Traducción libre de los principales términos del cartel

2016LI-000001-SUTEL

sutel
SUPERINTENDENCIA DE TELECOMUNICACIONES

EXTRACT
INTERNATIONAL LEGAL TENDER
2016LI-000001-SUTEL

1. Introduction

The Superintendencia de Telecomunicaciones (hereinafter referred to as SUTEL), Costa Rican telecommunications regulator, published the invitation to bid for the public international tender named *2016LI-000001-SUTEL "Arrendamiento operativo de un sistema distribuido de medición de la calidad de servicios de telecomunicaciones a nivel nacional"*. (Leasing of a nationwide telecommunication QoS measurement system)

This document is a brief of the most relevant requirements established in the bidding rules of the tender 2016LI-000001-SUTEL, with the sole and only purpose to present a general description of the project and to invite any interested companies to bid.

SUTEL hereby declares that this document is not and in any manner will constitute the bidding rules of this Project, nor it will modify them. All legal and technical matters of this tender are governed by the provisions stated in the document identified as *2016LI-000001-SUTEL "Arrendamiento operativo de un sistema distribuido de medición de la calidad de servicios de telecomunicaciones a nivel nacional"* drafted in Spanish. In case there is a difference between the terms used in this document in English and the terms stated in the Spanish version, this latter one shall always prevail.

2. Summary of the most relevant technical requirements of 2016LI-000001X-SUTEL

2.1. Object of the tender

The object of tender 2016LI-000001-SUTEL is to lease a nationwide distributed telecommunications QoS measurement system. It must allow the continuous recording of data, for a minimum period of five years, with the purpose to evaluate and execute statistical analysis of the performance of the telecommunication services, compare results from different operators, and publish QoS results of fixed and mobile networks to inform end users.

2.2. Telecommunications services to evaluate

The evaluation system must have the capability to measure and evaluate the level of QoS and performance of the following telecommunications services:

1. Mobile Telephony
2. Mobile Internet
3. Fixed Broadband Internet

The hereinabove listed services must be measured and evaluated employing at least the following Key Performance Indicators (KPI's):

Unsuccessful call ratio. The unsuccessful call ratio is the ratio of unsuccessful calls to the total number of call attempts in a specific time period. Please refer to the ETSI EG 201 769 recommendation for fixed telephony evaluation and ETSI EG 202 057-3 recommendation for mobile telephony evaluation.

Voice Quality: The voice quality of the telephone services is obtained by the comparison of the characteristics of the signal transmitted in contrast to the received signal on a telephony communication. Please minimum refer to the PESQ test, and optionally refer to POLQA test described in UIT-T P.861, UIT-T P.862 y UIT-T P.863 Recommendations respectively.

Call setup time. The call setup time is the amount of time elapsed from the moment the routing information required to establish the call is received by the network (this means that is recognized by the access network of the calling party) until the calling party receives a busy tone, dial tone or response signal. Please refer to the ETSI EG 201 769 norm.

Dropped call ratio. The dropped call ratio is the measurement of the ability of the mobile network used by the service provider to maintain a call, both incoming and outgoing, once it has been correctly established. This KPI measures the failure in coverage, problems with the quality of the signal, network congestion and network failures. Please refer to the ETSI EG 202 057-3 norm.

Coverage area. Is referred to the signal strength (in dBm) received by the user equipment (UE). For GSM networks, the coverage area corresponds to the received BCCH signal at maximum power. For 3G networks, correspond to the received CPICH RSCP signal. For LTE networks, it corresponds to the received RSRP signals.

SMS delivery time. The SMS delivery time is defined as the time from the instant that a SMS is sent, from an active terminal equipment and connected to a mobile network, to a short message center, and the instant in which that same SMS is received in a different terminal equipment, which must also be active and connected to a mobile network. Please refer to the ETSI EG 202 057-2 recommendation for the evaluation of this KPI.

