<Bidders must complete this checklist and include it within their bid in softcopy Microsoft Word form.
Instructions pertaining to the use of the checklist are described in the Bidding Documents. Refer to Section I: Instructions to Bidders (in particular subsection C), Section II: Bid Data Sheet (in particular subsection C), and Section VI: Technical Requirements (in particular subsection G).
Note that a summary of each requirement is provided in the template for reference. The Bidder is directed to read the Technical Requirements for the full description.
All requirements are mandatory unless there is a specific description to the contrary.
When completing the 'Code' column, 'I' should only be assigned for a general product capability that is not specifically configured or customised to provide an operational solution for MNSW. Only a small number of 'I' responses would be realistic for MNSW since the overall requirement is for specific configured or customised operation of systems (for CLP processes etc.) for MNSW.>

1 IFB Section VI Sub-Section C: Business and Application Functionality Requirements

Req't	Description of Requirement	Code (I, C, M, F, N)	Explanation for Given Code
MNSW Websites			
WS.01	**Portals** MNSW will provide a public portal (e.g., available to persons interested in registering for MNSW) and separate web portals for the four distinct user-groups: (1) Traders (2) Government Agency Officers (3) Information Consumers (4) System Administrators Each portal will provide a separate login/welcome page with explanatory notes on the MNSW services, specific online help facility for all system functions, terms and conditions of use, FAQ, helpdesk contact information together with standard login, lost username retrieval / password reset functions (including protocol for establishing the identity of the person losing those details) etc.		
WS.02	**Language** The MNSW will operate in the English language. All data held in the MNSW database will be in the English language as default. All web-page text, field labelling and reports will be provided in English.		
WS.03	**Alternative Languages (Desirable)** The Bidder shall also indicate its capability to support for a secondary language.		
Registrations			
RG.01	The system shall provide facilities for the registration of all user-groups, including: traders (individuals or companies), agents, government officers		

	(of CLP issuing OGAs and border offices), information consumers and system administrators through completion and submission of an on-line application form with relevant information for the user-group.		
RG.02	For Traders, agents, the system shall capture, at a minimum, the applicant's contact and business details, and be configurable to allow upload of any number of approvals and licenses, including any mandatory OGA registrations together with validity details of those approvals.		
RG.03	The system shall create and maintain those document approvals and licenses in a 'Trader Folder' with access limited to OGA users as authorized. Similarly, 'GA Officer' and 'Information Consumer' folders will be created for other user groups.		
RG.04	For Trader and agent / broker organizations, the system shall allow the creation of a configurable maximum (initially of 10) individual users (e.g., employees) associated with the Traders account. These employees will have their own user ID's / passwords to uniquely identify them and allow them to conduct business on behalf of the Trader organization.		
RG.05	For Importers and Exporters, the system must allow the nomination of any number of MNSW registered Agents (i.e., 3rd party companies) who may act on their behalf to prepare, submit, and receive issues CLPs for that Import/Exporter.		
RG.06	For Government Officers, MNSW shall capture all necessary user information, including national Id copies, and also allow a scanned image of the officer's signature (in jpg format) to be uploaded. [The signature will be held for embedding in generated pdf format CLPs on issue, where required].		
RG.07	Where compatible systems exist, MNSW should have facilities to invoke automatic validation of certain credentials by other government agency systems, e.g., Business Registration No. or Tax Registration No.		
RG.08	MNSW shall automatically notify applicants by email and/or SMS of the result of the application, including reason for rejection (if applicable). Such emails may follow configurable defined template/formats for ease of preparation.		
RG.09	If successfully registered, MNSW shall automatically send an email and/or SMS of the User's Id and temporary password. MNSW shall force change of temporary password after first login of each user.		
RG.10	MNSW shall support a configurable user-defined time-period for which MNSW registration is valid, and after which renewal of registration is required (tied to MNSW security policy)		

RG.11	MNSW shall offer a simplified registration renewal facility notifying the user in advance of the need to renew registration.		
RG.12	MNSW shall provide the facilities to allow the trader/officer to amend/update certain registration information, e.g., contact information, including uploading of any replacement supporting documents e.g., Business license, tax registration certificate in the Trader Folder. (This facility will be provided from within the Trader Workbench function)		
RG.13	MNSW shall provide the facilities to suspend a user (trader or government officer) from accessing the MNSW and to later un-suspend, with facility to record reason for action taken. (This facility will be provided from within the System Administration function)		
RG.14	MNSW shall provide the facility to allow cancellation of a user's MNSW registration, this may be done both at OGA officers initiation, and at request of Trader. Details on the reason for the cancellation will be recorded. [This action will not remove the user from the system but make registration account inactive for new application submissions (meaning all outstanding applications may be processed but no new applications can be submitted). (This facility will be provided from within the System Administration function)		
Trader's Workbench			
TW.01	The system must allow for the creation of a new CLP application (after the Trader / Agent has 'logged-in' and provided the Trader / Agent has a valid MNSW registration and is not suspended and in the case of employees, Agent, and employees of Agent, has the MNSW access permissions to allow for the creation, amendment etc. of a CLP application for the Trader) through opening of a blank application form (configured for the selected CLP) or copying of a prior application (made by that specific Trader) and allow for its amendment. Selection of the CLP type shall be possible by (1) selecting the CLP type by name, (2) starting with a commodity code and finding applicable CLPs, (3) starting with a GA name and finding applicable CLPs. The MNSW will use to the maximum extent possible data elements already held by the system from the Trader's or Transaction Folder for form completion, pre-populating data fields where such data already exists.		
TW.02	The system will use HS Code as the primary product identifier for CLP processing and must be captured for all CLP applications for all OGA's.		
TW.03	The system shall verify that for a particular CLP whether registration with an OGA is required and remains valid and active, and notify the Trader accordingly before allowing them to proceed.		

TW.04	The system shall validate details of an application as entered using field type and range validation and also referential checks for codes etc. and automatically identify errors and discrepancies for correction.		
TW.05	The system shall have the facility to request of the applicant all required supporting documents necessary for that particular CLP application. Electronic documents copies will be accepted in PDF format and stored in a 'Transaction Folder' associated with the CLP application.		
TW.06	The system shall be able to recognize those supporting documents required which are already held by the MNSW (within the Trader or Transaction Folder) and will not ask for their re-submission. (e.g., If already submitted at time of registration or for prior CLP application). The system shall request confirmation from the Trader to reuse such documentation already stored or to offer submission of an alternative document, subject to business rules, e.g., alternative company registration documentation would require prior approved amendment of the MNSW registration for the Trader.		
TW.07	The system shall provide the facility to save completed and uncompleted CLP applications and to retrieve at a later time for completion and submission by the Trader (e.g., ability to store 'draft' applications).		
TW.08	The system will generate and allocate to each saved application a unique reference number to be used to view and retrieve that application's details.		
TW.09	The system will allow the Trader to edit a saved draft application and allow its editing and later submission. Thereafter, MNSW will restrict the ability of the Trader to modify that application's information.		
TW.10	The system will allow facility to optionally amend certain data elements of an application information after submission by a Trader with full audit and version details recorded of what is changed, and what the original submission was. This may arise when a request for amendment, made through the OGA Workbench, is made by the GA processing the request. Any such amendments will also trigger a message to the GA to which the submitted.		
TW.11	The system must allow a trader to inspect all of its prior historic trade transactions (CLP applications and issued CLPs) ● by selection from a list of all CLP applications in the system for that Trader ● by means of a direct search of CLP unique reference number.		

TW.12	Through the OGA Workbench, CLP applications may be rejected and cancelled by the appropriate authorized officer with message to Trader on action to be taken. In the event that an Agent is acting on the Trader's behalf, such messages shall also be forward to the Trader. (This applies for all messages sent to an Agent acting for a Trader.)		
TW.13	The system must provide an MNSW mailbox facility where all messages generated by an OGA officer or MNSW administrator for attention of the Trader are maintained and accessible from the Trader's Workbench.		
TW.14	Where applications are queried by processing officers using the OGA Workbench (e.g., missing information or unclear information), the system shall notify the Trader of the Officer's query by MNSW mailbox, email and/or SMS and allow comments and additional documents to be uploaded but not allow change to any of the CLP application data elements, except as noted at TR.11.		
TW.15	The system shall automatically notify applicants of the processing result (recorded by an authorized officer using OGA Workbench) through MNSW mailbox, email and/or SMS. If the application is rejected or suspended the reason for rejection/suspension will be provided.		
TW.16	When a CLP is approved (by an authorized officer using OGA Workbench), the system shall allow the Trader to view and print a hardcopy of the CLP in a configurable designated format as required by the OGA.		
TW.17	The system shall monitor un-completed applications. Traders / Agents with long outstanding actions (as determined by a configurable date/period parameter on a per CLP and or per GA and / or per action type basis) shall be notified by MNSW mailbox, email and/or SMS messaging to take action or risk having their application cancelled.		
TW.18	The system shall allow for the Trader to request cancellation of a CLP applications at any stage, subject to business rules that shall be documented and confirmed by the Supplier when configuring MNSW for each CLP. Relevant OGA will be notified with specific message going to the officer dealing with the current step in the OGA workflow for the CLP. The act of cancellation will not delete the application from the system.		
TW.19	Trader Workbench Functional expansion for each CLP The Bid shall take into account that the Trader Workbench functional scope will expand as each new CLP type is added.		

