7166	101.9954	NA	NA	NA

Cluster 14

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0534	Terengganu	Setiu	Guntong Dalam	5.5969	102.7250	NA	NA	NA
2	T3_0535	Terengganu	Setiu	Kg. Baru Langkap	5.3837	102.8661	NA	NA	NA
3	T3_0536	Terengganu	Kuala Nerus	Jeram Hilir	5.3430	103.0605	NA	NA	NA
4	T3_0537	Terengganu	Manir	Kg. Tualang	5.2984	103.0668	NA	NA	NA
5	T3_0538	Terengganu	Belara	Kg. Pulau Manis	5.2469	103.0313	NA	NA	NA
6	T3_0539	Terengganu	Setiu	Kg. Che Long	5.5011	102.7271	NA	NA	NA
7	T3_0540	Terengganu	Marang	Kg. Rhu Rendang	5.2177	103.1836	NA	NA	NA
8	T3_0541	Terengganu	Besut	Kg. Padang Tapong	5.7167	102.4691	NA	NA	NA
9	T3_0542	Terengganu	Besut	Kg. Baruh Kua	5.7056	102.5155	NA	NA	NA
10	T3_0543	Terengganu	Kuala Terengganu	Jalan Sg Tong	5.3068	102.9694	NA	NA	NA

Cluster 15

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0544	Terengganu	Kemaman	Kilang Kelapa Sawit KETENGAH Perwira	4.1242	103.1926	NA	NA	NA
2	T3_0545	Terengganu	Kemaman	Jalan Bandar Chukai	4.0908	103.1499	NA	NA	NA
3	T3_0546	Terengganu	Kemaman	Jalan Mak Lagam	4.1828	103.2652	NA	NA	NA
4	T3_0547	Terengganu	Kemaman	Ladang Jernih	4.4285	103.2235	NA	NA	NA
5	T3_0548	Terengganu	Kemaman	Simpang Perindustrian Jabor	3.9670	103.3160	NA	NA	NA
6	T3_0549	Terengganu	Hulu Terengganu	Sungai Binjai	4.9546	103.1585	NA	NA	NA
7	T3_0550	Terengganu	Marang	Durian Pahit	5.0320	103.2650	NA	NA	NA
8	T3_0551	Terengganu	Hulu Terengganu	Kg. Tok Bintang	5.1219	103.0287	NA	NA	NA
9	T3_0552	Terengganu	Hulu Terengganu	Kg. Kuala Por	5.0521	102.9933	NA	NA	NA
10	T3_0553	Terengganu	Hulu Terengganu	Kg. Pasir Nering	5.0548	102.9660	NA	NA	NA

Cluster 16

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0554	Kelantan	Kuala Krai	Jalan Utama Dabong - K.Krai 1	5.3542	102.0448	NA	NA	NA
2	T3_0555	Kelantan	Kuala Krai	Jalan Utama Dabong - K.Krai 2	5.3025	102.1132	NA	NA	NA
3	T3_0556	Kelantan	Kuala Krai	Kg. Slow Pak Long	5.3187	102.1311	NA	NA	NA
4	T3_0557	Kelantan	Gua Musang	Jalan Utama Gua Musang - Jeli 1	4.9168	101.9559	NA	NA	NA

5	T3_0558	Kelantan	Gua Musang	Jalan Utama Gua Musang - Jeli 2	5.1814	101.9325	NA	NA	NA
6	T3_0559	Kelantan	Gua Musang	Kg. Kala	5.0434	101.9794	NA	NA	NA
7	T3_0560	Kelantan	Gua Musang	Bt 13	4.9916	102.0167	NA	NA	NA
8	T3_0561	Kelantan	Gua Musang	Kg. Batu 2	4.9296	101.9902	NA	NA	NA
9	T3_0562	Kelantan	Gua Musang	Jalan Utama KL-KB Di Simpang Tasik Kenyir	4.8995	102.1500	NA	NA	NA
10	T3_0563	Kelantan	Gua Musang	Pos Blau	4.7700	101.7900	NA	NA	NA

Cluster 17

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0564	Kelantan	Pasir Mas	Kg. Bechah Menerong	6.0851	102.1601	NA	NA	NA
2	T3_0565	Kelantan	Pasir Mas	Kg. Baruh Pial	5.9192	102.0383	NA	NA	NA
3	T3_0566	Kelantan	Pasir Mas	Kg. Jejawi	6.0413	102.0524	NA	NA	NA
4	T3_0567	Kelantan	Pasir Mas	Kg. Rahmat	5.9275	101.9351	NA	NA	NA
5	T3_0568	Kelantan	Pasir Mas	Kg. Bukit Pak Junoh	5.9617	102.0497	NA	NA	NA
6	T3_0569	Kelantan	Pasir Mas	Kg. Kuin Merah	5.9733	102.0088	NA	NA	NA
7	T3_0570	Kelantan	Pasir Mas	Kg. Bakong	6.0965	102.0778	NA	NA	NA
8	T3_0571	Kelantan	Tumpat	Kg. Cherang Tumpat	6.1568	102.1058	NA	NA	NA
9	T3_0572	Kelantan	Tanah Merah	Kg. Alor Pasir	5.8904	102.0998	NA	NA	NA
10	T3_0573	Kelantan	Tanah Merah	Kg. Bechah Palas	5.8488	102.0846	NA	NA	NA

Cluster 18

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0574	Kelantan	Kuala Krai	Kg. Bukit Pacat	5.2810	102.1673	NA	NA	NA
2	T3_0575	Kelantan	Kuala Krai	Kg. Sg Bukit Pagar	5.2988	102.2173	NA	NA	NA
3	T3_0576	Kelantan	Kuala Krai	Laluan Alternatif KL-KB	5.4512	102.3417	NA	NA	NA
4	T3_0577	Kelantan	Kuala Krai	Lata Rek	5.3129	102.3417	NA	NA	NA
5	T3_0578	Kelantan	Kuala Krai	Kg. Bunut Saih	5.4334	102.2166	NA	NA	NA
6	T3_0579	Kelantan	Kuala Krai	Kg. Mesek	5.3712	102.2238	NA	NA	NA
7	T3_0580	Kelantan	Kuala Krai	Kg. Bintang	5.4862	102.2408	NA	NA	NA
8	T3_0581	Kelantan	Kuala Krai	Kg. Bechah Salok 2	5.5328	102.2478	NA	NA	NA

Cluster 19

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0582	Kelantan	Ketereh	Kg. kemubu	5.9232	102.2137	NA	NA	NA
2	T3_0583	Kelantan	Ketereh	Kg. Kubang Kiat/ Kg. Padang Tengah	5.9663	102.2321	NA	NA	NA
3	T3_0584	Kelantan	Bachok	Kg. Cherang Laut	6.1549	102.3502	NA	NA	NA
4	T3_0585	Kelantan	Pasir Puteh	Kg. Seligi, Selising	5.8534	102.3063	NA	NA	NA
5	T3_0586	Kelantan	Machang	Kg. Banggol	5.8353	102.2663	NA	NA	NA
6	T3_0587	Kelantan	Machang	Kg. Batu	5.7842	102.2507	NA	NA	NA
7	T3_0588	Kelantan	Pasir Mas	Kg. Laka	5.9551	102.1816	NA	NA	NA
8	T3_0589	Kelantan	Pasir Mas	Kg. Kelar Dalam	6.0100	102.1640	NA	NA	NA
9	T3_0590	Kelantan	Machang	Kg. Chekok	5.8631	102.1999	NA	NA	NA

Cluster 20

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0591	Perak	Lumut	Teluk Batik	4.1925	100.6088	NA	NA	NA
2	T3_0592	Perak	Bagan Datoh	Kg. Tanah Lalang Darat	3.9580	100.8505	NA	NA	NA
3	T3_0593	Perak	Telok Baharu	Kg. Tanjung Sari	3.9750	100.9059	NA	NA	NA
4	T3_0594	Perak	Perak Tengah	Kg. Pulau Besar	4.1425	100.9899	NA	NA	NA
5	T3_0595	Perak	Perak Tengah	Kg. Ayer Mati, Paya Jenerih	4.1154	100.9890	NA	NA	NA
6	T3_0596	Perak	Perak Tengah	Jaya Baharu	4.1476	100.8392	NA	NA	NA
7	T3_0597	Perak	Telok Baharu	Kg. Sungai Dulang Dalam	3.9353	100.8857	NA	NA	NA
8	T3_0598	Perak	Perak Tengah	FELCRA Nasaruddin Belia	4.3211	100.9531	NA	NA	NA
9	T3_0599	Perak	Telok Baharu	Kg. Tebing Rebak	3.9519	100.9011	NA	NA	NA
10	T3_0600	Perak	Perak Tengah	Kg. Ayer Mati	4.3039	100.9100	NA	NA	NA