Local Delay. The local delay KPI is given by the round trip time (RTT), measure in milliseconds of an ICMP data package sent o tan Internet node in Costa Rica. Please refer to the ETSI TS 102 250-2, ETSI EG 202 057-4 and ITU-R M.1636 recommendations for the evaluation of this KPI.

International Delay. The International Delay KPI is given by the round trip time (RTT), measure in milliseconds, of an ICMP data package sent to an Internet mode located in an international location. Please refer to the ETSI TS 102 250-2, ETSI EG 202 057-4 and ITU-R M.1636 recommendations for the evaluation of this KPI.

Data transfer rate. This KPI is defined as the throughput (in bit per second) of an Internet access service, for both downlink and uplink. Please refer to the ETSI EG 202 057-4 recommendation for the evaluation of this KPI.

In the chart hereinunder are specified and highlighted in grey the KPI's applicable for each telecom service.

Table 1. KPI's for QoS

KPI	Mobile Telephony	Mobile Internet	Fixed Broadband Internet
Unsuccessful call ratio			
Voice quality			
Call setup time			
Dropped call ratio			
Coverage area			
SMS delivery time			
Local delay			
International delay			
Data transfer rate (throughput)			

Optionally, the evaluation system could have the capacity to additionally evaluate the following telecom services:

1. **Plain Old Telephone Service (hereinafter referred to as POTS).** This service must be evaluated using the following KPI's: unsuccessful call ratio, call setup time and voice quality described hereinabove. Regarding the voice quality, could be evaluated additionally using the E-Model (UIT-T G.107 recommendation).

2. **IP Telephony.** This service must be evaluated using the following KPI's: unsuccessful call ratio, voice quality, and call setup time described hereinabove, and additionally the voice delay KPI, as described hereinunder:

Voice Delay. The voice delay is the time elapsed between the instant that a signal is transmitted from the calling party, until the moment that the signal is received by the called party. Please refer to the ITU-T G.114 recommendation for the evaluation

1.1. *General description of the required evaluation system.*

SUTEL requires to lease a nationwide distributed telecommunications QoS measurement system. The system should be based on probes deployed along country. The probe locations were selected based on broadband traffic and mobile coverage. Additionally, it must allow the analysis, generation and publication of reports with the results of the evaluations made. The measurement system required by SUTEL must have the following basic functional elements:

Evaluation probes for mobile services (EPMS): It is defined as the set of hardware and software elements with the capability to evaluate the QoS for mobile telephony and mobile Internet services. The EPMS must be able to measure the mobile phone and Internet QoS KPI's hereinabove referred to in Table 1.

Evaluation probes for fixed services (EPFS): it is defined as the set of hardware and software elements with the capability to evaluate the QoS of fixed broadband Internet services. The EPFS must be able to measure the fixed Internet QoS KPI's hereinabove referred to in Table 1.

Measurement point (MP): Is defined as the location in which converge different telecommunications services and has the capacity to host in a safe manner the EPMS and EPFS.

Test servers (TS): These are defined as physical or virtual servers that act as counterpart of the EMPS and EPFS in testing the performance and QoS of telecommunications services. It is understood as a TS the FTP y HTTP servers for data testing and the automatic response robots servers for voice and SMS tests.

Management servers (MS): These are defined as one or more physical or virtual servers that allows the management of the measurement system. The MS must be installed in a centralized location, which shall be identified as Control Center (CC). Examples of management servers are: applications for remote configuration and control of the EMPS and EPFS, active and out of service EMPS and EPFS registry, failure and request for support registry, data bases, storage of the measurement results, processing and post processing of the measurement results, generation of reports, graphic display of historical and real time measurement results (dashboard type), and web servers to publish the results.

The measurement system must be made up by a set of EMPS and EPFS outspread in several areas of the country. These sites will be referred hereinafter as MP.