TW.20	**Asycuda World (AW) Integration** 1. Direct Trader Input (DTI) of Customs Declarations (CusDec) remains with AW. 2. The Bidder shall describe its approach for workflows / business process engineering (BPE) / interoperation-massaging (XML etc.) to associate CLPs in MNSW with a specific CusDec. 3. Likewise, for CusDecs manually entered into AW, the Bidder shall describe its approach for workflows / business process engineering (BPE) / interoperation-massaging (XML etc.) to associate CLPs in MNSW with a specific CusDec. 4. The workflows / BPE / messaging shall address (1) CLPs that are pre-shipment and perhaps even pre-invoice, and (2) CLPs that are issued at a border.		
TW.21	Further features of MNSW exclusively used by Traders, e.g., Payment/Accounting and Reporting functionality, will be accessed from the Trader's Workbench, and are described below.		
Government Agency Workbench			
GA.01	The system must provide a facility to allow the workflow of each CLP or border clearance process to be configured according to the required procedure of each OGA (see 2.1.5 for workflow management). The Supplier shall provide a configurable general model for all CLPs and a configurable general model for all Border Offices. For the CLP general model, the configuration capability shall cover at least: workflow steps, multiple sub-workflows according to risk assessments, screen layouts, application forms and necessary attachments, CLP layouts, and fees calculations and amounts. For each Phase 1 CLP, the Supplier shall configure and deploy specific instances of the workflows based on the general model for CLPs. For Phase 1 Border Offices, the Supplier shall configure and deploy specific instances for the workflows based on the general model for the Border Offices per GA. Also note that in terms of implementation requirements, each place where a GA Workbench is to be deployed, there would be site-specific implementation requirements such as training and establishing the access control arrangements. The Supplier shall work with MNSW teams to plan and execute these rollouts to Phase 1 sites. In due course, a similar process shall occur for Phase 2 GAs and sites		

GA.02	Typically, GAs are responsible for the administration of more than one CLP type. Typically, all CLPs for a GA would be implemented with individual workflows and / or transaction screens at the same time. However, that would not preclude the possibility of implementing a subset of CLPs initially and additional CLPs at a later time.		
GA.03	The system must allow for definition of different types of actions within each workflow (e.g., face vet, verify, first approval, final approval, etc.) and of different roles for officers authorizing them to carry out any of the actions. There may also be several sub-workflows depending upon the risk-assessed treatment of an application for a CLP, e.g.: (1) 'full treatment' through a complete set of review and approval steps (2) 'low risk treatment' where less steps are required in the workflow, subject to an ability to change to another 'fuller' treatment (3) 'automatic treatment' where the system grants the CLP without officer intervention. This is analogous to Red, Yellow, Green lanes commonly used in Customs administrations.		
GA.04	The system must provide an 'in-tray' for each MNSW-registered officer listing all new and pending CLP applications pertinent to the assigned officer for the workflow-step of the CLP.		
GA.05	The system must encourage a 'first-come first served' basis for the selection of an 'in-tray' CLP application by officers with authority to process at that workflow step, and display details of the CLP application including any attached documents (view of the Trade Transaction folder with associated scanned documents). However, an ability to work on other applications must also be provided, e.g., when the officer is waiting from some feedback as part of the overall background process applicable to the step and not allocated by workflow to another officer.		
GA.06	The system must allow for the OGA officer to also select and display details of the Trader, and also Agent if applicable, including any attached registration and licensing documents (view of the Trader folder with associated scanned documents). The OGA Workbench access to data by OGA officers is subject to data protection rules: 1. Only to CLP applications and CLPs pertinent to the specific GA and to CLPs issued to other GAs for which the GA has explicit		

	authorization to access through legislation or through access granted by the Trader 2. To CLP applications only after submission by the Trader / Agent 3. Only for Trader details (1) for Traders who are registered with that GA or (2) a Trader that has submitted an application for a CLP and (3) in either case only for data pertinent to that GA.		
GA.07	The system must provide an 'action' command set per workflow step allowing the OGA officer to select for an application a predefined set of actions according to the officer's role. *Predefined actions should include but not be limited to:* (i) Rejection of the CLP application, with advice to the applicant; (ii) Recommendation of rejection with the workflow moving to a confirmation step; (iii) Cancellation of the CLP application; (iv) Suspension of the CLP application pending further information from the trader (e.g., missing documents or other information) or for action of the officer (e.g., analysis or inspection of the product). (v) Acceptance/Approval of the application at that particular step to indicate the conclusion of the officer's processing of the in-tray application and, in doing so, automatically assign to the next workflow step (and have assigned to the 'in-tray' of that next step for selection by designated officers). (vi) Acceptance / Approval at the final step with advice to the applicant		
GA.08	The system must provide for the processing officer the option to add accompanying remarks or reports (e.g., inspection findings report), including attached documents such as PDF, Excel, Word formats, to the action selected. The comments must be designated as either internal (GA officers only view) or external (Trader, Agent and OGA officers view).		
GA.09	The system must allow the recording, from a configurable predefined set of reasons per CLP type and per Border Agency action type, the cause of rejection, suspension, or cancellation of an application (to be used for later reporting and analysis) with option for officer to add additional remarks to expand on the reason for information of Trader/ Agent / next officer.		
GA.10	The system must send to the Trader / Agent a MNSW mailbox message/email/SMS message as to action taken/status of the application and any remarks intended to be sent the Trader / Agent added by the officer. All messages raised will be routed via the MNSW.		

	Note 1: The Officer may also make comments that for limited to the GA for viewing. 2: For long messages, SMS content shall be restricted to a to-be-defined number of characters with an indication that further details may be found in the Trader's / Agent's MNSW mailbox / email.		
GA.11	The system must, at the final approval step, send to the Trader / Agent a MNSW mailbox message email and/or SMS message that the CLP is issued and for payment of fees, if required.		
GA.12	Upon final approval and confirmed payment of any fees due (see section 3.7 for Payment requirements), the system will generate the issued CLP with assignment of a unique CLP issue number (which is separate to the CLP application reference number). Where applicable to the type and purpose of the CLP, provide an advice that the OGA approves the goods for clearance at border location.		
GA.13	After issue of the CLP, a 'printer friendly' copy of the issued CLP may be generated in pdf format by the Trader and authorized government officers. For CLPs that require an original signature/copy, then they will be printed at the OGA and signed accordingly by authorized officer and await collection by Trader. Until such time as any CLP requires a manual signature, a scanned image of the signed CLP shall be uploaded and associated with the Trader's Tarde Folder. The system must keep record of any such CLPs awaiting pick-up and also provide an interface that allows an officer to indicate that the CLP has been collected.		
GA.14	For CLPs that do not require manual signature, the CLP can be generated with the signature of the approving officer embedded within the pdf. This is the preferred trade facilitation action. For those CLP needing a manual signature: include a sub process for print, sign, scan and store the CLP in MNSW.		
GA.15	The system must, on issue of CLP, store the CLP copy in the Trader's trade transaction folder and allow access by relevant OGA from the OGA Workbench, and the Trader from the Trader Workbench. For CLPs that do not require a manual signature, the CLP record stored in the MNSW will have the validity of an original.		
GA.16	The system will provide facilities for OGA Officers to view status of CLP applications already submitted, and retrieve copies of issued CLPs, and generate performance and statistical reports.		
GA.17	The system shall monitor un-completed applications.		

	For Officers and Traders with long outstanding actions (as determined by a configurable date/period parameter on a per CLP and or per GA and or per action type basis)., the Officer's supervisor shall receive alerts by MNSW mailbox, email and/or SMS messaging .		
GA.18	For 'reusable' CLPs including those which have reuse limitations (validity period, repeat usage limit, product quote limits, dollar value limits etc.) the system shall track permit reusage and (a) not permit reuse outside of limits and / or (b) send messages to applicable parties (the particular Trader, Agent if any, other GA's including MRA) that the permit is nearing expiration (according to designed rules) and when it has expired.		
Workflow Management			
WF.01	The system shall provide a flexible means for the defining and enforcing system workflows for processing of all CLP and registration applications at each OGA.		
WF.02	The system shall provide easy and intuitive facilities to define and adjust workflows for processing within and across concerned OGAs for a particular trade transaction. For example, some goods require CLPs from more than one OGA; in this case the MNSW must control sequencing of delivery of CLP applications to the concerned agencies in addition to the workflow for processing CLPs within each OGA. It is preferred that the workflow definition process uses a graphical tool to identify the process steps, decision points, any parallelism, and sequencing. It is required that the workflow so defined is used at run-time to steer the process. It is required that workflow definitions are put under a version control scheme with a status. Old versions are retained and shown as decommissioned, and new versions proceed through the usual testing and deployment statuses.		
WF.03	The system shall allow the definition of a standard workflow for each process (see figure 5) but this may be reconfigured at any time to increase or decrease the number of work steps and officer roles. Any change will be easily modified by the system administrator and not hardcoded.		
WF.04	A reduced step workflow will be applied to any standard workflow processes and applied as determined by the risk rating of the risk processing facility.		

WF.05	The system shall provide easy and intuitive facilities to define and adjust data-entry forms and output CLPs and any notices and messages relevant to a particular CLP or registration application/workflow. When completing a form, the system will maximize the use of data already captured (in the Trader folder/Trade transaction folder) minimizing data entry and maximizing reuse of data.		
WF.06	The system workflow runtime engine shall 'pass' the application automatically to the next stage in the workflow once the prior stage has completed and actioned. Typical actions are those detailed at (GA.07).		
WF.07	The workflow shall allow applications to be 'Suspended' pending action by a Trader (e.g., in case of query or correction), or subject to action of the concerned OGA officer (e.g., in case of need for review of product sample, on-site inspection, laboratory analysis or other). The system shall allow facility for recording of reason for an application being suspended. (GA.09)		
WF.08	The WMS shall provide ability to easily track the status and location (assignment) of applications through the workflow and report current status and any reasons for being suspended, rejected, or cancelled.		
WF.09	The WMS shall provide means to report staff performance / work-rate based upon CLP application assignment and time for processing. (Time and date stamps will be recorded on all application once an action is taken).		
WF.10	The WMS shall provide alerts on application processing times exceeding set thresholds and any such application exceeding the thresholds should to be brought to the attention of the supervising officer for direct action (e.g., escalation of processing). The thresholds will be parametrized and should be easily changed by duly authorized OGA officers.		
WF.11	At each workflow step that shall have entry and exit time stamping and this will feed into service level reporting.		
WF.12	There shall be system administrator's dashboards for workflow instance monitoring for each active workflow. System administrators shall also have facilities to remedy defects in workflow progressions.		
Risk Processing			
RP.01	The system must provide the facility for OGAs to select (switch on) within MNSW workflows whether to use risk processing for their CLPs.		