Cluster 21

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0601	Perak	Ulu Bernam Timor Dan Barat	Kg. Seri Keledang	3.7658	101.3263	NA	NA	NA
2	T3_0602	Perak	Batang Padang	Kg. Batu 25	4.3793	101.3666	Kg. Batu 23	4.3621	101.3508
							Kg. Batu 21	4.3484	101.3405
3	T3_0603	Perak	Batang Padang	Kg. Sekam LZ, Batu 17	4.3423	101.3598	NA	NA	NA
4	T3_0604	Perak	Batang Padang	Pos Musoh LZ	4.2760	101.3427	NA	NA	NA

5	T3_0605	Perak	Bidor	Pos Gedong	4.1708	101.3762	NA	NA	NA
6	T3_0606	Perak	Sungkai	RPS Jernang	4.0889	101.4401	NA	NA	NA
7	T3_0607	Perak	Sungkai	Kg. Ganggai	3.9492	101.3577	NA	NA	NA
8	T3_0608	Perak	Sungkai	Kg. Sg Teras	3.8072	101.3447	NA	NA	NA
9	T3_0609	Perak	Slim	Kg. Tibang	3.9444	101.4552	NA	NA	NA
10	T3_0610	Perak	Chenderiang	Kg. Sg Lerek	4.3046	101.2808	NA	NA	NA
11	T3_0611	Perak	Kampar	Gua tempurung	4.4111	101.2064	NA	NA	NA

Cluster 22

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0612	Perak	Kuala Kangsar	Paya Renggam	4.7951	100.8418	NA	NA	NA
2	T3_0613	Perak	Kuala Kangsar	Kg. Cheh Hulu, Kg. Maran, Kg. Berala	4.8998	100.9242	NA	NA	NA
3	T3_0614	Perak	Larut dan Matang	Kg. Makmur, Sg. Galah	4.8073	100.8000	NA	NA	NA
4	T3_0615	Perak	Kerian	Kg. Telok Seribu	4.9454	100.5658	NA	NA	NA
5	T3_0616	Perak	Larut dan Matang	Kuala Sangga	4.8541	100.5618	NA	NA	NA
6	T3_0617	Perak	Larut dan Matang	Sungai Tinggi	4.6470	100.6160	NA	NA	NA
7	T3_0618	Perak	Kerian	Kg. Sungai Bogak	5.0526	100.5135	NA	NA	NA
8	T3_0619	Perak	Larut dan Matang	Jalan Kamunting Selama	4.9878	100.7310	NA	NA	NA
9	T3_0620	Perak	Larut dan Matang	Kg. Bagan Bharu, Ijok	5.1332	100.7499	NA	NA	NA
10	T3_0621	Perak	Kerian	Kg. Pondok Tanjung	5.0191	100.7247	NA	NA	NA

Cluster 23

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0622	Perak	Sungai Siput	Perlop	4.9459	101.1898	NA	NA	NA
2	T3_0623	Perak	Ulu Perak	RPS Dala	5.2490	101.1650	NA	NA	NA
3	T3_0624	Perak	Ulu Perak	Bukit Sapi	5.0932	101.0502	NA	NA	NA
4	T3_0625	Perak	Ulu Perak	Air Bah	5.2753	101.0127	NA	NA	NA
5	T3_0626	Perak	Ulu Perak	Cenawin	5.3495	101.1786	NA	NA	NA
6	T3_0627	Perak	Larut Dan Matang	Kg. Tua Ulu Kerian	5.3116	100.7823	NA	NA	NA
7	T3_0628	Perak	Larut Dan Matang	Sungai Siputeh	5.2683	100.8388	NA	NA	NA
8	T3_0629	Perak	Larut Dan Matang	Ulu Selama	5.3013	100.8071	NA	NA	NA
9	T3_0630	Perak	Ulu Perak	Kg. Talong Luat	5.0423	100.9917	NA	NA	NA
10	T3_0631	Perak	Ulu Perak	Kg. Bagan Baru	5.1332	100.7499	NA	NA	NA
11	T3_0632	Perak	Ulu Perak	Temin	5.4126	101.2083	NA	NA	NA

Cluster 24

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0633	Kedah	Baling	Hutan Lipur Sg. Sedim	5.4133	100.7810	NA	NA	NA
2	T3_0634	Kedah	Baling	Kg. Kejai	5.5474	100.7162	NA	NA	NA
3	T3_0635	Kedah	Bagan Sena	Ladang Bagan Sena	5.4613	100.6914	NA	NA	NA
4	T3_0636	Kedah	Mahang	Kg. Ulu Mahang	5.3428	100.7681	NA	NA	NA
5	T3_0637	Kedah	Terap	Jln Kg. Sg Batu - Felda Gunung Bongsu	5.3457	100.6814	NA	NA	NA

6	T3_0638	Kedah	Baling	Kg. Seputeh	5.5220	100.7572	NA	NA	NA
7	T3_0639	Kedah	Baling	Kg. Banggol Onggok	5.5250	100.7268	NA	NA	NA
8	T3_0640	Kedah	Baling	Kg. Ayer Kepal	5.4787	100.7293	NA	NA	NA
9	T3_0641	Kedah	Baling	Kg. Kuala Nau	5.4628	100.7366	NA	NA	NA

Cluster 25

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0642	Kedah	Sik	Kg. Kubang Lintah	5.9467	100.7137	NA	NA	NA
2	T3_0643	Kedah	Pandang	Kg. Paya Serdang	5.8578	100.5659	NA	NA	NA
3	T3_0644	Kedah	Gurun	Kg. Sg. Putan	5.7613	100.5428	NA	NA	NA
4	T3_0645	Kedah	Sik	Kg. Kuala Beris	5.9704	100.7407	NA	NA	NA
5	T3_0646	Kedah	Sik	Kg. Bukit Tunku, Kg. Jorong	6.0242	100.7507	NA	NA	NA
6	T3_0647	Kedah	Pandang	Kg. Ladang Bukit Perak	5.9604	100.6007	NA	NA	NA
7	T3_0648	Kedah	Sik	Kg. Charok Tenang	5.9936	100.8156	NA	NA	NA
8	T3_0649	Kedah	Sik	Kg. Baru Nami	6.0423	100.7803	NA	NA	NA
9	T3_0650	Kedah	Pandang	Kg. Bendang Pulai	5.8883	100.5914	NA	NA	NA
10	T3_0651	Kedah	Pandang	Kg. Baharu Siam	6.0021	100.6205	NA	NA	NA

Cluster 26

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0652	Kedah	Kubang Pasu	Kg. Wang Perah	6.3713	100.4816	NA	NA	NA
2	T3_0653	Kedah	Padang Terap	Kg. Pong Manis	6.1939	100.6113	NA	NA	NA

3	T3_0654	Kedah	Padang Terap	Kg. Dalam, Sg Karkap	6.3097	100.5392	NA	NA	NA
4	T3_0655	Kedah	Padang Terap	Kg. Banggol Pong	6.2342	100.7064	NA	NA	NA
5	T3_0656	Kedah	Padang Terap	Kompleks CIQ	6.4665	100.7111	NA	NA	NA
6	T3_0657	Kedah	Kubang Pasu	Akademi Binaan Malaysia, Sintok	6.4488	100.5304	NA	NA	NA
7	T3_0658	Kedah	Telaga Mas	Kg. Sebrang Paya	6.1921	100.4539	NA	NA	NA
8	T3_0659	Kedah	Padang Terap	Kg. Tanjung Putus	6.2651	100.5343	NA	NA	NA
9	T3_0660	Kedah	Padang Terap	Kg. Belukar Luas	6.1862	100.6943	NA	NA	NA