2.3. Specific description of the required measurement system.

2.3.1. Description of the EPMS and EPFS

The bidder may offer both EPMS and EPFS as part of its solution. EPMS could have a single module or several modules, in any case each MP must comply the amount of modules indicated in Tables 2, 4 and 6, accordingly. These modules must be able to evaluate mobile telephony and mobile Internet. Similarly, EPFS could have a single module or several modules, in any case each MP must comply the amount of modules listed in Tables 3, 5 and 7, accordingly. These modules must be able to evaluate fixed broadband Internet service.

The EPFS modules must have RJ-45 jacks in order allow the connection of standard Ethernet network cables. In addition, these modules must have the ability to evaluate Internet services provided through different access technologies, such as xDSL and DOCSIS. Moreover, EPFS must support the following protocols and services: DHCP, ARP, DNS, IPv4 and IPv6.

Both EPMS and EPFS probes must support the commercial electrical power source. Additionally, the probes must have a power backup system in order to provide a minimum of 30 minutes of backup power in case of any failure of the commercial electrical power system. As an exception of the hereinabove stated, the probes with an electrical emergency turnoff system in case of power failure, which can prevent a damage may waive this requirement.

The EPMS and EPFS must collect the measurements raw data and send it to the central server through an Internet connection. All the data will be processed and analyzed in the central server. In addition, the probes must be fully managed and controlled remotely from the central server.

Particularly, the EPMS must permit to select and fix both the operator and mobile technology remotely. These probes must be able to operate without fixing a specific mobile technology

in order to allow the handover between mobile technologies. The EPMS must allow PESQ tests against a central server designed for such purpose.

It is also important to point that the EPMS y EPFS should be easily transported between a measurement point and another.

2.3.2. Description of the Measurement Points (MP)

The project establishes 96 sites, which must be measured with a high priority (76 with EMPS and EPFS probes and 20 sites with only EMPS probes). SUTEL provides the georeferenced locations of their interest, as well as the amount of network operators that must be evaluated in each site. The bidding rules of tender 2016LI-000001-SUTEL lists the priority and alternative MP. The awarded bidder must define the specific MP using the georeferenced coordinates given to him.

The following figure shows the image of the priority MP:

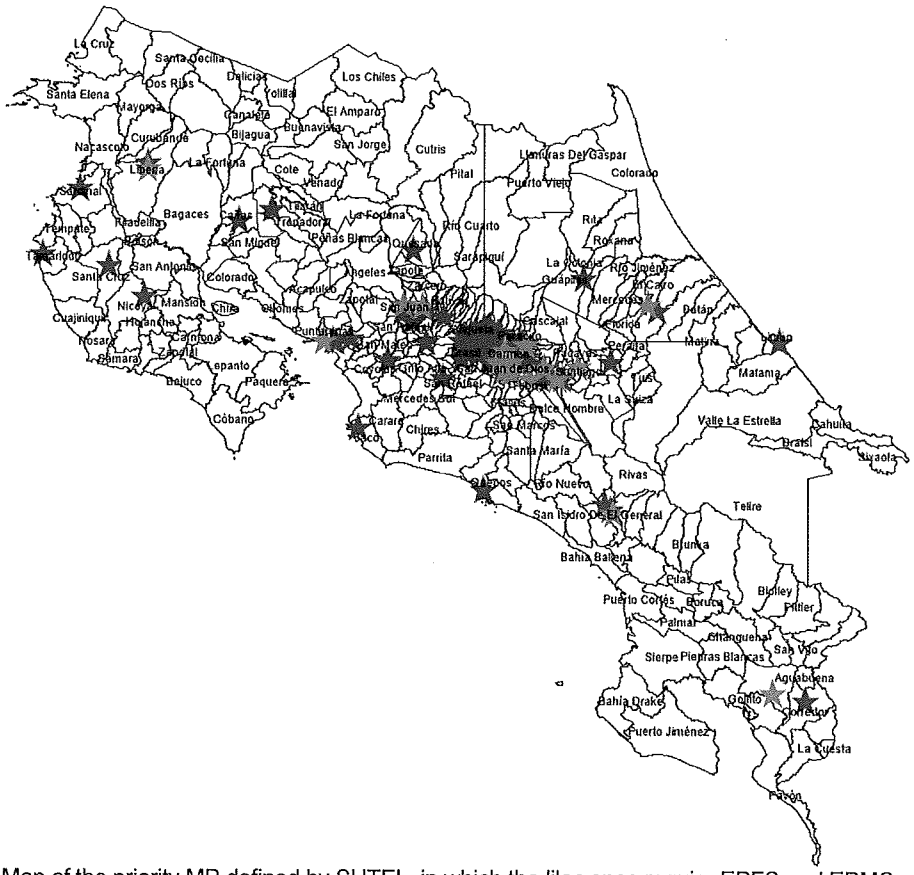

Figure 1. Map of the priority MP defined by SUTEL, in which the lilac ones require EPFS and EPMS, and the pink ones only require EPMS.

The MP must be a location able to shelter in a secure manner the EPMS and EPFS. This location must have electrical power for their functioning. It must be feasible to install the broadband Internet services that must be connected to the EPFS, in a manner that the wires of these services does not suffer any deterioration, damage or accidental disconnection as

a result of an improper installation. The installation of the services that are going to be evaluated, as well as the communication services that connects the EPMS and EPFS with the MS must comply with the structure cabling standards.

In the MP where EPMS probes are settle, the awarded bidder must measure the intensity of the signal of the services provided by the mobile operators. The signal intensity must be of at least -85 dBm (-85 dBm or above) for the mobile network operators evaluated in the following technologies: GSM (2G), UMTS (3G) and LTE (4G). Nevertheless, for LTE services if the signal is below the hereinabove mentioned intensity or if there is no LTE signal at all, it will not be a constraint to choose a MP, as long as this MP is approved by SUTEL.

After the first year by request of SUTEL, the EPMS and EPFS can be moved. The transfer of the EPMS and EPFS to the alternative MP will be annually, starting the count each year from the date of entry into operation of the system. The amount of probes that can be transferred is a 30% of the total amount of the EPMS and a 20% of the total of the EPFS. After the transfer, the probes will remain in the new MP for a minimum of a year. The probes will be transferred to alternative MP, which are listed in the bidding rules. SUTEL hereby clarifies that the transfer hereinabove described does no waive the responsibility of the awarded bidder to make a biannually transfer of the remaining priority MP of the second and third deployment models, as define in the bidding rules. The awarded bidder will have a three (3) month calendar period to define the logistic of the deployment to stage the transfer of the probes and the uninstallment, installment, and functioning of the probes in the new MP, which will all be done within a maximum period of three (3) working days after the three months hereinabove stated.

Hereinunder are described the three possibilities of deployment for the measurement system, each of which involves a different amount of EMPS and EPFS probes that must be installed in the different MP.

Deployment 1: The deployment proposal 1 is made up of a minimum of EPMS and EPFS established in the tables 2 and 3 that follows, depending on the type of EPMS and EPFS (single module or multiple module) that may be offered.

Table 2 Amount of EPMS and the amount of measurement modules for mobile services.

Type of probe EPMS	Amount of probes for mobile services	Amount of modules per probe
Single Module	288	1
Multiple Module	96	3

Table 3. Amount of EPFS and the amount of measurement modules for fixed Internet.

Type of probe EPFS	Amount of probes for fixed servies	Amount of modules per probe
Single module	241	1
Multiple module	32	4
	25	3
	19	2

Each EPMS and EPFS must remain fixed and active (testing) in each MP for a minimum period of a year. Once the one year period has elapsed, SUTEL is hereby authorized to request the transfer of any of the EPMS and EPFS to an alternative MP o to any location of its interest, which will be defined and agreed with the awarded bidder three months prior to the expected transfer. For the uninstallment, installation and functioning of the probes in the new MP, the awarded bidder has a maximum period of three working days.

Deployment 2: The deployment proposal 2 is made up of a minimum of EMPS and EPFS estabilshed in the tables 4 and 5 that follows, depending on the type of EPMS and EPFS (single module or multiple module) that may be offered.