	For those not selecting to use risk processing, 'standard workflow' processing configured specifically for the CLP / Border Agency will apply. (see workflow section 2.1.5).		
RP.02	The system must provide, for OGAs electing to use Risk Processing, the facility to assign a risk rating to each application based on set of risk criteria. (a risk / selectivity engine). The risk / selectivity engine will determine a 'risk rating' for the selected CLP application.		
RP.03	Risk criteria will be determined by a combination of any data element of a CLP application and defined in risk 'profiles'		
RP.04	The system must provide configurable settings for each OGA to establish thresholds for low, standard, and high levels of risk based on the risk rating received.		
RP.05	The system must, having determined the risk rating, utilize the same to determine the OGA workflow, e.g. ▪ First receiving officer processing the application, with an option for that officer to: (i) Overrule a lower risk rating and redirect the application to a standard workflow processing; or (ii) Confirm a low-risk rating (a trade transaction deemed of less risk) allow a reduced step workflow to commence; or ▪ For a high-risk rating (a trade transaction deemed of more risk), signal by means of a suitable data concerning the perceived risk of the transaction added to the CLP application (internal use / view only) for use in MNSW in the ensuing workflow steps, so that the processing officers should undertake more thorough checks of documents and/or inspections. ▪ Automatically route the workflow past the RO to the AO who may redesignate the risk rating and reroute the workflow to a fuller treatment.		
RP.06	The system must provide the facility for OGA officers undertaking processing to access and view text description of the risk rating and related intelligence information of the selected transaction to inform their decision making.		
RP.07	The system must provide the facility to record feedback as to result of risk rating and decisions concerning the treatment of a transaction (as a further source of intelligence information to profile definition).		

RP.08	The system must provide analytical reports detailing the effectiveness of risk profiles in identifying specific outcomes in order to assist with the ongoing tailoring of the profiles		
RP.09	The system shall have a risk management administration system including: (1) risk administration teams (either on a per GA basis or collectively across MNSW) who are able to create, modify, test, commission and decommission any risk rating rules from active use. (2) The risk rating rules settings shall provide to the risk administration teams a 'language' that a. uses Boolean operators (AND, OR, NOT) and comparators (<, >, <=, >=, =, !=) b. can use any field on a CLP application to i. compare it to another field ii. compare it to a set of constants iii. combine it with other fields and then make comparisons to other fields and constants iv. use and compare to risk profile parameters in the database, e.g., Trader / Agent 'trust' status, commodity status, COO status, commodity / COO status v. assess circumstances such as: 'new trader', 'new trader / commodity' combination, 'new COO / commodity' combination c. can be used in combination with other risk rating rules (3) The administration system will have a means of controlling versions and tracking modifications to the database of risk rules. (4) The system shall have a scheme for allocating risk profiles to Traders and Agents, preferably with feedback from the results of processing CLP applications and officer ratings of the Trader / Agents trust status. The exact specifications of the risk-based approach, application of risk rules, and risk administration schemes etc. are not fully defined in these Technical Specifications. Bidders' approaches and experiences will be assessed to determine coverage and workability.		
Payment / Accounting			
PA.01	The system shall provide tools to use and manage a schedule of service fees/charges for use of the MNSW service by a Trader.		
PA.02	The system shall provide tools to use and manage a schedule of fees/charges for processing of all CLPs of all OGAs.		

PA.03	The system shall record automatically against a CLP application the total fees and charges incurred in processing of that CLP application.		
PA.04	The system shall provide facilities for an OGA officer to record any additional charges, such as testing fees or penalties, against a CLP application and have these added manually.		
PA.05	The system must be able to generate a single invoice against all charges and fees imposed against a Trader for use of the MNSW (e.g., the service fee) and those raised by an OGA for CLP application processing and other related charges).		
PA.06	The system must provide a flexible payment point (and more than one if the business rules demand that) within the workflow of each CLP process. GAs must be able to determine, within their CLP workflow, whether Payment must be made, either: (i) At the start of the process, after acceptance of the CLP application and before processing proceeds; or (ii) At the end of the process, after processing has been conducted and CLP approved for issue; or (iii) At both start and end of the process in cases where payment must be made in advance of processing, but then certain additional fees are determined at the end of the processing.		
PA.07	The system must provide seamless facilities for making electronic payments through relevant payment/financial institutions (banks, credit cards, mobile phone payments and others as available and relevant to the country). The successful action of making an electronic payment will generate a MNSW receipt, update status of CLP applications to 'paid' and facilitate movement of CLP application to next processing step in its workflow. [Upon notification of payment due, a Trader may select through MNSW Trader Workbench to make an e-payment and will be directed to the appropriate payment facility selected. After payment is made the Trader will be returned to MNSW Trader Workbench where the MNSW receipt will be automatically generated, and status of CLP transaction updated accordingly. Electronic payment may require traders to open payment accounts with those banks/institutions through which e-payments are to be processed] The Supplier shall work with the Purchaser teams to settle the arrangements to enable MNSW to offer e-payment facilities. Malawi Revenue Authority offers e-payment facilities and the lessons learnt from implementing may benefit MNSW implementation.		

PA.08	The system must also allow payments to be made manually against invoices raised, e.g., at an OGA cashier or bank, with proof of payment being presented afterwards to designed MNSW payment counters at an OGA or other government facility. [The action of validating manual payment on MNSW will generate receipt of payment, update status of CLP application to paid and facilitate movement of CLP application to next processing step in its workflow.]		
PA.09	The MNSW must maintain a ledger in order to account for all payments received and provide a range of accounting reports on trader's payments activities, monies received / owed at OGAs, services fees and reconciliation reports.		
PA.10	The Bidder's offer shall describe its approach to bank account reconciliation.		
PA.10	The Bidder's offer shall describe its approach to 'account-based' traders, i.e., those traders that are approved for deferred payment arrangement, perhaps under bond, with payment on a periodic (e.g., monthly, basis.		
Information Services Workbench			
IS.01	The Information Services (IS) Workbench shall provide authorized users access to a specific set of 'trade' reports for information consumers. Such reports shall 'anonymize' data so that Trader identity information is not disclosed.		
IS.02	The IS Workbench must provide the facility for information consumers to construct tailored reports specific to their user needs, and store those reports for future use.		
IS.03	The system must provide tools for the extraction of report data in suitable formats, e.g., Pdf, Word, Excel, and raw data format.		
IS.04	The system may provide additional tools for analyses of data as extracted.		
Management Information			
MI.01	The system shall provide a flexible means for defining system reports / Business Intelligence information through delivery of a widely used reporting / BI product and data warehouse separated from the main transaction database.		
MI.02	The system shall provide for authorized users a management information dashboard with graphical and summary representations of key performance information indicators for management oversight. The system shall provide monitoring of OGA transactions (overall and by individual OGAs) and performance information and updates to the MIS dashboard in real-time.		

MI.03	The system shall provide a suite of management information reports on key performance indicators per GA (e.g., CLPs submitted, under processing, issued, suspended, rejected, average times at each station, workload and processing times of officer, average and variance of processing queue lengths, etc.) This information shall be presented with comparisons to service level targets that are to be maintained in the system on a per CLP, per site basis.		
MI.04	ystem shall allow for the generation of the management information and performance reports on-demand or scheduled basis and shall allow for their dissemination using various means of communication including email.		
MI.05	ystem shall provide for authorized users access to a suite of standard statistical reports applicable to all OGA's and CLP data elements.		
MI.06	ystem shall allow for the generation of statistical reports on-demand or on a scheduled basis.		
MI.07	ystem shall provide an ad-hoc reporting tool available to a non-technical user, and that allows the creation of new, or modification of any standard reports, for reuse or sharing.		
MI.08	ystem shall allow for the export of all reports into various standard data formats (e.g., PDF, Excel, Word etc.), and also for converting to a graphic presentation format (e.g., bars, pie-charts, etc.).		
MI.09	system shall contain dashboards that provide for real-time process monitoring.		
MI.10	Service Level Agreement (SLA) setting and reporting: The system shall provide interfaces to create, modify and operationalize SLA data (with validity dates since the SLA will change over time) for MNSW Operator and for each GA as a service provider. Reports may be prepared for any meters (workflow time stamps, transaction timestamps) and at any level within the workflow, with selection by data and time range, workflow subset or element ranges, user, and other ranges. The system must provide a platform for exchange information with stakeholders in line with agreed Service Level Agreements		

	reports are to be available to authorized users at within Government of Malawi.		
System Administration Workbench			
	User Management Function:		
UM.01	The system shall deliver a role-based security model to control which functions are available to each user.		
UM.02	The system shall allow the creation of user profiles and the assignment of one or more user profiles to a role and one or more roles to a user profile.		
UM.03	The system shall provide the means for a user's profile information to be updated together with role re-assignment at any time by the system administrator (or a designated officer at the OGA, or by designated user for Trader and Agent employees).		
UM.04	The system shall allow a user to be suspended and cancelled (but not deleted from the system).		
UM.05	The system shall provide an initial password to be changed by the user on first login. Passwords must enforce minimum security standards as established (e.g., minimum length, alpha—numeric, upper-lower case combinations).		
UM.06	The system shall include a '3-strike' rule (configurable number of 'strikes') on usage of incorrect passwords.		
UM.07	Correspondingly for UM.06, and also in case the user calls requesting a reset, e.g., if password is forgotten, there shall be an administrator / help desk reset of password function used after a Standard Operating Procedure (SOP) for over-the-phone caller authentication.		
UM.08	The system shall enforce auto-change of password after a configurable, user defined period of time and with advance notice provided.		
UM.09	The system shall provide user login / log-out history as well as an audit trail for all action events of a User.		
UM.10	The Bidder shall describe its capabilities to integrate with a Single Sign-On (SSO) facility.		
UM.11	The Purchaser also prefers to have the option to include second-factor authentication on log-in. The Bidder shall outline their solutions capability to support this and the necessary technical infrastructure that the Purchaser would require.		
UM.12	The system shall address handling of complexities related to access control, username and role definitions and assignments / reassignments, for (a) traders having employees that interact on behalf of that trader, (b) agents acting on behalf of more than one or more traders,		

	(c) agents that have employees acting on behalf of the specific agent, (d) officers within MNSW-participating GAs.		
UM.13	A designated 'lead user' of a MNSW-registered Trader or Customs Agent would use MNSW functions to allocate usernames and roles to their employees who use MNSW and will use MNSW functions to administer those allocations		
	Systems Administration function:		
SA.01	The system shall provide a dashboard for day-to-day system administration. Data to be displayed on the dashboard should include: (i) Connectivity of all sites/users, identified by site, username, and profile. (ii) Utilization of system resources The system shall include tools for rectifying connectivity issues – e.g., users said to connected but not able to use the system, and sessions that have 'hung'.		
SA.02	The system shall manage system and security logs and identify potential issues with notifications / alerts for serious system or security issues.		
SA.03	The system shall manage all system Back-ups, through manual and automatic means. If this would be implemented through Technical Infrastructure to be acquired separately, the Bidder shall explain its approach.		
SA.04	The system shall apply system updates and patches automatically.		
SA.05	The system shall perform automatic system performance tuning and notify / alert when system performance tuning is required.		
SA.06	The system shall maintain an audit trail of both user and administrator actions. These records shall be searchable and viewable by authorized users with selection based on at least function identifiers, date and time ranges, and username.		
SA.07	The system shall provide an intuitive means to set-up the system which will include creation and maintenance of, for example: (i) GAs (ii) CLPs for those OGAs, and assign HS Codes/Tariff range each CLP (iii) The form and workflow for each CLP		
	Database Administration function:		
DB.01	The system shall provide Database monitoring, performance optimization to be done automatically.		