Cluster 27

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0661	Sabah	Tawau	Kg. Sungai Pukul	4.1842	117.8477	Kg. Melayu Asli	4.17322	117.860
							Kg. Sungai Melayu	4.1849	117.8781
2	T3_0662	Sabah	Semporna	Pulau Danawan	4.3090	118.8585	NA	NA	NA
3	T3_0663	Sabah	Semporna	Kg. Tagasan	4.3830	118.5694	NA	NA	NA
4	T3_0664	Sabah	Semporna	Kg. Hampalan Laut	4.4173	118.6500	NA	NA	NA
5	T3_0665	Sabah	Tawau	Kg. Sungai Imam	4.3119	117.8373	Pengkalan Perikanan Sg Imam	4.3042	117.8391
6	T3_0666	Sabah	Semporna	Jalan Kunak-Semporna 1	4.5862	118.3092	NA	NA	NA
7	T3_0667	Sabah	Semporna	Jalan Kunak-Semporna 2	4.5125	118.3868	NA	NA	NA
8	T3_0668	Sabah	Semporna	Jalan Semporna-Tawau	4.3768	118.3776	NA	NA	NA
9	T3_0669	Sabah	Semporna	Kg. Lahunae	4.5723	118.4743	NA	NA	NA
10	T3_0670	Sabah	Tawau	Kalabakan Tnb Pow Solar	4.4110	117.4703	NA	NA	NA

Cluster 28

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0671	Sabah	Sipitang	Segalong Camp	4.9423	115.7520	NA	NA	NA
2	T3_0672	Sabah	Sipitang	Kg. Mendulong, Jln Sipitang-Tenom	4.9454	115.6456	NA	NA	NA
3	T3_0673	Sabah	Sipitang	Kg. Muaya, Jln Sipitang-Tenom	4.9681	115.7245	NA	NA	NA
4	T3_0674	Sabah	Sipitang	Jln Sipitang-Tenom	4.9989	115.8071	NA	NA	NA
5	T3_0675	Sabah	Tenom	Bukit Layang-Layang, Jln Sipitang-Tenom	5.0068	115.8547	NA	NA	NA
6	T3_0676	Sabah	Tenom	Kg. Kapulu	4.8261	116.0085	Kg. Rundum	4.7863	116.0438
							Kg. Sumambu	4.7708	115.9922
7	T3_0677	Sabah	Tenom	Kg. Maluyan Ulu	4.9442	115.8822	NA	NA	NA
8	T3_0678	Sabah	Tenom	Kg. Gumisi Laut	4.9548	115.9319	NA	NA	NA
9	T3_0679	Sabah	Tenom	Skim Penempatan Getah Lagud Seberang	5.1193	116.0006	NA	NA	NA
10	T3_0680	Sabah	Sipitang	Kg. Kelangsat	4.9864	115.6919	NA	NA	NA

Cluster 29

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0681	Sabah	Tongod	Kg. Usum	5.3374	116.7836	NA	NA	NA
2	T3_0682	Sabah	Tongod	Kg. Namukan	5.3545	116.6272	NA	NA	NA
3	T3_0683	Sabah	Tongod	Kg. Tawaron	5.2922	116.7737	NA	NA	NA
4	T3_0684	Sabah	Tambunan	Kg. Ragkam	5.7113	116.3232	NA	NA	NA

5	T3_0685	Sabah	Nabawan	Ladang Melaka	5.0750	116.5000	NA	NA	NA
6	T3_0686	Sabah	Keningau	Jln Keningau-Sook	5.2473	116.1734	NA	NA	NA
7	T3_0687	Sabah	Beaufort	Kg. Biah Batu 65	5.2701	115.8069	NA	NA	NA
8	T3_0688	Sabah	Tenom	Rayoh	5.2109	115.8816	NA	NA	NA
9	T3_0689	Sabah	Keningau	Kg. Sangkabok	5.4057	115.3811	NA	NA	NA
10	T3_0690	Sabah	Keningau	Kg. Sinarun	5.4611	116.5803	NA	NA	NA
11	T3_0691	Sabah	Keningau	Kg. Sinaron	5.2666	116.3279	NA	NA	NA

Cluster 30

No.	Site ID	State	UST	Coverage Objective 1 /Hub	Latitude	Longitude	Coverage Objective 2 (Spoke)	Latitude	Longitude
1	T3_0692	Sabah	Sandakan	Pulau Lubukan (1)	5.7219	118.1111	Pulau Lubukan (3)	5.69968	118.16216
2	T3_0693	Sabah	Sandakan	Pulau Lubukan (2)	5.6488	118.0705	NA	NA	NA
3	T3_0694	Sabah	Sandakan	Tanjung Batu	5.7994	118.1572	Tanjung Batu	5.7702	118.1897
4	T3_0695	Sabah	Lahad Datu	Kg. Upak Ulu Segama	5.1333	118.1667	NA	NA	NA
5	T3_0696	Sabah	Sandakan	Kg. Tronglit	5.7438	117.9964	NA	NA	NA
6	T3_0697	Sabah	Lahad Datu	Baiduri Ayu Palm Oil Mill	5.1005	118.9617	NA	NA	NA
7	T3_0698	Sabah	Kinabatangan	Litang Felda Sahabat	5.3145	118.4454	NA	NA	NA
8	T3_0699	Sabah	Beluran	Kg. Berayong	5.7393	117.2104	NA	NA	NA
9	T3_0700	Sabah	Sandakan	Pulau Bai	5.7793	118.0930	NA	NA	NA

APPENDIX 2 – SCOPE OF WORK

A) PART 1

Installation of Tower and Monopole

A1. The facilities to be provided shall include the following components:

NO.	CATEGORY	ITEM
1	A	Self Supporting Tower
2		Fall Arrest System
3		Aviation Light
4		Lightning Protection System
5		Anti Climb System
6		Tower Vertical Cable Gantry
7		Tower Structure Foundation
8	B	Concrete Plinth for Cabin / Outdoor BTS and Genset System
9		Basic Grounding and Earthing Systems
10		Civil Works and Drainage System
11		Fencing System & Entrance Gate
12		Access Road

B) PART 2: Installation Of Equipment and Electronics (Radio Access Network (RAN) Sharing Approach)

B1. The equipment to be provided shall include the following components:

NO.	ITEM
1	Base Transceiver Station (BTS) Equipment
2	Backhaul via Microwave, VSAT or Fiber
3	Antenna and Feeder System
4	Antenna Support System
5	AC Power Supply
6	Feeder Pillar with Meter Panel
7	AC Main Distribution Board Systems – Outdoor or Indoor Type
8	DC Power System Including Back Up Batteries
9	Outdoor Cabinet or Cabin Complete With Accessories
10	Alarm Monitoring System
11	Any Necessary Upgrades or Additional Equipment As Required In The Core Network Inclusive For The Contingency Plan for Natural Disasters Situation Like Flooding and Etc.
12	Horizontal Cable Gantry

B2) Cabin shall be deployed only at collector site. As for spur site, outdoor cabinet shall be used.

- B3) As for the antenna, the required configuration is 3 sector panel antennas with a separation of 60 to 120 degrees between the antennas.
- B4) For satellite links, technical measures must be implemented to handle customer expectation with respect to propagation delay and latency.

APPENDIX 3 - REGISTRATION OF INTEREST FORM

[To be printed on Interested Licensee’s Letterhead]

REGISTRATION OF INTEREST

To: **Malaysian Communications and Multimedia Commission
Off Persiaran Multimedia
63000 Cyberjaya
(Attn: Secretary of the Tender Committee)**

Date:

Dear Sir,

**UNIVERSAL SERVICE PROVISION - REGISTRATION OF INTEREST TO BE
UNIVERSAL SERVICE PROVIDER FOR THE PROVISION OF PUBLIC CELLULAR
SERVICE UNDER TIME 3 EXTENSION (PHASE 2)**

We refer to the “*Invitation To Register Interest As Universal Service Provider – Ref. no. “MCMC/RDD/PDD(4)/T3_Extn(P2)/TCA/12/14(12)”* (“the Invitation”) issued by MCMC on [to insert date].

We hereby register our interest to be the universal service provider pursuant to Regulation 5(1) of the Communications and Multimedia (Universal Service Provision) Regulations 2002 (“the Regulations”) in the following universal service targets :

Cluster	Scope of Work
1. [<i>Insert the Cluster No.</i>]	[<i>PART 1 and / or PART 2</i>]
2. [<i>Insert the Cluster No.</i>]	[<i>PART 1 and / or PART 2</i>]
3. [<i>Insert the Cluster No.</i>]	[<i>PART 1 and / or PART 2</i>]
4.	

We are also aware that pursuant to Regulation 6(1) of the Regulations, we are legally obliged to submit the draft universal service plan(s) for the universal service targets chosen above on or before the time frame specified in the Invitation.