Table 4 Amount of EPMS and the amount of measurement modules for mobile services.

Type of probe EPMS	Amount of probes for mobile services	Amount of modules per probe
Single module	144	1
Múltiple modules	48	3

Table 5. Amount of EPFS and the amount of measurement modules for fixed Internet.

Type of probe EPFS	Amount of probes for fixed services	Amount of modules per probe
Single module	146	1
Multiple modules	32	4
	6	3

Each EPMS and EPFS must remain fixed and active (testing) in each MP for a minimum period of six months. Once the six month period has elapsed, each EPMS and EPFS must be transferred to another priority MP for another six month period. Once the first year of evaluation has elapsed, SUTEL is hereby authorized to request the transfer of any of the EPMS and EPFS to an alternative MP o to any location of its interest, which will be defined and agreed with the awarded bidder three months prior to the expected transfer. In accordance with the hereinabove stated, Deployment 2 will have two transfer process: a biannual to cover the total amount of the priority MP and an annual for the transfer to the alternative MP. For the uninstallment, installation and functioning of the probes in the new MP, the awarded bidder has a maximum period of three working days.

Deployment 3: The deployment proposal 3 is made up of a minimum of EMPS and EPFS established in the tables 6 and 7 that follows, depending on the type of EPMS and EPFS (single module or multiple module) that may be offered.

Table 6 Amount of EPMS and the amount of measurement modules for mobile services.

Type of probe EPMS	Amount of probes for mobile services	Amount of modules per probe
Single module	72	1
Múltiple modules	24	3

Table 7. Amount of EPFS and the amount of measurement modules for fixed Internet.

Type of probe EPFS	Amount of probes for fixed services	Amount of modules per probe
Single module	76	1
Multiple modules	19	4

Each EPMS and EPFS must remain fixed and active (testing) in each MP for a minimum period of six months. Once the six month period has elapsed, each EPMS and EPFS must be transferred to another priority MP for another six month period. Once the first year of evaluation has elapsed, SUTEL is hereby authorized to request the transfer of any of the EPMS and EPFS to an alternative MP o to any location of its interest, which will be defined and agreed with the awarded bidder three months prior to the expected transfer. In accordance with the hereinabove stated, Deployment 3 will have two transfer process: a biannual to cover the total amount of the priority MP and an annual for the transfer to the alternative MP. For the uninstallment, installation and functioning of the probes in the new MP, the awarded bidder has a maximum period of three working days.

2.3.3. Description of the TS.

The measurement system offered must have enough amount of test servers in order to perform all the functionalities required by SUTEL, including but not limited to management, measurement, control, and processing. The test servers must be hosted by the contractor, whom is responsible for the operation, availability, and maintenance of these servers. The contractor shall also be responsible of the updates, scalable growth, and/or any other process necessary for its proper operation.

The awarded bidder shall provide SUTEL at least 10 remote access accounts to all of the test servers. At least two accounts must have administrator permissions.

To perform the voice and SMS tests, the server must be installed and configured in such a manner that it acts as automatic response robot to answer telephone calls from all the EPMS as well as to receive the SMS sent from all the EPMS, in order to measure the KPI's of the telephone services.

The TS must fulfill all the required conditions to perform the Internet access tests as well as the telephony tests.

To perform the data tests, the TS must be connected to a broadband Internet service through at least one public IP address with no traffic shaping and enabled to respond to the tests performed by the EPMS and EPFS. The system must have at least two TS entities dedicated to perform Internet access tests. One local entity, located within Costa Rica; and an international entity located in the United States within the Miami America's Network Access Point (NAP) or any other Data Center within three hops of the aforementioned NAP. Both entities must be approve by SUTEL, and the bidder must include in the tender the selected locations.

Each of the TS must have at least one Internet connection with enough bandwidth to perform the tests requested by each of the EPMS and EPFS of the complete evaluation system. For dimensioning purposes, the awarded bidder shall take into consideration that the Internet connections require a bandwidth that allows to support multiple concurrent requests from the EPMS and EPFS that conform the measurement system.