	If this would be implemented through Technical Infrastructure to be acquired separately, the Bidder shall explain its approach.		
DB.02	The system shall provide automated database backup and recovery tools. If this would be implemented through Technical Infrastructure to be acquired separately, the Bidder shall explain its approach.		
DB.03	The system shall support the capability for scripts and documented methods to transfer and replicate data from one database to another and exporting data to other applications. Several such sets of scripts and methods maybe expected during the period of the Contract, however, the specific details are not known at this time. The Supplier shall provide for two indicative instances for scripts and methods for databases and purposes to be defined during implementation, together with itemized costing (by skill type and quantified days of inputs and unit prices) for implementing such scripts and methods. These will be taken into account in the overall evaluation of Bids.		
DB.04	The system shall provide a messaging facility to notify and alert users when the system/ database is unavailable. If this would be implemented through Technical Infrastructure to be acquired separately, the Bidder shall explain its approach.		
DB.05	The system shall enforce control of privileges and permissions to database users		
DB.06	The transaction audit log shall include the timestamp and username for all system changes. This applies to every create, update, 'delete' transaction in the system. 'Delete' – no records actually physically deleted, but are logically deleted only. This applies to business transaction records and data, to risk management records and data, to system records and data including configuration records and data and reference table records and data.		
Content Management			
CO.01	**Content Management** The system must enable the publishing of different types of content that includes webpages, electronic forms, documents, media and other rich web content		
CO.02	**Document Storage** The system must be capable of storing both structured and unstructured documents and associated metadata. There should no restriction regarding the format of the document to be stored; it shall be possible to store text documents, images, video, etc.		

Notification Module			
NT.01	The system must support the issuance of notifications across multiple communication channels (account dashboard, email, SMS, etc.) Email and SMS will require 'gateway' products to be acquired separately with the Technical Infrastructure, however, the Bidder shall describe here its capabilities to interoperate with these products and briefly describe the operational model for effective deployment of these.		
NT.02	The system must allow Traders and Agents to change their notification settings and communications preferences		
NT.03	The system must support the issuance of notifications across all relevant functions and should allow the Traders and Agents to personalize their notification preferences for each function associated with their profile.		
NT.04	The system must allow users to retrieve and view historical notifications		
Configuration and Customization Management			
CZ.01	**Service Configuration and Customization** At a minimum, the system must allow authorized users to add, edit, delete, or reconfigure: ● Electronic Application Forms, Notices, CLPs, and messages ● Workflows ● Business Rules ● Government Agencies (and their users) ● User interfaces The system must provide to the maximum practical extent, full configuration facilities (without the need to modify source code) for all business needs. Bidder must describe in detail the tools available to support ongoing configuration and customization. Refer to footnote 2 for definitions of configuration and customization.		
CZ.02	**Validity date ranges** All configuration items shall have validity date ranges, and these shall be used throughout the system to select the applicable rule pertinent to the transaction being executed. The versions of each configuration item shall also have change history including the status (e.g., proposed, test, operational) and the reason for the change (a free text field).		
Reference Table Maintenance			
RT.01	The system shall provide CRUD (Create, Update, Delete) facilities for all required system Reference Tables.		

RT.02	All records of the Reference Tables will include validity period (start/end dates) to indicate when those records would be active/expire. In operation, when using reference tables, the system shall use the table values valid and applicable on the date appropriate for the transaction. The versions of each reference table item shall also have change history including the status (e.g., proposed, test, operational) and the reason for the change (a free text field). Refer also to DB.06		
RT.03	All Reference Tables will follow recognized international standards where applicable e.g., WCO / UN etc.		
RT.04	The system must provide for time-based table versions for certain tables (e.g., HS Codes, tariffs) where changes to the codes may apply from a certain date but where the old codes still apply to live data in the system created prior to the change.		
RT.05	The Bidder shall provide a list of the reference tables include in its NSW-Base-Product proposed for MNSW.		
Border Coordination and Clearance			
BC.01	The system shall provide the means to notify all concerned OGAs of arrival of goods of interest arriving at the border, and of linking this notification with applicable CLP. Notification will include Customs, logged in as a user of a MNSW at a specific border. Means of notification shall include: (i) Manual notification by trader of arrival of goods/use of a particular CLP used for clearance (ii) Automatic notification upon submission of Customs declaration linking with CLP in ASYCUDA World		
BC.02	The act of notification will initiate the border clearance workflows of applicable OGAs. Where more than one OGA, and will generally always include MRA Customs, is involved in border inspection/clearance procedure MNSW will notify all involved OGAs and provide a facility to coordinate planning and execution of a joint inspection of goods at Technical Authorizer work step of each workflow.		
BC.03	If the OGA has implemented a risk-based processing procedure, an assessment of the risk of the particular goods/transaction will notify the officers of actions to be taken and the perceived areas of risk for control purposes, this may include need for (i) documentary checks of the transaction documents/CLPs (ii) physical examination of the goods.		

	(iii) removal of goods to special locations, e.g., quarantine.		
BC.04	Where inspection is required, a notification message will be sent to airport/terminal operator where applicable for movement of container/cargo to an inspection area, as determined by lead inspection authority, also noting the requirement for coordinated inspections (refer BC.02).		
BC.05	Where more than one OGA is involved in the inspection/clearance of the cargo, only when all OGAs have given their approval to release may notification be provided to Customs to advise of successful completion of OGA formalities and recommendation to issue the release order. This process could be workflow managed in MNSW with an eventual 'all OGA formalities completed' message (or similar) with the details of those clearances forwarded to Asycuda World for use in its Customs Declaration processing by MRA.		
Manifest Submission			
MS.01	**Port / Airport Community System(s)** - Exchanges data with MNSW to: a. Provide advance notices of goods arrival, through transmission of cargo manifests and sharing with Customs and OGAs (where permitted under law). Manifests will be submitted in CUSCAR format to MNSW either by agents/airlines directly or through a central authority e.g., Airport/terminal operator, as national regulation may dictate. MNSW will receive manifest information, store and make available for viewing by OGAs and onward transmission to ASYCUDA World. b. Transmit container/cargo location information. Where request is made through MNSW, the terminal operator will send to MNSW the cargo location information. c. Receive cargo movement requests. In the case where risk processing has highlighted need to inspect cargo, the terminal operator will be informed of container/cargo to be moved to inspection areas. d. Receive cargo release instruction. In the case where cargo has been cleared for release/loading the terminal operator will be informed of container/cargo to be released by MNSW.		

2 IFB Section VI Sub-Section D: Other Technical Requirements

Req't	Description of Requirement	Bidder's response
System Architecture and Platform Requirements		
SR.01	**Systems Architecture Diagram** The Bidder must provide a systems architecture diagram with descriptive narrative for the application software that complies with the MNSW deployment strategy as illustrated out in Section C paragraph 2.1. In the response to this RFP, the Bidder must provide a system and technical architecture at least including: ● Application layer including sufficient components to meet the functional requirements ● Data layer ● Integration layer including integration and interfaces between these components ● Presentation layer	
SR.02	**Blockchain support** The Bidder shall outline its experience implementing Blockchain technology for Single Window and the capabilities available in its proposed solution.	
SR.03	**Support of Open Standards** The system must support open industry standards for interoperability to include: ● Service definition: WSDL, XML, ebXML ● Transport protocol: HTTP, HTTPS, SMTP, FTP ● Message format and protocols: SOAP, WS-Addressing ● Other Web Service Technologies like Json over https ● Web service interoperability: WS-I profiles In the response the Bidder should detail which standards are supported for which services.	
SR.04	**Platform Specification** The Bidder must provide details of the indicative technical infrastructure specifications for the implementation platform to be procured separately by the Purchaser. These specifications shall include the specifications of system hardware, operating and system software, network, and other platform components they recommend in order for proposed application software system to meet the functional and performance requirements specified in this RFP for the user populations and business transaction rates included in the tables in attachments to these Technical Specifications.	

	The proposed system must be provided at least the following platform related details: ● Hardware Specification for data centre physical servers, data centre fabric devices, data centre data communications devices, data storage devices ● Data centre virtual server layouts (mapped to physical hosts) ● Operating System Specifications including for virtualization software ● Database Management Specification ● Programming Language and application software system engineering environment ● Platform Environments Software Specification – refer to TS.04 ● Infrastructure and Network specification including interconnections to GoM and MRA networks and Internet Service providers, with dual channel connections is expected ● Data Security devices, software, and architecture Specifications for database backup ● Network Security devices, software, and architecture Specifications – a multizonal layout segmenting internet traffic by Traders, Agents, Information Consumers, and the public from traffic by government officers is expected ● Client device / end-user device interface Specifications: All MNSW business functions shall be available over the internet for external users on devices with thin client architecture whereby user access to the system will be through any common web browser for Windows and Apple computers ● Mobile client devices: The majority of functions for Traders / Agents and also to some extent for Officers, shall be available through mobile apps. List the functions available through the mobile app as standard or through configuration or through customization. The proposed platform must comply with generally accepted standards while also noting the Purchaser's preferences for no or low license fee/open-source products, as described at Section B paragraph 1.3 and elsewhere in these Technical Requirements: ● Client Operating System: Windows ● Operating System Software – Unix, Linux, Windows Server ● RDBMS – Hardware Independent, Operating System compatible – refer also to section 1.5 regarding Oracle RDBMS at MRA ● Programming Language – J2EE/JEE/.NET or other widely used software engineering language for web-based application ● Security System: PKI and Active Directory	