Signed for and on behalf of

.....
by [*to be signed by the Chief Executive Officer or
any other person authorized by the Company*]

APPENDIX 4 – SUMMARY OF LICENSEE INFORMATION

1. Full Company's Name:
2. Full Address:
3. E-Mail Address:
4. Homepage/Website:
5. Status of Incorporation: Sole Proprietor / Partnership / Enterprise /Sendirian Berhad / Berhad / Private Limited / Limited
6. Date Incorporated:
7. Date of Operation:
8. Paid up Capital (RM):
9. Status of Licences:
 - a) NFP(I): Yes / No
 - b) NSP(I): Yes / No
 - c) ASP(I): Yes / No
10. Collaboration Partner (If applicable) :
11. Number of Employees:
12. Bumiputera Status: Yes / No
13. Financial Details:
 - a) Asset (RM):
 - b) Liability (RM):
 - c) Worth (Asset – Liability) (RM):

Note:

The Interested Licensee is required to enclose :

- the financial statement and audited account for the last 2 or 1 financial year in order to support the above information;
- a copy of individual license and it's conditions;
- track records (Interested Licensees and Collaboration Partner (if applicable)).

APPENDIX 5- SUMMARY OF TECHNICAL PROPOSAL

PART 1 - Cluster # (* If Applicable)

SITE ID	UST	SITE LOCATIONS (LAT/LONG)		*SPOKE LOCATIONS (LAT/LONG)		SITE CATEGORY FOR TOWER OR HUB (COLLECTOR / SPUR/ STANDALONE)	CABIN SIZE		COMPLETION DATE
							HUB	*SPOKE	

PART 2 - Cluster # (* If Applicable)

SITE ID	UST	SITE LOCATION (LAT/LONG)		*SPOKE LOCATIONS (LAT/LONG)		AC & DC POWER SUPPLY	SITE CATEGORY (COLLECTOR / SPUR/ STANDALONE)	SITE CAPACITY (BANDWIDTH)		RAN SHARING SOLUTION	INTER OPERABILITY & INTER CONNECTION	NECESSARY UPGRADES OR ADDITIONAL EQUIPMENT (IF REQUIRED)	COMPLETION DATE
								HUB	*SPOKE				

APPENDIX 6(A) - SUMMARY OF FINANCIAL PROPOSAL PART 1

PART 1 – Cluster # (* If Applicable)

SITE ID	UST	GENERAL & PRELIMINARIES		TOWER/POLE & ANCILLARIES		SITE INFRASTRUCTURE AND ANCILLARIES		ADDITIONAL WORKS (if any)		NATURAL DISASTER (if any)		TOTAL (RM)
		HUB	SPOKE	HUB	SPOKE	HUB	SPOKE	HUB	SPOKE	HUB	SPOKE	
TOTAL FOR CLUSTER #												
TOTAL AMOUNT (INCLUDING TAXES)												

We hereby conclude this is the final cost for Part 1 Cluster # :

 CFO / Authorized Board of Members
 Company stamp

**Please do not change template of Summary.*

APPENDIX 6(B) - SUMMARY OF FINANCIAL PROPOSAL PART 2

PART 2 – Cluster # (* If Applicable)

SITE ID	UST	GENERAL & PRELIMINARIES	EQUIPMENT & SYSTEM	BACKHAUL		ANTENNA SYSTEM		DC POWER SUPPLY		UPGRADING / ADDITIONAL EQUIPMENT	EQUIPEMENT SHELTER & ALARM SYSTEM		AC POWER SUPPLY		INTEROPERABILITY COST	TOTAL (RM)
				HUB	*SPOKE	HUB	*SPOKE	HUB	*SPOKE		HUB	*SPOKE	HUB	*SPOKE		
AMOUNT FOR CLUSTER #																
TOTAL AMOUNT (INCLUDING TAXES)																

We hereby conclude this is the final cost for Part 2 Cluster # :

 CFO / Authorized Board of Members
 Company stamp

**Please do not change the template of Summary.*

APPENDIX 7 - DETAILS OF FINANCIAL PROPOSAL (PER SITE)

PART 1

CLUSTER:

UST:

SITE ID:

Bill of Quantity for Tower

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
TOWER - 76m Height Tower (20m x 18m footprint)						
1. GENERAL & PRELIMINARIES						
A	Insurance					
	1	Provision for Insurance (during construction and warranty period)	LS			
B	Site Planning & Design					
	1	Site Survey	LS			
	2	Services of licensed surveyor for setting out of the Site Boundary	LS			
	3	Soil investigation	LS			
	4	C&S, M&E Consulting Engineer Services & Design including PE Endorsement	LS			
C	Site Acquisition					
	1	Deposits and preliminary rental charges to landowner during implementation period (prior to official site handover to PART 2)	LS			
D	Permitting & Authority Fees					
	1	OSA Fees, local authority fees/charges, permit fees, assessment fees and other fees deemed necessary.	LS			
E	Project Management and others					
	1	Monthly Reporting & Meetings	LS			
	2	Site Management including Site Monitoring and Inspection	LS			
	3	Signboard (Material to be made from wood as per JKR specifications, 3 ft height above ground)	Nos			
TOTAL ITEM 1: GENERAL & PRELIMINARIES						

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
2. TOWER & ACCESSORIES						
A	Tower Supply					
	1	Supply, Delivery & Install 3 Legged Tower inclusive of:	LS			
	a	Vertical Gantry				
	b	Fall Arrest System				
	c	Stainless Steel Lightning Arrestor (3m x 16mm dia)				
	d	Anti-Climb devices consisting of cage & barb wire				
	e	Brackets for Aviation lights & Lightning Arrestor				
	f	Tower Erection				
	g	Paint				
	h	Delivery				
	i	PE Endorsement				
B	Tower Earthing & Plates					
	1	To supply, install and commission tower grounding system:				
	a	Cu ground plate size 1200mm x 1200mm x 3mm thick at each leg	pc			
	b	Supply and install 355mm x 100mm x 6mm Cu busbar c/w 50mm pvc cable in 50mm diameter GI pipe at 3 levels of the tower	pc			
	c	70mm Cu Cable with one end cadweld to tower leg with expose cable run in 50mm diameter galvanised iron pipe and the other end cadweld to the cu plate	LS			
	d	Inspection Pit Type C	Nos			
C	Tower Foundation					
	Reinforced Concrete Pad Foundation.To supply manpower, machineries, necessary tools and equipments for normal foundation excavation up to 3m deep, place formworks, timbering(if necessary), anchor bolt setting as per requirement, supply and placing of minimum G30 concrete complete with reinforcement bars, dewatering, back filling, compaction including all necessary works.					
	1	Excavation for foundation maximum depth not exceeding 4m deep, backfill and remove surplus spoil and deposit, spread and level on site as specified	m3			

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
	2	Concrete:				
	a	Lean Concrete Grade 15P for foundation base - 75mm	M2			
	b	Concrete Grade 30P as specified in Foundation, Stump & Tie Beam	m3			
	3	Steel Bars in reinforcement to concrete works generally including all cutting, bending and placing in position				
	a	High Tensile - Pad Footing, Stump & Tie Beam	Kg.			
	b	Mild Steel - Stump & tie Beam	Kg.			
	4	Sawn Formwork				
	a	To sides of foundation, stump & tie beam	M2			
TOTAL ITEM 2: TOWER & ACCESSORIES						
3. SITE INFRASTRUCTURE AND ANCILLARIES						
A	Site Clearance					
	1	Excavate oversite average 150mm deep to level off formation or reduce level.	M2			
B	Concrete Base					
	1	200mm thk hardcore, one layer BRC A7 and 100mm thk grade 25 concrete over site - platform 20m x 18m				
	2	200mm Hardcore	M3			
	3	100mm Concrete Grade 25P	M3			
	4	BRC A7	M2			
	5	Inspection Pit Type C	Nos			
C	Concrete Plinth For					
	1	Cabin / Outdoor base (size: 5.4m x 4.8m x 0.60m thk)				
	a	50mm thk lean Concrete Grade 15P for foundation base – 5.4 x 4.8 x 0.05	M2			
	b	400mm thk reinforced concrete (G30) – from platform level	M3			
	c	To supply and lay 1 layer BRC A7 reinforcement for concrete platform	M2			
	d	Sawn formwork	M2			
	e	100m Dia, 1W PVC Duct	Nos			
	f	Inspection Pit Type A	Nos			
	g	450mm x 450mm Electrical Pit c/w retractable lifting handle (outdoor with hinges), inclusive necessary 100mm diameter PVC duct	Nos			