The bidding rules detail the minimum capacity of the services that the TS must have. The TS must be able to respond simultaneously to all the requests from all the EPMS and EPFS. The awarded bidder must assure that the maximum capacity of the data links will never be higher than the 90% of the maximum capacity of the sum of all services. Thus, the TS links wil not be a constraint condition to evaluate the QoS of each service.

To perform the telephony tests (voice services), the awarded bidder must hire at least two TS intended to perform telephony tests (voice services and SMS), which should be outspread within Costa Rica. These TS must have installed and configured the required amount of telephone services, in such a manner that act as automatic response robots to answer to telephone calls, receive SMS and additionally must be able to test the quality of voice KPI. The TS must be able to simultaneously attend at least a 50% of the total amount of the EPMS that make the complete measurement system, so the TS must be dimensioned based on the simultaneous operation of the telephone and SMS service enable in each EPMS.

The bidding rules detail the minimum capacity required for the dimensioning of the TS for the telephony tests (voice and SMS). SUTEL will establish the time frames in which the calls and SMS tests will be performed.

2.3.4. Description of the MS

The MS must be installed in a centralized location, which shall be identified as Control Center (hereinafter referred to as CC), the awarded bidder will define the location of this. In any case, the CC must allow the MS to be connected to the EPMS and EPFS outspread along the country. The bidder must designate in its offer the possible location of the CC. In any case, the MS must be able to manage the complete amount of the EPMS and EPFS that make up the total evaluation system.

The CC must have a high availability, according to the Service Level Agreement (hereinafter referred to as SLA) defined in the bidding rules, to grant the continuous operation, with the ultimate purpose to assure the continuous execution of tests.

The awarded bidder must ensure that the CC has the necessary infrastructure, logic and physical security to host the servers, as well as the telecommunications equipment necessary for its proper operation, complying the levels of availability stated in the bidding rules. The awarded bidder must also ensure that it has enough bandwidth to allow the establishment of a minimum of 10 simultaneous remote access sessions for SUTEL users.

The awarded bidder will be in charge of the proper functioning, support, maintenance and security of all the MS that make up the measurement system, as well as any updates.

The MS must be able to access through a direct secure WEB application that allows the user to perform all the management functions in such server. Such application shall be compatible with the most popular Internet explorers, including but not limited to Mozilla Firefox, Google Chrome, Microsoft Internet Explorer, Safari, in its most current versions.

The awarded bidder must provide SUTEL with at least 10 remote access accounts to all the MS, at least two of these accounts must have administrator permits. The application must request the authentication of the user though validation of its username and password.

The MS must perform management and control functions, collection and data storage, data processing, generation of reports and must allow data download, as well as WEB publishing of such information.

The MS must be able to fully manage and control the connected EPMS and the EPFS, as well as any other element that constitutes the measurement system. The bidding rules details the complete list of expected functions, which include but are not limited to: probes management, remote configuration of the SIM cards, complete configuration of the specific characteristics of the SIM cards, remote test configuration, test scheduling, among others.

The MS must allow the visualization of the georeferenced location of the EPMS and EPFS in a Costa Rica map with a precision in the location of GPS WGS84 of ±10 meters.

The MS must have the capacity to automatically collect service time and out of service time of the EPMS and EPFS, and other components of the measurement system, including the

servers and website. The MS must be able to identify the moment in which an EPMS and EPFS or any other component of the measurement system goes out of service due to a failure or disconnection and must be able to record the total outage time.

The MS must be able to record QoS KPIs results measure by the EPMS and EPFS. The results must be stored in a centralized data base server with enough capacity to store at least two years of raw data. Data should be backed up in a virtual storage system such as AWS, Azure or equivalent or in an alternative server located within the Control Center to guarantee that the information is not lost due to a failure of the main physical server. The database must be in SQL format. Data must be backed up every eight (8) days, and the database must not allow data to be modified.