	In the response, the Bidder must specify the required platform components in sufficient detail and sizing for the MNSW implementation. The recommended specifications shall use the CLP transaction rates for Phase 1 and Phase 2 detailed in the Attachments and project these with a 10% p.a. growth factor and size the technical specifications for 5 years growth.	
SR.05	**Environment Specification** The Bidder must provide indicative technical infrastructure specifications for all environments required during the course of the MNSW project, to include the following: ● Development environment ● Testing environment ● Training environment ● Production environment ● Backup (disaster recover) environment Bidder must indicate where multiple-purpose environments are recommended, if any (e.g., use of the backup environment for development, testing or training).	
SR.06	**Data Model Specification** The Bidder must confirm data model compliance of its base product and all developments for MNSW with the World Customs Organization Data Model Version 3 (preferably 3.10.0). The proposed system must be documented in accordance with industry standards, and include: ● Entity Relationship (ER) diagram ● Logical Data Model diagram ● Data Dictionary for all data elements Bidder must also provide sample documents to allow assessment of the quality of the documentation.	
SR.07	**Performance Specification** The application software working on the Bidder's indicative technical infrastructure specifications for the production and backup (disaster recovery) platforms should provide no impediment to achieving the availability and response times targets as follows: 1 System Availability: a. Near 24x7 operation of the MNSW servers and network as observed by Traders and Agents, (service unavailable only at agreed down-time – nominally a maximum 8 hours each Sunday from 12:30 a.m.) b. For GA Users:	

	i. normal office hours: Monday to Friday, 07:00 to 17:00 except gazette holidays with no downtime in normal hours ii. extended office hours: Monday to Friday, 17:00 to 22:00, Saturday: 08:00 to 17:00 c. MNSW available for non-interactive services near 24x7. 2 User transaction Response Time minima: a. Dual site replication: The data held at the two sites when both operating normally to be separated by not more than 1 minute of operation at either site b. GA sites connected by GoM network: Message response time: i. not more than 3 seconds, 90% of the time ii. not more than 30 seconds, 99.9% of the time as measured by the time that a message is sent from a user device until the time that the acknowledgement message is received back at that device from the MNSW central site c. Traders, Agents, other users connected other than by the GoM network Acknowledge message response time: i. not more than 5 seconds, 90% of the time ii. not more than 1 minute, 99.9% of the time as measured by the time that a message is received at the MNSW central site until the time that the acknowledgement message is sent from the MNSW central site – no commitment can be made concerning the response time through the internet *Notes:* *1 It is recognized that hardware and operating systems software vendor is a major contributor to reliability and response time targets, and this is not integrated with this requirement except to the extent that the Bidder shall (1) recommend a technical infrastructure requirement with the Bid (refer to TS.03) and (2) if awarded the contract: provide a comprehensive recommended technical infrastructure recommendation for the full solution during implementation. Refer to TS.09.* *2 The Purchaser would seek separately to implement a near 24x7 operation of its web-available ICT services for MNSW.*	

	3 *The Purchaser intends to acquire technical infrastructure and operate the full technical infrastructure service (dual redundant site and network channels) for at least 90% of agreed service hours (24x7), with single site / single channel down-time (i.e., operation in degraded mode) to allow for system maintenance of not more than 8 hours per week.* **4** *The Purchaser would eventually seek separately to implement 24x7 help desk and customer service facilities (i.e., as a minimum telephone link to be available 24x7)*	
SR.08	**Security Specification** The proposed application software system together with the technical infrastructure to be acquired must provide security services for: ● Authentication ● Authorization ● Role Management ● Threat / Intrusion Identification ● Audit ● Data Encryption In the response the Bidder must describe proposed security services for each of the defined areas and the method by which the security measure is achieved.	
SR.09	**Technical Infrastructure Licenses** The Bidder must specify in its recommended technical infrastructure specifications all necessary licenses for all environments required for the operation of the MNSW. Licenses must be perpetual where applicable. Third-party, time-based licenses must be valid through and including the post-warranty period. Licenses may include but not limited to: ● Enterprise Server Operating Systems (Original and Supporting licenses) ● Enterprise RDBMS ● Antivirus and other security software licenses ● Any other required Middleware, Third Party and Supporting Applications licenses	
SR.10	**MNSW Application Software licenses** In its Bid: 1 The Bidder shall offer MNSW Application Software usage licenses. These shall be for unlimited users and perpetual and provide GoM with full rights to modify and enhance the software.	

	2 The Bidder shall offer to provide all MNSW source code. The Bidder shall offer any and all 3rd party application software licenses necessary to meet the MNSW requirements.	
SR.11	**Recommend Technical Infrastructure Specifications** Within the first eight weeks of mobilization for the project the Supplier shall review the indicative specifications provided with the Bid and update these based on its discussions with the Purchaser to further understand the Purchaser's technology preferences, deployment preferences, and any updates to anticipated transaction volumes and growth forecasts and other such matters that may be discussed.	
SR.12	**Data Harmonization** As part of satisfying requirement TS.05, the Supplier shall conduct a data harmonization exercise to align MNSW data model to WCO Data Model and also provide mapping and translation as may be required in any existing OGA systems and with Asycuda World data elements.	
SR.13	**Currency support** The system is required to support Malawian Kwacha and all international trading currencies. The length of fields for accounting amounts must support decimal numbers at least with integer part of 15 digits and decimal part of 2 digits. For payment and cashiering: a range of currencies acceptable to the Purchaser are possible, with the amounts converted to Malawian Kwacha amounts using an exchange rate on the date of payment.	
SR.14	**Data Conversion / Data Take-on** In general, there will be no requirement to taken on existing data. It may prove to be advantageous to utilize the Asycuda World trader database to assist with outreach to traders and agents.	
SR.15	**Transactional integrity** The solution* must ensure message-based integrity such that the designed effects of a single exchange between end-user and the system are either entirely retained or entirely discarded with status clearly identifiable by the message originator. Recovery from service failure should be an automatic feature of the solution*. * The solution: combining the configured and customized application software, the infrastructure software (including the database manager, application server, workflow manager and SOA manager) and the operating procedures.	
SR.16	**Database security - encryption**	

	The solution* shall provide database security through encryption, with data administrator functions accessible by very limited number of authorized system administrators and with all such transactions securely and reliably logged and auditable.	
Hardware Compatibility Requirements		
HW.01	**Hardware and Network Equipment** Bidders must specify all necessary server hardware, data storage and network equipment to enable the full operation of the MNSW and environments of TS.04. The system will be installed in the MRA Headquarters Data Centre, Blantyre with backup system installed in Lilongwe. Proposed servers should be rack mountable and supported by long hour viable power backup systems. The Bidder will be responsible for the installation and testing of the MNSW software solution on the server hardware and network facilities and ensuring full system operation.	
HW.02	**High Availability and Redundancy** Hardware specification must consider need for a high availability (HA) solution to provide uninterrupted access to data, even if a server loses network or storage connectivity, or fails completely, or if the application running on the server fails. A HA solution must consist of at least two servers that "share" common data storage in a clustered or virtualized environment. Data is saved to this storage, and if one node cannot provide access to it, the other node must be able to take client requests. ● HA solution must be across physical servers, virtual servers, and SAN data storage ● HA solution software must be provided with the servers and should be from the same OEM ● HA solution must support automatic failover for both servers and SAN storage ● HA solution must be available at both sites primary and backup data centre locations	
HW.03	**Failover and Load Balancing** The primary database and application servers will reside at MRA HQ, Blantyre production data centre. The secondary backup database and application servers must be established in Lilongwe at the MRA Disaster Recovery Site.	

	The system must manage load balancing whenever the concurrency is high and must manage a redundant or secondary unit upon failure of the primary database. There shall be concurrent, load-balanced application servers and webservers. All network equipment and devices specified shall have the ability to failover to a redundant or secondary unit upon failure of the primary. The secondary backup system should be able to operate MNSW fully and provide its service at the time of failover of the primary system.	
HW.04	**Disaster Recovery Specification** The proposed system must support transition from primary site to the backup site for disruptive events such as fire, flood, or earthquake. The Bidder must provide details of the system configuration, connection between different systems and transition process. The maximum acceptable time for transition from the primary site to the backup site is 2 hours. That is the Recovery Point Object is not more than 1 minute as described at TS.06 and the Recovery Time Objective is not more than 2 hours, assuming external factors, i.e., data communications availability and serviceability on common carriers. The Bidder must include disaster recovery site licenses for the proposed components	
HW.05	**Network Environment** The Bidder must propose a network architecture that enables the core MNSW environment to be connected in asynchronous mode with the primary and backup environments, and via internet/private WAN to all necessary users' classes.	
HW.06	**Supplier's Development Environment** The Bidder's offer shall include any and all hardware and software that it needs for a secure, well-managed development environment that thew Bidder's team would deploy and use for MNSW development. This would include: ● Repositories and tools for system engineering documents and source code ● Repositories and tools for configuration control (version control) tools ● Technical infrastructure for development, testing and training	
Interface Requirements		
User Interfaces		

UI.01	The web-based user interface must be accessible by the remote user (e.g., Trader, OGA or Information Consumer) with minimal or no configuration needed on their behalf and with minimal installation of third-party software (e.g., Java Virtual Machines, Flash Players etc.)	
UI.02	The web-based interface must provide backward support of up to 2 years for major web browsers and in particular Microsoft Internet Explorer/Edge and Google Chrome and Safari at a minimum for any web-based components. They must support a minimum screen resolution for desktop devices of 1024x768 and avoid side-scrolling under any circumstances.	
UI.03	The MNSW should provide access from mobile devices using Android and iOS with the same functionality as that of the desktop/web browser version for use on smart phones or tablet computers. Additionally, a mobile device application (mobile app) version is required that will provide a 'light' interface for creation and submission of CLP applications, tracking applications and receiving/viewing issued CLPs.	
UI.04	All data submitted via the client-side user interfaces must be sufficiently validated to ensure correct data capture before submission into the system's database for processing. hall include field-type validation consistent with the field-type, within-form rule (such as arithmetic calculations among fields) and, where applicable, referential checks against database tables.	
UI.05	The client-side user interfaces must be user friendly and support the user's ability to efficiently learn, understand and use the system, accommodating novice and expert users. uld be preferred if the system conforms to the W3C standards for accessibility as defined in the Web Content Accessibility Guidelines (WCAG 2.0 – level of conformance AA).	
UL.06	Context-sensitive Help The system shall provide context sensitive help, preferably at the field level and no less at the screen level. ki' approach to proposing improvements to help text would be beneficial.	
UL.07	User Menu Available functions shall be accessed through menus which may consist of tabs and pull-down lists. Short-cut keys and other common methods may be available but only so that functions and sub-functions are available only when access privileges have been granted to the user. 1 The system shall have tools to implement web-style, hierarchical menu access to functions.	