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
	2	2 x Genset c/w skid tank (7m x 3m x 0.6m thk)				
	a	50mm thk lean Concrete Grade 15P for foundation base	M2			
	b	200mm thk.Reinforced concrete (G30) – from platform level	M3			
	c	To supply and lay 1 layer BRC A7 reinforcement for concrete platform	M2			
	d	Sawn formwork	M2			
	e	Inspection Pit Type B	Nos			
D	Premix Area / Rc Concrete (*To fill either Item 1 or Item 2)					
	*1	1st 30m Premix Access Road - 3m wide (1st 6m = 4.8m wide)				
	a	50mm thick sand spread, levelled and compacted to falls and chambers with an 8-ton roller	M2			
	b	200mm (finished) thick crusher run base course	M2			
	c	50mm asphaltic concrete wearing course	M2			
	d	Bituminous binder	M2			
	e	75mm thick premix	M2			
	*2	1st 30m RC Concrete Road - 3m wide				
	a	100mm hardcore	M2			
	b	50mm lean concrete Grade 15P	M2			
	c	100mm Concrete Grade 20P	M2			
	d	1 layer mesh fabric A6	M2			
E	Perimeter Drainage					
	1	300mm width block drain thk including all necessary excavation	m			
	2	To supply, excavate and construct 450mm x 450mm brickwall sump at as per drawings at suitable discharge point. The rate include lean concrete, concrete base complete with 1 layer cement mortar rendering to exposed brickwall as per drawings	Nos			
	3	Soakway pit 1200mm dia 1500mm deep c/w retractable cover (where necessary)	Nos			

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
F	Fence And Gate					
	1	Supply and install 2600mm high 50mm x 50mm x 3.3/2.8mm PVC coated galvanised mesh chain link fencing with 75mm x 75mm x 5mm thick angle and 50mm x 50mm x 5mm thick bracing post both embedded in and including 450mm x 450mm x 600mm deep concrete footing	m			
	2	Extra Over for 4 strands barb wire on top	m			
	3	Supply and install 2600mm (H) x 4000mm (W) 50 x 50 SWG 10 galvanised mild steel chain link fencing gate in two leaf complete, including 2 bolts with PVC pocket sleeves, stainless steel h/duty padlocks, hinges, concrete foundation, 500mm high bard wire and ets including all other related items.	LS			
	4	Supply and install 3600mm (H) x 150mm (ø) x 6mm (thk) steel pipe gate post both embedded in infill with concrete	LS			
G	Turfing					
	1	1500mm closed turfing to surrounding fencing at site level (75mm thk)	M2			
H	Basic Grounding And Earthing System					
	1	To supply and install common earthing system (compound area) c/w copper tape, copper rod, G.I pipe 50mm and cadweld jointing	Nos			
	2	To supply and install common earthing system (plinth) c/w copper tape, 3 units of MGB, vertical G.I pipe 50mm infill with concrete and cadweld jointing	Nos			
	3	300mm x 300mm Heavy Duty Earth Chamber	Nos			
	4	To supply and install earthing system for feeder c/w vertical 50mm GI pipe infill with concrete, copper cable, MGB and proper connection to the common earthing system using copper clamp with hidrolic cramping	Nos			
I	Compound Lighting					
	1	Supply and install 6m hot dipped Galvanised column c/w 250W floodlight 2nos per each c/w accessories) and u/g cable 6mm ² .	Nos			
J	Aircraft Warning Light					
	1	Supply and install Solar LED Aircraft Warning Lights c/w ultra high intensity 100,000 hours life expectancy, equipped with built-in back battery.	Nos			
TOTAL ITEM 3: SITE INFRASTRUCTURE AND ANCILLARIES						

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
4. ADDITIONAL WORKS (to fill if necessary)						
A	Site Clearance					
	1	Excavate oversite average 150mm deep to level off formation or reduce level.	M2			
B	RC Piling					
	1	Allow for provision of all necessary piling equipment	LS			
	2	Supply 200mm x 200mm RC pile	M			
	3	Handle, transport, pitch and drive	M			
	4	12.7mm (overall) butt weld connection 1.0m girth between edges of mild steel extension head and based cap plates including coated heavily with bituminous compound.	Nos			
	5	Cut off and remove surplus length of 200mm x 200mm precast concrete pipe and strip off pile head, bend back reinforcement for connection as specified.	Nos			
C	Earthwork - Cutting and Filling					
	1	Excavation and removal of unsuitable material to contractor's own dumping ground within 10km from site - by mechanical equipment.	M3			
	2	Imported Earthfill from contractor's own source within 10km from site including unloading in filling areas	M3			
	3	Imported sandfill ditto	M3			
	4	Spread level and compact excavated earth/imported earth in layers as specified in filling areas.	M3			
D	Access Road Beyond 30m length from gate					
	1	Crusher Run Road				
	a	300mm thk crusher run spread, levelled and compacted with 8-ton roller	M2			
	2	Premix Road				
	a	50mm thick sand spread, levelled and compacted to falls and chambers with an 8-ton roller	M2			
	b	200mm (finished) thick crusher run base course	M2			
	c	Tack coat	M2			
	d	60mm thick binder course	M2			
	e	50mm thick wearing course	M2			
	3	Reinforced Concrete Road				

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
	a	100mm hardcore	M2			
	b	50mm lean concrete Grade 15P	M2			
	c	100mm Concrete Grade 20P	M2			
	d	1 layer mesh fabric A6	M2			
E	Rock Excavation which requires the use of wedges, level or compressor drills and removal of unsuitable material to contractor's own dumping ground within 10km from site.					
	1	Rock excavation	M3			
F	Slope Protection					
	1	Close turfing	M2			
	2	Gabion Wall	M3			
	3	RC Retaining Wall.	M3			
G	Cutting Tree					
	1	Cut down and clear away from site trees exceeding 300mm but not exceeding 600mm girth at 1m above ground level including grubbing up roots and filling up holes with approved earth.	Nos			
	2	Ditto exceeding 600mm but not exceeding 1200mm girth ditto	Nos			
	3	Ditto exceeding 1200mm but not exceeding 1800mm girth ditto	Nos			
H	Drainage (Access road)					
	1	300mm (W)x 300mm (D) precast or cast in situ concrete V shape block drain Grade 20	M			
	2	Cattle trap	Nos			
	3	To supply, excavate and construct 450mm (W) x 450mm (D) brickwall sump (where necessary)	Nos			
I	Culvert					
	1	300mm diameter precast concrete pipe culvert type "S" and jointing with and including precast concrete collars in cement mortar (1:1) including forming fillet all around at each end of collars.	M			
	2	600mm ditto	M			
	3	900mm ditto	M			
	4	1200mm ditto	M			
J	Double handing charges - subject to site condition					
	1	only applicable for sites not accessible by land				
TOTAL ITEM 4: ADDITIONAL WORKS						

ITEM	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
SUMMARY (HUB)					
1	TOTAL PRELIMINARIES				
2	TOTAL TOWER AND ACCESSORIES				
3	TOTAL SITE INFRASTRUCTURE AND ANCILLARIES				
4	TOTAL ADDITIONAL WORK				
	FINAL TOTAL PART 1 (HUB) (INCLUDING TAXES)				

Bill of Quantity for Spoke (To Fill If Applicable)

ITEM	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
SPOKE - 24m Monopole Antenna Support Structure (12m x 12m footprint)					
1. GENERAL & PRELIMINARIES					
A	General				
	1 Provision for Insurance during construction period	LS	1		
B	Site Planning & Design				
	1 Site Survey	LS	1		
	2 Services of licensed surveyor for setting out of the Site Boundary	LS	1		
	3 Soil investigation	LS	1		
	4 C&S, M&E Consulting Engineer Services & Design including PE Endorsement	LS	1		
C	Site Acquisition				
	1 Deposits and Preliminary rental charges to landowner (prior to official site handover to PART 2) - maximum 3 months + 2 months deposit	LS	1		
D	Project Management & Others				
	1 Monthly Reporting & Meetings	LS	1		
	2 Site Management Including Site Monitoring and Inspection	LS	1		
	3 Signboard ((Material to be made from wood as per JKR specifications, 3 ft height above ground)	Nos	1		