The MS must allow to back up the information contained in the databases, including the system configuration and the results of the measurements performed. The awarded bidder must have necessary storage systems to be able to run the backups.

The MS must be able to generate reports, which could be anytime downloaded. Data must be published using dashboards. The system must also support dynamic and fixed reports, and users must be able to customize these reports.

The MS must allow to download of the results in plain text format (*.txt), comma separated values format (*.csv) or Excel format (*.xlsx). The bidder must detail the supported formats in its offer.

2.4. Additional requirements of the evaluation system

2.4.1. Website to publish the results of the evaluation system

The evaluation system should have a website in order to publish the results. The website graphics and data displayed could be configured and selected by SUTEL.

The website should be compatible with the most popular Internet browsers such as Mozilla Firefox, Google Chrome, Microsoft Internet Explorer, Safari, in their current versions.

The website should be accessed by Smartphone, Tablet, or personal computer, and should be base in responsive web design (RWD).

The Contractor shall hire an advertising agency to design the website. The website graphics must complain with SUTEL's look and feel and its visual identity manual. SUTEL will provide the CSS files for the design of the website.

The website must be developed in HTML5 language, in the case the bidder already owns a solution with a built in website developed in a different programming language, this should be detailed in the offer.

The website must be easily modified by SUTEL, allowing to change fonts, forms, sizes, logos, colors, location of the elements and type of elements.

Contractor must host the website and hire an Internet service with enough bandwidth to guarantee user to access and visualize information in less than 3 seconds, and should support one hundred users simultaneously.

The website must include a statistical analysis tool in order to generate daily access reports, request of access reports and session's statistics. It should also provide a tool to monitor the availability of the website, bandwidth usage and the server's CPU and memory usage.

2.4.2. Maintenance and operation services

2.4.2.1. General conditions of the preventive and corrective maintenance:

The awarded bidder shall be responsible for the proper operation and the preventive and corrective maintenance of the measurement system (hardware and software) during project execution.

The awarded bidder must have a preventive maintenance plan duly established and it must include a schedule. This preventive maintenance plan must include all the equipment, systems and platforms leased. The maintenance schedule must be performed on weekends or non-working hours and is hereby obligated to inform SUTEL for a minimum of 48 hours prior to its execution.

The awarded bidder must include as part of the preventive maintenance the software updates in order to guarantee the proper operation of all the equipment.

In case any equipment or software must be replaced, the awarded bidder is obligated to replace it with a new equipment in the exact same conditions as the original one, without any additional cost to SUTEL. The contractor must repair all damage equipment without any further cost for SUTEL.

2.4.2.2. Technical Support

The awarded bidder shall provide local technical support in Spanish during the total period of the leasing. For this purpose, the awarded bidder shall have at least, a certified technician, who must speak Spanish, live in Costa Rica and be duly trained for the use and management of system. The awarded bidder must summit to SUTEL the academic titles and technical certificates to verify the fulfillment of this requirement. SUTEL hereby clarifies, that the technical support team cannot be physically located within the premises of SUTEL.

The bidder must stipulate in its offer the support mechanism, which includes but is not limited to the opening and follow up of support reports and breakdowns reports. Each breakdown and support report must include a consecutive ticket number. The system must have the option to interact with the users via email.

The awarded bidder must provide support from Monday to Friday, from 08:00 to 16:00 (GMT -6 Costa Rica). The support time response must not exceed 24 hours.

System breakdowns must be attended in one hour. If any issue requires to be scaled to the supplier or the manufacturer of the equipment, the awarded bidder must guarantee a response time of maximum six hours once the breakdown is reported by SUTEL. These terms will not be accounted in favor of the awarded bidder for the SLA.

The awarded bidder must define a mechanism to record changes or modifications in the leased equipment and components. This mechanism should be presented to SUTEL during Phase 1. The mechanism must follow ITIL standard or a similar one.