	2 User permissions will only allow available options to be accessed. 3 Administration messages for users would be broadcast through the menu / user's landing page	
UL.08	Partial / Fuzzy matching Where appropriate in terms of common business usage, names, addresses etc. for search fields, there should be support for partial matching with the software suggesting options according to the partial match. Where appropriate in terms of common business usage names, addresses etc. for search fields, there should be support for fuzzy matching using wildcard characters, especially for name searches.	
Hardware Interfaces		
HI.01	The system shall support interoperation with email facilities, with facility to optionally generate and send automatically standard system and user-defined messages by email. The system shall be able to interface with the most common email services for this feature. Refer also to NT.01.	
HI.02	The system shall support interoperation with Short Text Messaging (SMS) notifications with facility to optionally generate and send automatically standard system and user-defined messages by SMS. The system shall be able to interface with the most common GSM modems and/or mobile phones for this feature. Refer also to NT.01.	
HI.03	The system shall be able to print on any typical printer and shall adjust its report resolutions to fit the common A4 print size.	
HI.04	The system shall not require specialized data input hardware and shall use standard keyboard, mouse, scanner, and bar-code hardware (as may be required).	
HI.05	The system shall not require specialized monitors and other data display hardware and shall be able to work on typical standard personal computer monitors and mobile device screens.	
System Interfaces		
SI.01	**Interoperability** The Bidder must propose an integration solution that supports seamless connection with other system platforms and technologies, including but not limited to: ● Client operating system: Windows ● Operating system: Unix/Windows Server	

	• Database: Oracle/SQL Server/MySQL • Programming run-time: J2EE/JEE/.NET • Security System: PKI and Active Directory • Security providers: RSA, Entrust. • FTP Servers: Microsoft, Linux • Email servers: MS Exchange, The Bidder must specify details of their Interoperability capabilities and constraints.	
SI.02	**Application Programming Interface** The system will provide APIs including Web Service APIs for data exchange as a means of ensuring that any compliant system can interface and exchange data with it.	
SI.03	**Data Exchange Standards** The system shall support common data exchange languages and at the minimum must support eXtensible Markup Language (XML) and JavaScript Object Notation (JSON).	
SI.04	**File Transfer Protocol** The system will be able to upload and store files and images on to the server file system or on to another server via the common File Transfer Protocol (FTP).	
SI.05	**Email** ystem shall support email facilities, with facility to automatically generate and send standard system and user-defined messages.	
SI.06	**SMS** ystem shall support Short Text Messaging (SMS) notifications, the system shall be able to interface with the most common GSM modems and/or mobile phones for this feature.	
SI.07	**Application Interfaces** The proposed solution must interface with various existing systems maintained across the stakeholder community. During the requirements analysis phase, the Bidder will be required to specify appropriate interfaces based on assessment of the candidate systems. minimum, the proposed solution will be required to interface with the following systems mentioned:	
SI.08	(i) ***ASYCUDA World (ASW)*** – Exchanges data with the MNSW to: a. Receive issued CLP information: This will allow ASW to populate Customs declaration data fields at time of	

	preparation of the declaration and create ASW permits for quota control purposes; **b.** Receive document attachments where already uploaded to MNSW for a CLP application and to be re-used for Customs declaration preparation; **c.** Transmit information on utilization of a CLP after clearance of cargo (following issue of release notice).	
SI.09	(ii) ***Government Agency (CLP Back-office Systems)*** - Exchanges data with MNSW to: a. Receive CLP application information for processing through OGAs own system. All CLPs are prepared in MNSW and submitted to the OGAs with own back-office system for their processing. b. Transmit issued CLP record, as a validated and approved CLP. The issued CLP details will be stored in MNSW for sharing with other OGAs and systems as required. c. Transmit any intermediate messages from the OGA system, as to allow MNSW to relay to the trader for their response; together with receiving the response of the trader via MNSW and relaying to the OGA system. Refer to section 1.5 of these Technical Specifications for the CLP Back Office Systems. Specify levels of effort estimates by skill type and according to the rate card as described in its response to PM.04 include the cost for the existing identified Back-Office Systems (as described at section 1.5) such interoperation in the Financial Bid and confirm that this would be the basis for additional interoperations as OGAs develop their systems in parallel to MNSW deployment. Specify any and all assumptions concerning the offer.	
SI.10	(iii) **Banking/Payment Gateway;** Exchanges data with MNSW to process electronic payment by traders of all fees and charges related to use of the MNSW and collected by MNSW on behalf of OGAs. Actual implementation and data exchange requirements will depend on the means of electronic payment available in Malawi at time of deployment. In addition to the payment gateway(s) interoperation, the solution shall also be able to receive bank deposit statements.	

	For the purposes of bidding, provide a statement of expected levels of effort by skill type and according to the rate card as described in its response to PM.04 include the cost for nominally one such interoperation in the Financial Bid. ecify any and all assumptions concerning the offer.	
SI.11	**(iv) Other Government Agency Systems (Registration Systems);** Exchanges data with MNSW to allow other OGA systems to validate MNSW registration information, e.g., Business Registration No, Tax Identification No. etc.: **a.** Receive applications for registration with the GA and return response from these with approved registration details (or rejection of the application with reasons) **b.** Receive selected MNSW trader registration information, as to validate authenticity of registration elements c. Transmit response of validation to MNSW (approve/reject). The OGA registration systems have not yet been analysed and in any case may increase by the time the Supplier is engaged. The Supplier shall therefore undertake this investigation with the MNSW implementation team during project execution. For the purposes of bidding, provide a statement of expected levels of effort by skill type and according to the rate card as described in its response to PM.04 include the cost for nominally one such interoperation in the Financial Bid. Specify any and all assumptions concerning the offer.	
SI.12	(v) ***Malawi Trade Portal*** - Exchanges data (or links) with MNSW to provide the means for: a. Traders to search from within the MNSW for any measures and related procedures applicable to the import and export of goods; and b. To allow traders to initiate the application of a CLP and to allow its preparation and submission from within MNSW. lawi Trade Portal has been deployed using the World Bank Trade Information Portal toolkit.	
SI.13	***(vi) Emerging international e-transactions*** he solution should be capable of integration with emerging international e-transaction message flows such as e-phyto and regional data sharing, e.g., of CusDecs.	
SI.14	The Supplier is required to collaborate fully with the Purchaser and the owners, users, and service providers of these OGA systems in order to	

	define, agree, build MNSW-side elements of the integration, create system engineering documentation and system administration and usage instructions, test the interoperability, and approve acceptance of the MNSW-side operability. The Supplier will be responsible for the MNSW-side of these activities and products but the changes to the other systems shall be undertaken by other parties outside the scope of this Contract.	
SI.15	The system shall be able to integrate and make use of bar-code software as an alternative mode of data input to the system, and thereby provide ability to produce bar-codes on all manner of output documents (the CLPs) as may be required.	
Maintenance and Support Requirements		
SM.01	**Warranty Period Terms and Conditions** The Warranty period will begin for the delivered products after completion of Phase 1 activities, i.e., when the first 7 OGAs are live. The Bidder must provide a warranty period for all software deliverables of at least 12 months from the date of full operational acceptance, with the following services: ● Incident diagnosis and repair ● Performance monitoring and tuning services on a monthly basis with the provision of associated performance monitoring reports. ● Major product and technology releases ● Technical support ● Support for new products and/or change existing products ● Real-time access to a support web site ● Program updates and fixes (errors. bugs, enhancements, etc.) ● Security alerts, critical patch updates and upgrade scripts or tools (as available) ● Where appropriate, Warranty service must be provided by technical professionals of the original manufacturer.	
SM.02	**Warranty Period Service Level Agreement** The technical support must address all business and system software components of the provided solutions, including any 3rd party add-ons. The technical support level is: a. Service hours: 24 Hours/Day, 7 Days/Week b. All incident reporting to the Supplier's help desk shall be recorded and an acknowledgment returned to the Purchaser's first line MNSW call centre within 2 hours of receipt. c. For incidents requiring immediate response (due to its nature a	

	significant disruption to MNSW processes caused by defect in the MNSW Application Software) the Supplier shall i. provide effective circumvention instructions and install instructions within 4 hours of the receipt of the incident report ii. provided amended documentation (describing and explaining the Circumvention Instructions and Installation Instructions) to the MNSW Operator within one calendar day of the receipt of the incident report iii. for defects, provide a correction within 2 days of the receipt of the incident report d. For incidents requiring urgent response (due to its nature a significant disruption to a subset of MNSW processes caused by defect in MNSW Application Software) the Supplier shall i. provide and effective circumvention instructions and install instructions within one day of the receipt of the incident report ii. provided amended documentation (describing and explaining the Circumvention Instructions and Installation Instructions) to the MNSW Operator within 2 calendar days of the receipt of the incident report iii. for defects, provide a correction within 5 days of the receipt of the incident report e. For impacts of less scope that renders processes supported through MNSW Application Software inoperable, the Supplier shall: i. provide and effective circumvention instructions and install instructions within 5 days of the receipt of the incident report ii. provided amended documentation (describing and explaining the Circumvention Instructions and Installation Instructions) to the MNSW Operator within 5 days of the receipt of the incident report iii. for defects, provide a correction within 10 days of the receipt of the incident report f. For low priority incidents, the Supplier shall: i. provide instructions for an effective circumvention and install instructions within 5 days of the receipt of the incident report ii. provided amended documentation (describing and explaining the Circumvention Instructions and Installation Instructions) to the MNSW Operator within twenty calendar days of the	

	receipt of the incident report iii. for defects, provide a correction within 20 days of the receipt of the incident report The Bidder must demonstrate their capabilities by providing a description of their procedures, available tools, communication channels, contacts, and other related services	
SM.03	**Post-Warranty Terms and Conditions** The Post-Warranty period will begin 12 months after the start of the respective warranty periods of the delivered products. The Bidder must provide 36 months' post-warranty service from the expiration date of warranties with the following terms at a minimum: ● Incident diagnosis and repair ● Performance monitoring and tuning services on a monthly basis with the provision of associated performance monitoring reports. ● Major product and technology releases ● Technical support ● Support for new products and/or change existing products ● Real-time access to the support web site ● Program updates and fixes (as available) ● Security alerts, critical patch updates and upgrade scripts or tools (as available) ● Where appropriate, Post-Warranty service must be provided by technical professionals of the original manufacturer	
SM.04	**Post-Warranty Service Level Agreements** The technical support must address all business and system software components of the provided solutions, including any 3rd Party add-ons. The technical support level is: a. Service hours: 24 Hours/Day, 7 Days/Week b. All incident reporting to the Supplier's help desk shall be recorded and an acknowledgment returned to the Purchaser's first line MNSW call centre within 2 hours of receipt. c. For incidents requiring immediate response (due to its nature a significant disruption to MNSW processes caused by defect in the MNSW Application Software) the Supplier shall: i. provide effective circumvention instructions and install instructions within 4 hours of the receipt of the incident report ii. provided amended documentation (describing and explaining the Circumvention Instructions and Installation Instructions) to the MNSW Operator within one calendar day of the receipt of	