ITEM	DESCRIPTION		UNIT	QTY	UNIT	TOTAL
					COST	(RM)
E	Permitting & Authority Fees					
	1	OSA Fees, Local Authority fee/charges, permit fees, assessment fees and other fees deemed necessary.	LS	1		
TOTAL ITEM 1: GENERAL & PRELIMINARIES						
2. POLE & ACCESSORIES						
A	Pole Supply					
	1	Supply, Delivery & Install 24m monopole structure inclusive of:	LS	1		
	a	Vertical Gantry				
	b	Fall Arrest System				
	c	Stainless Steel Lightning Arrestor (4m x 16mm dia)				
	d	Anti-Climb devices consisting of cage & barb wire				
	e	Brackets for Aviation lights & Lightning Arrestor				
	f	Pole Erection				
	g	Paint (HDG)				
	h	Delivery				
	i	PE Endorsement				
B	Pole Earthing & Plates					
	1	To supply, install and commission pole grounding system:				
	a	Cu ground plate size 1200mm x 1200mm x 3mm thick at each leg	pc	1		
	b	Supply and install 355mm x 100mm x 6mm Cu busbar c/w 50mm pvc cable in 50mm diameter GI pipe at 3 levels of the pole	pc	3		
	c	70mm Cu Cable with one end cadweld to tower leg with expose cable run in 50mm diameter galvanised iron pipe and the other and cadweld to the cu plate	LS	1		
	d	Inspection Pit Type C	Nos	1		
C	Pole Foundation					
	Reinforced Concrete Pad Foundation.To supply manpower,					

ITEM	DESCRIPTION		UNIT	QTY	UNIT	TOTAL
					COST	(RM)
	machineries, necessary tools and equipments for normal foundation excavation up to 3m deep, place formworks, timbering(if necessary), anchor bolt setting as per requirement, supply and placing of minimum G30 concrete complete with reinforcement bars, dewatering, back filling, compaction including all necessary works.					
1	Excavation for foundation maximum depth not exceeding 4m deep, backfill and remove surplus spoil and deposit, spread and level on site as specified	m3				
2	Concrete:					
a	Lean Concrete Grade 15P for foundation base - 75mm	M2				
b	Concrete Grade 30P as specified in Foundation, Stump & Tie Beam	m3				
3	Steel Bars in reinforcement to concrete works generally including all cutting, bending and placing in position					
a	High Tensile - Pad Footing, Stump & Tie Beam	Kg.				
b	Mild Steel - Stump & tie Beam	Kg.				
4	Sawn Formwork					
a	To sides of foundation, stump & tie beam	M2				
TOTAL ITEM 2: POLE & ACCESSORIES						
3. SITE INFRASTRUCTURE AND ANCILLARIES						
A	Site Clearance					
1	Excavate oversite average 150mm deep to level off formation or reduce level.	M2				
B	Concrete Base					
1	200mm thk hardcore, one layer BRC A7 and 100mm thk grade 25 concrete over site - platform 12m x 12m					
2	200mm Hardcore	M3				
3	100mm Concrete Grade 25P	M3				
4	BRC A7	M2				
5	Inspection Pit Type C	Nos				
C	Concrete Plinth For					
1	Outdoor base (size: 3m x 5m x 0.40m thk)					
a	50mm thk lean Concrete Grade 15P for foundation base – 3 x 5 x 0.4	M2				
b	400mm thk reinforced concrete (G25) – from platform level	M3				

ITEM	DESCRIPTION		UNIT	QTY	UNIT	TOTAL
					COST	(RM)
	c	To supply and lay 1 layer BRC A7 reinforcement for concrete platform	M2			
	d	Sawn formwork	M2			
	e	100m Dia, 1Way PVC Duct	Nos			
	f	Inspection Pit Type A	Nos			
	g	450mm x 450mm Electrical Pit c/w retractable lifting handle (outdoor with hinges), inclusive necessary 100mm diameter PVC duct	Nos			
	2	2 x Genset c/w skid tank (7m x 3m x 0.4m thk)				
	a	50mm thk lean Concrete Grade 15P for foundation base	M3			
	b	200mm thk.Reinforced concrete (G25) – from platform level	M3			
	c	To supply and lay 1 layer BRC A7 reinforcement for concrete platform	M2			
	d	Sawn formwork	M2			
	e	Inspection Pit Type B	Nos			
D	Premix Area / Rc Concrete (*To fill either Item 1 or Item 2)					
	*1	1st 30m Premix Access Road - 3m wide (1st 6m = 4.8m wide)				
	a	50mm thick sand spread, levelled and compacted to falls and chambers with an 8-ton roller	M2			
	b	200mm (finished) thick crusher run base course	M2			
	c	50mm asphaltic concrete wearing course	M2			
	d	Bituminous binder	M2			
	e	75mm thick premix	M2			
	*2	1st 30m RC Concrete Road - 3m wide (1st 6m = 4.8m wide)				
	a	100mm hardcore	M2			
	b	50mm lean concrete Grade 15P	M2			
	c	100mm Concrete Grade 20P	M2			
	d	1 layer mesh fabric A6	M2			
E	Perimeter Drainage					
	1	300mm width block drain thk including all necessary excavation	m			
	2	To supply, excavate and construct 450mm x 450mm brickwall sump at as per drawings at suitable discharge point. The rate include lean concrete, concrete base complete with 1 layer cement mortar rendering to exposed brickwall as per drawings	Nos	1		

ITEM	DESCRIPTION		UNIT	QTY	UNIT	TOTAL
					COST	(RM)
	3	Soakway pit 1200mm dia 1500mm deep c/w retractable cover (where necessary)	Nos	1		
F	Fence And Gate					
	1	Supply and install 2700mm high 50mm x 50mm x 3.3/2.8mm PVC coated galvanised mesh chain link fencing with 75mm x 75mm x 5mm thick angle and 50mm x 50mm x 5mm thick bracing post both embedded in and including 450mm x 450mm x 600mm deep concrete footing	m			
	2	Extra Over for 4 strands barb wire on top	m			
	3	Supply and install 2600mm (H) x 4000mm (W) 50 x 50 SWG 10 galvanised mild steel chain link fencing gate in two leaf complete, including 2 bolts with PVC pocket sleeves, stainless steel h/duty padlocks, hinges, concrete foundation, 500mm high bard wire and ets including all other related items.	LS	1		
	4	Supply and install 3600mm (H) x 150mm (ø) x 6mm (thk) steel pipe gate post both embedded in infill with concrete	LS	1		
G	Turfing					
	1	1500mm Wide closed turfing to surrounding fencing at site level (75mm thk)	M2			
H	Basic Grounding And Earthing System					
	1	To supply and install common earthing system (compound area) c/w copper tape, copper rod, G.I pipe 50mm and cadweld jointing	Nos			
	2	To supply and install common earthing system (plinth) c/w copper tape, 3 units of MGB, vertical G.I pipe 50mm infill with concrete and cadweld jointing	Nos			
	3	300mm x 300mm Heavy Duty Earth Chamber (5 tone)	Nos			
	4	To Supply and Install 100mm dia G.I pipe buried underground at compound area	m			
	5	To supply and install earthing system for feeder c/w vertical 50mm GI pipe infill with concrete, copper cable, MGB and proper connection to the common earthing system using copper clamp with hidrolic cramping	Nos	1		
I	Compound Lighting					
	1	Supply and install 6m hot dipped Galvanised column c/w 250W floodlight 2nos per each c/w accessories) and u/g cable 6mm ² .	Nos	2		

ITEM	DESCRIPTION		UNIT	QTY	UNIT	TOTAL
					COST	(RM)
J	Aircraft Warning Light					
	1	Supply and install Solar LED Aircraft Warning Lights c/w ultra high intensity 100,000 hours life expectancy, equipped with built-in back battery.	Nos	2		
TOTAL ITEM 3: SITE INFRASTRUCTURE AND ANCILLARIES						
4. ADDITIONAL WORKS (to fill if necessary)						
A	Site Clearance					
	1	Excavate oversite average 150mm deep to level off formation or reduce level.	M2			
B	RC Piling					
	1	Allow for provision of all necessary piling equipment	LS			
	2	Supply 200mm x 200mm RC pile	M			
	3	Handle, transport, pitch and drive	M			
	4	12.7mm (overall) butt weld connection 1.0m girth between edges of mild steel extension head and based cap plates including coated heavily with bituminous compound.	Nos			
	5	Cut off and remove surplus length of 200mm x 200mm precast concrete pipe and strip off pile head, bend back reinforcement for connection as specified.	Nos			
C	Earthwork - Cutting and Filling					
	1	Excavation and removal of unsuitable material to contractor's own dumping ground within 10km from site - by mechanical equipment.	M3			
	2	Imported Earthfill from contractor's own source within 10km from site including unloading in filling areas	M3			
	3	Imported sandfill ditto	M3			
	4	Spread level and compact excavated earth/imported earth in layers as specified in filling areas.	M3			
D	Access Road Beyond 30m length from gate					
	1	Crusher Run Road				
	a	300mm thk crusher run spread, levelled and compacted with 8-ton roller	M2			
	2	Premix Road				
	a	50mm thick sand spread, levelled and compacted to falls and chambers with an 8-ton roller	M2			

