ANNEX IIII: At Least Non Functional Requirements

Operating constraints

System shall be operated within at least 100Mpbs network cards with 100 users under the performance requirements. Software system don't need any installation requirements in the client side of the client end user hardware. There are no need to link the software to any hardware rules e.g: server IP is not required to operate the software system on the client or if the IP changed the system should operate on the client with zero configuration.

System Interface & Usability – User Friendly (easy to use):

The system should be web based software system, and support multi-lingual user interface and content (Default is Arabic/English). System should be easy to use and not complicated. The user can learn the system using the user manual and training video without help of the service provider. System interface and usability measures are (but not limited to):

- o Content search should be supported for both languages.
- o Error/Warning messages presented by the solution should be helpful, meaningful and in the context language being used.
- o Interface is defined sections & informative messages should be clear.
- o Keyboard ease of use in the sort of the fields within same page for data entry.
- o Mandatory fields should be visible to the user before filling the data, helpful, meaningful and in the context language being used.
- o Standard key functions should be used, custom functions will not be accepted.
- o User interface design should be clear, understandable, easy to learn, system shall guide the user to use its functions.
- o User have to know the version of the software he is using, what are the last changes in this version, we recommend to have this information in the login page.

Performance Requirements

The system should be highly effective and ensure efficiency. Routing applications from one point to the other along with its notifications should be almost instant, with minimum delay 10sec and a maximum delay of 1 minutes.

Reliability and Availability

System should be 0 downtime failure. Errors logging and Audit trails. Also, availability of service 24/7, how to protect from failure, a strategy for error detection, and a strategy for correction should be clear.

Accuracy and Precision

Accuracy and precision of the data not over than 0.003%, no way to have error in calculations and too many adjustments vouchers especially in accounts transfer between the MOLG and LGu's.

Data consolidation, reporting and exporting:

The system should enable the LGUs to view data in different formats, including but not limited to, PDF, Excel, XML, TXT, etc. Vendors should ensure the integration of the systems application with MS office and PDF applications without these being installed as separate applications.

Systems Integration & API:

The system should provide an open APIs to integrate GIS/Other Tablet systems/others that allow for integration with other LGUs software applications related to O&M and documentation how to perform integration with other systems.

Data Migration:

The service provider shall perform full migration of data from the current system to the new one, and allow automatic migration at time of installation of the new system.

Security Requirements & Segregation of Duties

Internal security is guaranteed as the system will allow users of the system to view what they are authorized to. The system will provide passwords for every user Logon and it is the Municipality's responsibility to ensure that passwords are kept secret with no sharing among staff. Strong encryption technique in the transmission of the data between the MOLG and LGU's.

The system should have user management features that consider adequate segregation of duties among the users and allow for the creation of roles, groups, and level of authorities in order to control accessing to the system with taken into consideration the municipalities' sizes and number of users.

Admin user should be used by IT administrator only.

Certificates of Used tools:

Software provider shall clarify all the needed tools & installations with versions that will be used in the software. Any Licenses (Database server, Application server, 3rd party tools license, else) are included in the offered price by the software provider.

Source Code Ownership

The Source Code Ownership is for _____, The source code should be kept at third party (Escrow Agreement) which should ensure that the source code is available at time of vendor's bankruptcy.

For solutions that utilize commercial-off-the-shelve software (COTS), then it is required to supply all customizations, additional modules, reports, etc. made during the project to the LGU. During the warranty and maintenance period, any changes to the running solution, will require a corresponding update and delivery of the source code of customized/additional modules, reports, etc… and the necessary supporting scripts and instructions to generate the customizations/additional modules/reports from the source code to the LGU.

Database Ownership

Database super admin (user and password per municipality) should be provided by the Software provider to MDLF. MDLF has the full rights to access the database to get data directly upon municipality approval and upon the fact of "The database & data ownership is for the municipality".

Change Management:

The Change Management Process should cover all software additional changes to the service improvements/enhancements, and Event Change.

Any standard maintenance and emergency, incident, Problem, bug fixing are included in the maintenance agreement.

All changes should go through the Change Management Process to ensure there is no negative impact on the Service, the software provider will ensure that the formal change management process is agreed and utilized by all stakeholders involved in the delivery of the Service.

Testing:

Application of developed, shall be put to "User Acceptance Testing" as it will be defined in the Acceptance Test Plan. The provider should specify the testing type (UAT/Manual), Accept test plan should be developed by the software provider as it will identify the test' methodology and the types of tests which will include but not limited to the following:

1) **Integration testing:**

Testing of all integrated modules to verify the combined functionality after integration is termed as Integration Testing. All scenarios should define the full path of the function between modules.