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3 IFB Section VI Sub-Section E: Testing and Quality Assurance Requirements

Req't	Description of Requirement	Bidder's Response
Testing Requirements		
TS.01	**Functional Acceptance Testing** The proposed implementation must include manual functional acceptance testing scripts for each component for the end-to-end solution. The proposed implementation may also include automated acceptance test tools and scripts for each component and for the end-to-end solution: ● Manual Test Scripts for each component and the end-to-end solution with specifications of expected results ● Automated Acceptance Test Scripts for each component and the end-to-end solution with specifications of expected results ● Automated Acceptance Test Engine (for running the scripts) Functional Acceptance Testing must include: ● Unit Testing ● System Testing ● Regression Testing ● System Integration Testing ● Operational Acceptance Testing	
TS.02	**Non-functional Acceptance Testing** The proposed implementation may include automated and manual non-functional acceptance testing tools and scripts for each component and for the end-to-end solution: ● Manual Test Scripts for each component and the end-to-end solution with specifications of expected results ● Automated Acceptance Test Scripts for each component and the end-to-end solution specifications of expected results ● Automated Acceptance Testing Tools (e.g., Load runner or another load generator.) Non-functional Acceptance Testing must include: ● Non-functional characteristics of the application software ● Load/Performance Testing ● Compatibility Testing ● Localization Testing ● Connectivity Testing ● Security Testing ● Stress Testing ● Compliance Testing ● User Experience Testing	

TS.03	**Other Acceptance Testing** The proposed implementation must include manual acceptance testing to establish that, ● knowledge transfer, ● capacity building and ● training activities have been properly undertaken to established standards and delivered to the agreed numbers of targeted participants.	

4 IFB Section VI Sub-Section F: Implementation Schedule and Requirements

Req't	Description of Requirement	Bidder's Response
Project Management Requirements		
PM.01	**Preliminary Project Plan** The Bidder must include in their Bid a Preliminary Project Plan containing sufficient detail to show a work breakdown structure and the sequencing and timeframes for each activity. The plan shall have a practical phasing of the system configuration, testing, implementation, and roll out including project milestones, deliverables and performance indicators that may be used to monitor progress. The Preliminary Project Plan will comprise sub-projects for at least the following: The core system ▪ For each CLP and each GA registration process o 23 across the 7 GAs in Phase 1 with the remainder in Phase 2 o 37 across the remaining 14 GAs in Phase 2 ▪ For each border agency – 4 agencies at each of 21 borders) ▪ For each interoperating system (refer to 3.3.3) ▪ For designated information consumers (2) ▪ Implementation of the system at each site where MNSW is to be operated (11 in Phase 1, 44 in Phase 2) ▪ Implementation in stages as seen from Traders and Agents Refer to Attachments. The plan shall also include: ● Project Management methods to be applied (preferably based on well-known and respected methods such as Prince 2 and PMBOK) ● System engineer methods to be applied, with descriptions of the methods on which base and some of the Bidder's proposed methods ● Any project management tool or software to be applied ● Work breakdown structure ● Project schedule that should include tasks, milestones, durations, dependencies, resources, and critical path ● Supplier staffing plan, ● Staffing plan, roles, and responsibilities for resources to be supplied by the Government of Malawi ● Project BPR and SOP activities (see also BP.02), assistance with acceptance support, communication, change control management, training, and knowledge transfer plans	

	• Deliverable acceptance procedures • Quality management plan • Risk management plan • Integration plan	
PM.02	**Project Management Structure** The Bidder must provide a description of project management structure of Bidder/subcontractor including at least the following: • Project Manager • Single Window Developer / Technical Specialist • Customs and Trade Domain Specialist • Technical Architect • Business Process Reengineering Specialist • Change Management and Communications Specialist • Software Quality Assurance Leader • Training Specialist The Project Manager, Single Window Developer / Technical Specialist, Technical Architect shall all have expertise in these roles with the NSW-Base-Product product proposed.	
PM.03	**Project Variance/Change Requests** The Bidder must provide a description of how project variances/change requests will be managed, within the framework of the procedures defined in the General Conditions of Contract – refer also to GCC Clause 39 and the *Change Order Procedures and Forms* in Section VII of this RFP.	
PM.04	**Post Implementation Support** The Bidder must provide a description of the post implementation support process, the proposed staffing, and the expected role to be played by the Government teams including new and changing roles of IT and system users. The Bidder shall include a rate card in its Financial Bid for its experts as listed in PM.02 and also for software developers of various skill types and persons of other skill types that the Bidder intends to engage for the project in the event that additional inputs are required.	
PM.05	**Change Management and Communications Plan** The Bidder must provide a change management strategy and communications plan to prepare government staff and stakeholders for any operational or process changes which the MNSW implementation will introduce. The Change Management Plan must support the specified Change Management Requirements.	

	The Communications Plan shall include public awareness activities tied to operationalization dates for MNSW. The Change Management and Communication plan shall highlight and make clear the commitments, roles, responsibilities, and resource requirements of the Purchaser.	
PM.06	**Quality Management Plan** The Bidder must provide a quality management plan and associated procedures which ensure and validate the quality of all tasks undertaken and all deliverables submitted. The Quality Plan shall highlight and make clear the commitments, roles, responsibilities, and resource requirements of the Purchaser.	
Team Qualification Requirements		
TQ.01	**Staffing Schedule** The Bidder must provide a detailed staffing schedule defining the resources category to be applied, the number of resources for each category, and the skills and experience of allocated staff. CVs for the following key roles must be provided in the Bid submission	
TQ.02	**Project Manager** The Bidder is required to provide the CV of the proposed Project Manager who must meet the following minimum qualifications: ● At least 10 years' experience in Public Sector IT implementations ● Project management of at least 2 projects of similar size and scope ● Expertise in the offered products ● Confirmation of full-time participation in the project	
TQ.03	**Single Window Developer / Technical Specialist** The Bidder is required to provide the CV of the proposed Single Window Expert who must meet the following minimum qualifications: ● At least 5 years' experience in National Single Window, Customs and Trade IT implementations ● Participation in at least 2 projects of similar size and scope ● Expertise in the offered products ● Confirmation of full-time participation in the project	
TQ.04	**Customs and Trade Domain Specialist** The Bidder is required to provide the CV of the proposed Customs and Trade Domain Specialist who must meet the following minimum qualifications: ● At least 5 years specific Customs and Trade domain experience ● Participation in at least 1 project of similar size and scope	
TQ.05	**Technical Architect**	

	The Bidder is required to provide the CV of the proposed Technical Architect who must meet the following minimum qualifications: ● At least 10 years Information Technology experience across hardware and software ● At least 5 years as Technical Architect role on at least 2 projects of similar size and scope ● Expertise in the offered products	
TQ.06	**Business Process Reengineering Specialist** The Bidder is required to provide the CV of the proposed Business Process Reengineering (BPR) Specialist who must meet the following minimum qualifications: ● At least 5 years specific BPR experience ● Participation in at least 1 project of similar size and scope	
TQ.07	**Change Management / Communication Specialist** The Bidder is required to provide the CV of the proposed Change Management Specialist who must meet the following minimum qualifications: ● At least 5 years specific Change Management domain experience ● At least 5 years' experience in public awareness campaigns ● Participation in at least 1 project of similar size and scope	
TQ.08	**Software Quality Assurance Leader** The Bidder is required to provide the CV of the proposed Software Quality Assurance Leader who must meet the following minimum qualifications: ● Professional title and eight (8) years of certified professional experience from the date of completion and approval of the academic curriculum of higher education. ● Certified experience of five (5) years in software quality assurance.	
TQ.09	The Bidder shall acknowledge that the team members listed at TQ.01 through TQ.08 shall named individual and considered to Key Experts for the project. Any changes in the persons in these positions shall be proposed to the Purchaser who shall assess, at its sole discretion, whether the replacement candidate is considered by the Purchaser to have the necessary expertise for the role.	
Business Process Reengineering Requirements		
BP.01	**Business Process Reengineering Plan** The Bidder must detail the approach to designing, validating, and securing acceptance for business process changes related to all MNSW procedures.	