ITEM	DESCRIPTION		UNIT	QTY	UNIT	TOTAL
					COST	(RM)
	b	200mm (finished) thick crusher run base course	M2			
	c	Tack coat	M2			
	d	60mm thick binder course	M2			
	e	50mm thick wearing course	M2			
	3	Reinforced Concrete Road				
	a	100mm hardcore	M2			
	b	50mm lean concrete Grade 15P	M2			
	c	100mm Concrete Grade 20P	M2			
	d	1 layer mesh fabric A6	M2			
E	Rock Excavation which requires the use of wedges, level or compressor drills and removal of unsuitable material to contractor's own dumping ground within 10km from site.					
	1	Rock excavation	M3			
F	Slope Protection					
	1	Close turfing	M2			
	2	Gabion Wall	M3			
	3	RC Retaining Wall.	M3			
G	Cutting Tree					
	1	Cut down and clear away from site trees exceeding 300mm but not exceeding 600mm girth at 1m above ground level including grubbing up roots and filling up holes with approved earth.	Nos			
	2	Ditto exceeding 600mm but not exceeding 1200mm girth ditto	Nos			
	3	Ditto exceeding 1200mm but not exceeding 1800mm girth ditto	Nos			
H	Drainage (Access road)					
	1	300mm (W)x 300mm (D) precast or cast in situ concrete V shape block drain Grade 20	M			
	2	Cattle trap	Nos			
	3	To supply, excavate and construct 450mm (W) x 450mm (D) brickwall sump (where necessary)	Nos			
I	Culvert					
	1	300mm diameter precast concrete pipe culvert type "S" and jointing with and including precast concrete collars in cement mortar (1:1) including forming fillet all around at each end of collars.	M			
	2	600mm ditto	M			
	3	900mm ditto	M			
	4	1200mm ditto	M			

ITEM	DESCRIPTION	UNIT	QTY	UNIT	TOTAL	
				COST	(RM)	
J	Double handing charges - subject to site condition					
	1	only applicable for sites not accessible by land				
TOTAL ITEM 4 : ADDITIONAL WORK						
SUMMARY (SPOKE)						
1	TOTAL PRELIMINARIES					
2	TOTAL TOWER AND ACCESSORIES					
3	TOTAL SITE INFRASTRUCTURE AND ANCILLARIES					
4	TOTAL ADDITIONAL WORK					
FINAL TOTAL PART 1 (SPOKE) (INCLUDING TAXES)						

Bill of Quantity for Site Infrastructure for Natural Disaster for Tower (To Fill If Applicable)

ITEM	DESCRIPTION	UNIT	QTY	UNIT	TOTAL	
				COST	(RM)	
TOWER						
A	Concrete Plinth For					
	1	Cabin / Outdoor base (size: 5.4m x 4.8m x 0.60m thk)				
	A	50mm thk lean Concrete Grade 15P for foundation base – 5.4 x 4.8 x 0.05			M2	
	B	600mm thk reinforced concrete (G30) – from platform level			M3	
	C	To supply and lay 1 layer BRC A7 reinforcement for concrete platform			M2	
	D	Sawn formwork			M2	
	E	100m Dia, 1W PVC Duct			Nos	
	F	Inspection Pit Type A			Nos	
	G	To supply and install "I" beam base (size: 4m x 0.2m x 0.2m x 0.01m thk)			Nos	
	H	Concrete steps			Nos	
	I	450mm x 450mm Electrical Pit c/w retractable			Nos	

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
		lifting handle (outdoor with hinges), inclusive necessary 100mm diameter PVC duct				
2	2 x Genset c/w skid tank (7m x 3m x 0.6m thk)					
A	50mm thk lean Concrete Grade 15P for foundation base		M2			
B	600mm thk.Reinforced concrete (G30) – from platform level		M3			
C	To supply and lay 1 layer BRC A7 reinforcement for concrete platform		M2			
D	Sawn formwork		M2			
E	Inspection Pit Type B		Nos			
B	Basic Grounding And Earthing System					
1	To supply and install common earthing system (compound area) c/w copper tape, copper rod, G.I pipe 50mm and cadweld jointing		No			
2	300mm x 300mm Heavy Duty Earth Chamber		No			
3	To supply and install earthing system for feeder c/w 50mm GI pipe, copper cable, MGB and proper connection to the common earthing system		No			
TOTAL SITE INFRASTRUCTURE FOR NATURAL DISASTERS (TOWER) (INCLUDING TAXES)						

Bill of Quantity for Site Infrastructure for Natural Disaster for Spoke (To Fill If Applicable)

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
SPOKE						
A	Concrete Plinth For					
1	Outdoor base (size: 3m x 5m x 0.40m thk)					
A	50mm thk lean Concrete Grade 15P for foundation base – 3 x 5 x 0.4		M2			
B	600mm thk reinforced concrete (G30) – from platform level		M3			
C	To supply and lay 1 layer BRC A7 reinforcement for concrete platform		M2			
D	Sawn formwork		M2			
E	100m Dia, 1W PVC Duct		Nos			
F	Inspection Pit Type A		Nos			

ITEM	DESCRIPTION		UNIT	QTY	UNIT COST	TOTAL (RM)
	G	To supply and install "I" beam base (size: 4m x 0.2m x 0.2m x 0.01m thk)	Nos			
	H	Concrete steps	Nos			
	I	450mm x 450mm Electrical Pit c/w retractable lifting handle (outdoor with hinges), inclusive necessary 100mm diameter PVC duct	Nos			
B	2 x Genset c/w skid tank (7m x 3m x 0.6m thk)					
	A	50mm thk lean Concrete Grade 15P for foundation base	M2			
	B	600mm thk.Reinforced concrete (G30) – from platform level	M3			
	C	To supply and lay 1 layer BRC A7 reinforcement for concrete platform	M2			
	D	Sawn formwork	M2			
	E	Inspection Pit Type B	Nos			
C	Basic Grounding And Earthing System					
	A	To supply and install common earthing system (compound area) c/w copper tape, copper rod, G.I pipe 50mm and cadweld jointing	Nos			
	B	300mm x 300mm Heavy Duty Earth Chamber	Nos			
	C	To supply and install earthing system for feeder c/w 50mm GI pipe, copper cable, MGB and proper connection to the common earthing system	Nos			
TOTAL FOR SITE INFRASTRUCTURE FOR NATURAL DISASTERS (SPOKE) (INCLUDING TAXES)						

PART 2

CLUSTER :

UST:

SITE ID:

SITE CATEGORY: (SPUR / COLLECTOR)

Bill of Quantity For Tower

NO	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
HUB / TOWER					
1. GENERAL & PRELIMINARIES					
A	Insurance				
	1. Provision for Insurance during construction period	LS			
B	Planning & Design				
	1. Technical Site Survey	LS			
	2. RF & TX Audit	LS			
	3. Network Design	LS			
C	Project Management				
	1. Monthly Reporting & Meetings	LS			
	2. Site Management including Site Monitoring and Inspection	LS			
D	Double handling charges - If applicable	LS			
E	Deposit / Contribution Charges for incoming power supply	LS			
TOTAL ITEM 1 : GENERAL & PRELIMINARIES					
2. EQUIPMENT & SYSTEMS					
A	Supply of Complete BTS Equipment (2G and 3G)	per site	1		
B	Installation, Commissioning, Integration & Optimisation	per site	1		
TOTAL ITEM 2 : EQUIPMENT & SYSTEMS					