2) **System testing:** the entire system is tested as per the requirements. It is a Black-box type testing that is based on overall requirement & non-requirement specifications and covers all the combined parts of a system. Compliance sheet should be verified by the Software provider for that purpose.

3) **Sanity testing:** it is done to determine if a new software version is performing well enough to accept it for a major testing effort or not. If an application is crashing for the initial use then the system is not stable enough for further testing. Hence a build or an application is assigned to fix it.

4) **Smoke testing:** it consists of minimal attempts to operate the software, designed to determine whether there are any basic problems that will prevent it from working at all.

5) **GUI Interface testing:** check informative and errors messages and labeling.

Any feedback based on the functional requirements should be incorporated into the application software without additional cost. Any new processes/ functionality required by the user departments, which is not initially envisaged as a part of the scope of work shall be taken up separately at additional cost at mutually agreed terms.

Manual Testing will be considered as 20% of the total cost of the system, so software provider should be aware in the testing period, municipality is not the testers for software provider, Municipality data and employee's time are valuable to MDLF, the testing is the responsibility of the software provider only. Municipality is not responsible of any testing / bugs / errors generated by software system.

Backup & Restore Plan

Software provider should have away to backup & restore plan for protection of the municipality and disaster recovery plan.

Comprehensive Training:

For the application package installed, the Software provider is required to train the designated technical and end-user staff to enable them to effectively operate the total system. The Software provider shall carry out a detailed training needs assessment for various levels of users such as end users, heads of departments, etc.

A detailed training schedule, areas covered, time and the training literature including courseware shall be provided in two sets of hard and soft copies. Different level of training courses will have to be conducted for all officers and staff:

- Technical training will be required for IT staff that will support the system. Coordinating training sessions will be a high priority and should be done well in advance of the planned classes to allow for the resolution of scheduling conflicts.
- Training on municipality functionalities for the respective end-users using computer software
- Hands on training for all staffs and officers at each municipality itself.

- Training materials should be developed with the end user in mind and should be both comprehensive and easily understood by trainees and be in Arabic (and in English where appropriate).
- The selected Software provider shall also be responsible for re-training the operators whenever changes are made in the software in addition of bug report shows what changes made and source code version number.

Training Deliverables are:
- Training Schedule Report mentions all municipalities progress and achievements and the lessons learnt on the trainings.
- **At least 3 Field visits** signed by LGU according to the Training Schedule.
- Full Training Videos (Each video for each module).
- Full Installation Manual & Installation Media with Training Videos.
- Operational Procedures Manual (User Manual and Administration Manual) should be in English & Arabic

Support and Maintenance:

The selected Software provider shall provide continuous support to the users for a testing period of 6 months starts on the day of operation (software instalment) till end of the **One free maintenance year on whole software**. During the testing period, the software provider should get regular financial reporting for three months. All bugs & problems in the software considered under the maintenance contract and under software provider responsibilities.

The selected Software provider should confirm (through a commitment letter), that he will provide operational support and maintenance service for a period of 5 years from go-Alive date.

Software provider should make frequent monthly report to MOLG during the entire life cycle of the assignment in addition of quarter visit for maintenance in the first 6 months of maintenance period.

The operational support will be to ensure that the application system is functioning as intended and attending to addressing problems associated in operation if the application system.

The Software provider shall also carry out all changes in functionality on account of changes in applicable legislations/ statutes, rules and notifications (Government Orders) resulting in modification to the baseline requirements for a period of three years from the "Go-Live" date. The changes include all modification or alterations, which may require the changes to the systems design of the application software.

The Software provider shall control the changes using a Central Help Desk, SP have to provide and contact center for any problem resolution and trouble shooting and record the Bug report that mention what is the problem and how they solve it to MDLF.

MoLG & Software provider should agree and shall provide the space needed for the helpdesk. All other necessary infrastructure facility needed for provision of help desk and the cost associated with it shall be to the cost of the Software provider. The Central Help Desk and Contact Center shall be available on phone, fax and e-mail during office hours. It should address all the issues pertaining operation support and maintenance, which may arise at all other centers. In case the end user problems relating to Application Software provided by the Software provider are not resolved within a reasonable time

(the Software provider to specify this time in their response to this request for proposal), the Software provider shall depute its personnel to the location and provide the necessary help. The Software provider shall bear all kinds of costs such as travel, boarding, daily allowances, etc. incurred for this purpose.

Software provider shall provide a copy of their Service Level Agreement including the:
- Standard terms and conditions
- Response times
- Reporting mechanisms
- Performance standards and indicators.
- SLA costs per year (less than 10% of the lifetime license)
- Updates included in the SLA
- Installing new Server services is included in the SLA.