2.4.2.3. Working conditions

The awarded bidder must be responsible for the replacement of any units or equipment damaged by force majeure, acts of God, and acts of a third party, malfunctioning or any other damage not attributable to SUTEL.

The awarded bidder must provide the necessary electrical power supply for the proper operations of all the components of the evaluation system. The payment of all utilities, including the power service will be endure by the awarded party. Additionally, it will be the responsible to hire the necessary telecommunication services required by the evaluation system, and the monthly payment of such services. Please be advised, that SUTEL is in full right to annually request the substitution of as much as a 50% of the telecommunication services evaluated by the EPFS. In such event, the awarded bidder in a maximum period of one calendar month from SUTEL's notification must install the new requested service in the EPFS.

The awarded bidder must guarantee that the MP have all the necessary conditions for the installment of the EPMS and EPFS, including but not limited to electrical power and any telecommunications service required for their proper functioning. Moreover, the awarded bidder will be the sole responsible to sign the lease or any other type of agreement required to establish all the MP listed on the bidding rules. In addition, it shall be the sole responsible to pay the monthly leases, as well as any other expenses that may arise from the installment and uninstallment of the EPMS, EPFS or telecommunications service required.

The awarded bidder must ensure a minimum of 30 minutes of power backup in the case there is no electrical power. It must also guarantee that the EPMS and EPFS can be access from the Control Center.

During the lease, the awarded bidder may subscribe all the insurance policies that he deems necessary. SUTEL will not be in any manner responsible for the costs that this may imply for the awarded bidder, the same as for any cost that may bear the awarded bidder by concept of repair or replacement of any equipment. Please be advised that the awarded bidder will be the sole responsible for any increase in the payment of the insurance policies.

2.4.2.4. Training, acceptance tests and deployment phases.

2.4.2.4.1. Training

The bidder must include in its offer a training plan. Such training will have the purpose to train SUTEL's personnel into the correct use of the evaluation system in a manner that ensures SUTEL to obtain the maximum profit of such system. The training plan must include a complete introductory training and a series of refreshment courses, which will be instructed on an annual basis.

All the trainings must include the complete evaluation system leased by SUTEL, and the awarded bidder must guarantee the complete and correct functioning of such system during the training.

2.4.2.4.2. Acceptance tests

Before SUTEL provisionally and definitely accepts the equipment and the evaluation system, it is fully entitled to perform acceptance tests. The bidder must deliver to SUTEL a document identified as "Acceptance Test Protocol" and this must be performed in accordance with the guidelines approved in the document identified as "Evaluation Methods", which shall also be proposed by the bidder. Such documents must be approved by SUTEL prior to its application.

Once the acceptance tests will be completed successfully, the awarded bidder must send a document to SUTEL identified as "Results of the Acceptance Tests". The complete list of the requirements requested for this document are detailed in the bidding rules. The acceptance tests must be executed once the introductory training has finished.

2.4.2.4.3. Deployment phases

The execution of the agreement stated in the bidding rules is structured in two phases: Phase 1: Implementation and Phase 2: Operation. Hereinunder a summary of the most relevant requirements of each phase.

Phase 1: In this phase the awarded bidder must make a complete planning of the project, which should be delivered to SUTEL in a set of documents that are specified in the bidding rules as "Deliverable documents", as well as the installation of the EPMS and EPFS, the configuration of the evaluation system, it also includes the introductory training to SUTEL's personnel, the acceptance tests hereinabove detailed, as well as a first run of the evaluations and its respective report. Phase 1 starts with the project and has a total extension of 8 months.

Phase 2: This phase starts with the operation of the system by SUTEL. The awarded bidder obligations will be summarized to perform the preventive and corrective maintenance of the evaluation system, provide any support necessary, make any replacements or repairs, attend support request or breakdowns, transfer and replace the equipment, services or hired plans, generate quarterly and annual reports, give the refreshment trainings and any other obligations established in the bidding rules. Phase 2 starts once Phase 1 has been successfully over and has a total extension of 20 quarters.

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