NO	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
3. BACKHAUL (*To fill either Item a or Item b)					
*A	PDH Microwave System				
	1. Supply of Complete PDH Microwave System for Complete Link including necessary feeder cable, brackets and jumper.	per link	1		
	2. Frequency Scanning, physical LOS check, installation, commissioning & Integration of PDH Microwave System for complete link	per link	1		
	3. Supply and install complete antenna support system	set	1		
*B	VSAT Transmission System including plinth	per link	1		
TOTAL ITEM 3 : BACKHAUL					
4. ANTENNA SYSTEM					
A	Supply of Complete Antenna	set	3		
B	Supply of Complete antenna feeder system (AFS) including necessary feeder Cable, brackets and jumper	set	1		
C	Supply and install complete antenna support system	set	3		
D	Installation and Testing of complete antenna system	set	1		
TOTAL ITEM 4 : ANTENNA SYSTEM					
5. DC POWER SUPPLY					
A	Supply of Complete Rectifier System and Battery Backup System	LS			
B	Installation and Commissioning of rectifier and battery system including necessary power and grounding cables.	LS			
TOTAL ITEM 5 : DC POWER SUPPLY					

NO	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
6. UPGRADING / ADDITIONAL EQUIPMENT					
(*To fill either Item A or Item B)					
A	New equipment				
1	RNC	LS			
2	BSC	LS			
B	Upgrade				
1	RNC upgrade	LS			
2	BSC Upgrade	LS			
3	Backhaul (Link Transmission Upgrade)	LS			
4	MSC Upgrade / EMS	LS			
TOTAL ITEM 6: UPGRADING / ADDITIONAL EQUIPMENT					
7. EQUIPMENT SHELTER & ALARM SYSTEM (*To fill either Item a or Item b)					
A*	Supply & Install Cabin complete with all necessary accessories	set	1		
B*	Supply & Install Outdoor Cabinet c/w outdoor	set	1		
C	Supply & Install horizontal cable gantry	set	1		
D	Supply & Install MGB at the edge of horizontal gantry	Nos	1		
E	Supply and install of Intruder System	LS			
	*Note: To choose either Item a or Item b				
TOTAL ITEM 7 : EQUIPMENT SHELTER & ALARM SYSTEM					
8. AC POWER SUPPLY					
A	AC Main Distribution Board System (* To fill either Item 1 or Item 2)				
1*	To supply and install 3phase 60A TPN ACPDB indoor type (for Cabin)				
2*	To supply and install 3phase 60A TPN Power Distribution Unit (PDU) Weather proof Outdoor Type (for Outdoor BTS)				
3	EL-4C x 35mm (u/g)PVC/SWA/PVC cable from meter box	LS			

NO	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
4	To supply and install metering panel / meter box	LS			
B	Sourcing of Permanent Power Supply (To fill any one (1) item only)				
1	Power Supply sourced from National grid (3phase 60Amps) - overhead including concrete poles 35mm overhead cable, staywires and all necessary labour	Lot	1		
2	Supply and Install Hybrid Power System	Lot			
3	Supply & Install Generator Set System: 2 x15kVA Genset c/w 1,000L skid tank	Lot			
4	Supply & Install Generator Set System: 2 x20kVA Genset c/w 2,000L skid tank	Lot			
TOTAL ITEM 8 : AC POWER SUPPLY					
9. INTEROPERABILITY COST					
A	Interoperability cost for RAN Sharing purpose	LS			
TOTAL ITEM 9 : INTEROPERABILITY COST					
SUMMARY					
HUB / TOWER					
1	TOTAL ITEM 1: GENERAL & PRELIMINARIES				
2	TOTAL ITEM 2: EQUIPMENT & SYSTEM				
3	TOTAL ITEM 3: BACKHAUL				
4	TOTAL ITEM 4: ANTENNA SYSTEM				
5	TOTAL ITEM 5: DC POWER SUPPLY				
6	TOTAL ITEM 6 : UPGRADING / ADDITIONAL EQUIPMENT				
7	TOTAL ITEM 7: EQUIPMENT SHELTER & ALARM SYSTEM				
8	TOTAL ITEM 8 : AC POWER SUPPLY				
9	TOTAL ITEM 9 : INTEROPERABILITY COST				
FINAL TOTAL PART 2 (TOWER) (INCLUDING TAXES)					

Bill of Quantity for Spoke (To Fill If Applicable)

ITEM	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
SPOKE					
1. GENERAL & PRELIMINARIES					
A	Insurance				
	1. Provision for Insurance during construction period	LS			
B	Planning & Design				
	1. Technical Site Survey - Pre and Post Award	LS			
	2. RF & TX Audit	LS			
	3. Network Design	LS			
C	Project Management				
	1. Monthly Reporting & Meetings	LS			
	2. Site Management Including Site Monitoring and Inspection	LS			
D	Double handling charges - If applicable	LS			
	only applicable for sites not accessible by land				
E	Deposit / Contribution Charges for incoming power supply	LS			
TOTAL ITEM 1 : PRELIMINARIES					
2. ANTENNA SYSTEM					
A	Supply of Complete RF Antenna	set	3		
B	Supply of Complete antenna feeder system (AFS) including necessary feeder Cable, brackets and jumper	set	3		
C	Supply and install complete antenna support system	set	3		
D	Installation and Testing of complete antenna system	set	3		
E	Supply , Install and Testing of Transmission backhaul Microwave Or VSAT	set	1		
TOTAL ITEM 2 : ANTENNA SYSTEM					

ITEM	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
3.BACKHAUL					
A	Sourcing and securing sufficient Network Backhaul / Transmission / Carrier for 2G and 3G services implementation and integration.	LS			
B	Design, Dimension, Supply, Install, Testing and Commissioning of Fiber Optic Backhaul System.	Lot			
C	Design, Dimension, Supply, Install, Testing and Commissioning of Transmission backhaul Microwave Or VSAT	Lot			
TOTAL ITEM 3 : BACKHAUL					
4. DC POWER SUPPLY					
A	Supply of Complete Rectifier System and Battery Backup System	LS			
B	Installation and Commissioning of rectifier and battery system including necessary power and grounding cables.	LS			
TOTAL ITEM 4 : DC POWER SUPPLY					
5. EQUIPMENT SHELTER & ALARM SYSTEM					
A	Supply & Install Outdoor Base	set	2		
B	Supply & Install horizontal cable gantry	set	2		
C	Supply & Install MGB at the edge of horizontal gantry	Nos	2		
D	Supply and install of Intruder System	LS			
TOTAL ITEM 5 : EQUIPMENT SHELTER & ALARM SYSTEM					
6. AC POWER SUPPLY					
A	AC Main Distribution Board System (* To fill either Item 1 or Item 2)				
1*	To supply and install 3phase 60A TPN ACPDB indoor type (for Cabin)	LS			
2*	To supply and install 3phase 60A TPN Power Distribution Unit (PDU) Weather proof Outdoor Type (for Outdoor BTS)	LS			

ITEM	DESCRIPTION	UNIT	QTY	UNIT COST	TOTAL (RM)
3	EL-4C x 35mm (u/g)PVC/SWA/PVC cable from meter box	LS			
4	To supply and install metering panel / meter box	LS			
B	Sourcing of Permanent Power Supply (To fill any one (1) item only)				
1*	Power Supply sourced from National grid (3phase 60Amps) – including submission and obtaining approval from TNB/SESB/SESCO,	Lot			
2*	Supply and Install Hybrid Power System	Lot			
3	Supply & Install Generator Set System: 2 x15kVA Genset c/w 1,000L skid tank	Lot			
4	Supply & Install Generator Set System: 2 x20kVA Genset c/w 2,000L skid tank	Lot			
TOTAL ITEM 6 : AC POWER SUPPLY					
SUMMARY					
1	TOTAL ITEM 1: GENERAL & PRELIMINARIES				
2	TOTAL ITEM 2: ANTENNA SYSTEM				
3	TOTAL ITEM 3: BACKHAUL				
4	TOTAL ITEM 4: DC POWER SUPPLY				
5	TOTAL ITEM 5:EQUIPMENT SHELTER & ALARM SYSTEM				
6	TOTAL ITEM 6: AC POWER SUPPLY				
FINAL TOTAL PART 2 (SPOKE) (INCLUDING TAXES)					

APPENDIX 8 - MAINTENANCE AND OPERATION SUPPORT PLAN (where applicable)

The preventive and corrective maintenance includes operational checking and testing as well as cleanliness and tidiness of the site and equipment.

A. Preventive Maintenance

NO	ITEM	MANPOWER PER SITE	FREQUENCY	DESCRIPTION

B. Corrective Maintenance

NO	ITEM	MANPOWER PER SITE	RESPONSE TIME	OPERATING CENTER (OPERATING HOUR)

C. Contact Personnel :

D. Hotline/Contact No. :

E. Others :

APPENDIX 9 – TOWER AND SITE TECHNICAL SPECIFICATIONS

Please refer to separate documents provided.