	The Bidder will be required to engage with the named stakeholder organizations to validate and implement the MNSW procedures as already determined and to be applied to ensure efficient operations.	
BP.02	**Standard Operating Procedures (SOP) Consultant** The Bidder shall offer a Standard Operating Procedures Consultant to collaborate with the Purchaser's resource team to define and document the new SOP for each site where new procedures arise from the introduction of MNSW facilities.	
System Engineering and Software Development Environment		
SE.01	**System Engineering and Software Development** The Supplier must provide all the necessary devices, facilities, software, procedures that is required for its system engineering and software development tasks. The Supplier shall deploy the software and system engineering databases and source code to the Purchaser's development environment when that is commissioned pursuant to the specifications to be provided by the Supplier.	
Change Management Requirements		
CM.01	**Stakeholder Engagement Plan** The Bidder must detail the approach and method to engaging the named stakeholder organizations, building support, removing barriers to change, and promoting the MNSW program through enhanced collaboration and partnerships with networked effectiveness and meaningful participation of stakeholders. The approach must also include proactive and reactive resistance management strategies and priority actions to ensure effective change management.	
CM.02	**Institutionalization Plan** The Bidder must present the approach and method for capacity development and institutionalization planning so as to integrate and reinforce the reform into the existing strategy, structure, systems, and behaviours, and achieve sustained effectiveness of the change process. The Institutionalization Plan must also be supported by monitoring and supervision, and mechanisms of response for developmental feedback to assure the quality of interventions.	
CM.03	**Communications Plan** The Bidder must present the approach for developing a complete information-education-communication strategy and plan to support information dissemination, advocacy and sensitization and the promotion	

	of MNSW so as to achieve expected effectiveness in the process, outputs, and outcomes of the intervention. The Bidder must develop an appropriate 'Communication Checklist' to better internalize the key messages of the change process.	
Training Requirements		
TR.01	**Training Plan** The Bidder must provide a detailed training plan for the analysis, design, implementation, and evaluation of the comprehensive training program to be delivered (covering each phase of implementation) and required to successfully implement and maintain the solution.	
TR.02	**Training Scope** The Bidder's Training Plan must address all areas of training, aligned to each phase of implementation, to include: ● User training o with training materials for each and every function within the system in courses tailored to the recipient user group: ▪ Traders, ▪ Agents, ▪ GA officers and in this case per GA and per CLP workflow and per Border Agency workflow ● Technical Training o Systems Maintenance Training o Configuration and Customization Training o Development Training **o** Systems Administration Training ● Management Training	
TR.03	**Training Logistics** The Purchaser will provide the training premises for the proposed training program, which must include hands-on and practical training. The Purchaser shall provide training, under separate contract(s) for infrastructure and network connectivity based on the recommendations provided by the Supplier. The Bidder is required to prepare and set-up the required training environment in the Purchaser's premise in Blantyre for all technical training including: ● Installation and configuration of software ● MNSW operating environment	

	● Systems operations to include, but not limited to systems start-up, systems maintenance, systems backup, job scheduling, and disaster recovery In addition, the delivery of the following training must be provided centrally, regionally, and onsite: ● User training (Customs Agents, Freight Forwarders - Traders) ● Stakeholder/Government Officer training	
TR,04	**Training ware** The Supplier shall prepare training materials tailored to each CLP and end-user group. In addition to the materials, the Purchaser requires the procedures and software for setting up and managing training databases and services. The Supplier would also use the training-ware for the delivery of its training obligations. The training-ware shall comprise at least the following: 1 MNSW service definitions for training environments 2 Databases populated with scenarios to facilitate training in **all** the functions and sub-functions in all the various modules and the in concert with the training materials, with several modules capable of being operated in parallel **3** Procedures to restore training databases to known state so that courses can be run repeatedly **4** Self-paced training for the public seeking registration, and for registered Traders / Agents for **all** functions and sub-functions available to them, with practice screens and explanatory pop-ups for use of the common functions	
Documentation Requirements		
DC.01	**Business and Technical Related Documentation** The Bidder must provide documentation for business and technical related deliverables including: ● Technical manuals ● End-user manuals for each and every MNSW function organized by user group: o Traders, o Agents, o GA officers and in this case per GA and per CLP workflow and per Border Agency workflow ● Training manuals All Business and Technical documentation must be provided in English.	

DC.02	**System Related Documentation** The Bidder must provide documentation for System related deliverables including: ● Design documentation ● System operations manuals ● Installation procedures ● System integration procedures ● Maintenance and administration procedures ● License certificates ● On-site/off-site warranty certificates All System related documentation must be provided in English.	
DC.03	**Transition and Final Enterprise Architectures** MNSW will be implemented in stages – described above in Section F of these Technical Requirements. During the implementation, the business operations of the MNSW Operator and all participating GAs would need to continue. Those operations in the implementations (until the final stage) would rely on legacy systems (manual and with ICT support) and increasingly the new business processed underpinned and facilitated through MNSW. During the operation of each phase and sub-phase, the Purchaser will have a unique, temporary enterprise architecture. The Supplier and the Purchaser shall collaborate to define and document that temporary enterprise architecture (the enterprise architecture at MNSW 'release n'). The description shall cover at least the following topics: 1 Release Number and Name 2 Background, i.e., context and purpose 3 Operational period for the release 4 'Concept of operation' for the release – usage of elements of MNSW and of legacy processes – the 'concept of operations' is best described in present tense as if already implemented 5 Business processes operational (old and new and those temporarily modified) 6 Organization and people / role descriptions 7 Taxpayer engagement – approach, events, materials… 8 Release content, i.e., MNSW software functions and features operational (carried forward, modified, new) 9 Operating instructions 10 Information systems architecture (i.e., information / data flows)	

	11 Technical Infrastructure 12 Physical Infrastructure – for ICT and for workplaces 13 Training – approach, events, materials… 14 Help / support 15 Key implementation steps 16 Implications for other parties **17** Other release descriptors, if any **18** Illustrative diagrams of flows and technical infrastructure, etc.	
DC.04	**Application Related Documentation** The Bidder must provide documentation for Application related deliverables including: ● Architectural documents i.e., system architecture, entity-relationship diagrams, data models, and metadata (TS.05). ● Documentation of application configuration and customization to include functional and design specifications ● Test scripts and associated documentation ● Source code All Application related documentation must be provided in English.	
DC.05	**Project Reporting** The Bidder must provide at time of project execution the following reports: ● **Quarterly Progress Report (QPR)** o Due no later than the 5th business day of the month following the reporting period and summarizing status of each assignment component and activity against milestones, risks, outputs, and outcomes of the Project Plan. The Monthly Report must highlight outstanding issues and ramifications of the unresolved matters with corrective actions to be taken to return to planned schedule of progress or proposed revisions to planned schedule. It may also include resources that the Supplier expects to be provided by the Purchaser and/or actions to be taken by the Purchaser in the next reporting period and any other issues or potential problems the Supplier foresees that could impact on project progress. o Each QPR shall be dated and contain at least the following: ▪ reference, date, title, and version control (author, versions and dates and reasons for each version). ▪ 2-page summary of the report including an overall assessment of the status and progress of the project by the	

	Supplier's project manager ▪ list of Activities planned to have been completed during the end of the quarter by reference to the Detailed Project Plan, indicating for each whether completed or not for those not completed: status, reasons, and impacts. ▪ cumulative list of activities due to have been completed by the end of the month together with completion status, and explanations concerning tasks due but not completed ▪ status may be 'not yet started', 'started', 'completed'. ▪ list of Products planned to have been completed from project commencement to end-of-quarter by reference to the Detailed Project Plan, together with the completion status. [A product may only be shown as 'completed' after the acceptance of the product by the Purchaser. Other completion status may be indicated: 'delivery not yet started', 'delivery commenced', 'pending acceptance'.] ▪ list of Activities planned to be completed in the coming quarter, highlighting the commitments sought from the Purchaser and other parties. ▪ Project Issue Report (PIR) database summary, including: cumulative total and quarterly statistics: number raised, number raised by determination (defect, change, usage error / misunderstanding, other), number closed, number closed by determination, number open, number opened by determination. ▪ Change Notice history listing all change notices raised by either party with: brief description, whether put into effect (after agreement by both parties), whether a change in Detailed Project Plan or in the Contract or both. ▪ Revised Risk Assessment and mitigation summary ▪ listing of requests for acceptance certificates issued to date, describing: date and subject and date and reference of any acceptance certificate issued. ▪ invoicing and payment statement to date o Each QPR would be sent to and reviewed by the Purchaser and may be jointly reviewed with them ● **Monthly Progress Report: (MPR)** The Supplier shall prepare Monthly Reports no later than the 5th of each month when no Quarterly Report is due.	

	The monthly report shall have a reference, date, title, and version control (author, versions and dates and reasons for each version). The monthly report shall contain highlights of progress during the month of the report, consequences, and challenges, problems, issues for the coming months. Any exception reports raised shall be listed and briefly summarized. The reports shall notify the Purchaser of any risks or impediments to the satisfactory conduct and progress of the project in accordance with the Detailed Project Plan ● **Inspection and Quality Assurance Reports**, joint reports of the Purchaser and Supplier covering all deliverables and their measurement/testing against defined quality guidelines. ● **Training Reports**, summarizing major training conducted by the Supplier with analysis of attendees, their capabilities, knowledge attained and capacity to put training into practice. ● **Monthly Log of Service Calls** and problem resolutions, to accurately catalogue all issues experienced in system development and implementation so that they might be dealt with in an efficient and effective manner. ● **Exception Reports:** to be prepared and issued to the Purchaser in the event of a serious risk to the project schedule, or a realized event that impedes the project schedule. The Supplier shall describe the nature of the exception, the consequences, and suggested adjustments to recover the project progress. ● **Phase 1 Final Report and Phase 2 Final Report** Prior to the completion of each phase of the project, when all products, excepting ongoing Warranty Period and Post-Warranty Period services, have been accepted, the Supplier shall document the history of the project phase under the Contract. The history shall contain: o reference, date, title, and version control (author, versions and dates and reasons for each version). o list of Activities planned to have been completed by reference to the Detailed Project Plan, indicating for each whether completed or not for those not completed: status, (refer above) reasons and effect. o list of Products planned to have been completed from project commencement to end-of-project by reference to the Detailed Project Plan together with the completion status (refer above).	

	o Change Notice history listing all change notices raised by either party and describing: brief description, whether put into effect (after agreement by both parties), change in Detailed Project Plan and Contract. o Residual Risk Assessment for the project products and the operation of those products. o listing of requests for acceptance certificates issued to date, describing: date and subject and date and reference of any acceptance certificate issued (if issued). o invoicing and payment statement to date. o miscellaneous observations and suggestions concerning project performance by the parties o opportunities for future investment, developments, or actions by the Purchaser. ● **Change Control Documentation**: The Supplier shall be responsible for compiling and properly organizing and retaining copies of all change documentation. One copy of all documents shall be held by the Purchaser in electronic and hardcopy form. The procedures and documentation set are described in the Contract GCC Clause 14. ● **Project Issues Reports Database** The Supplier shall design and implement a documentation database for Product Issue Reports (PIR). A PIR may be raised by any person and would be recorded and monitored by an administrator. When MNSW becomes operational the Purchaser shall implement a Customer Service Desk (for internal and external clients) that would perform the administration. A PIR would be diagnosed and may result in the detection of a misunderstanding by the person, incorrect operation by the person, a defect, a change request, or some other determination. A PIR would be monitored and controlled through its logical conclusion. No PIR can be closed without the Purchaser's agreement during the Monthly and Quarterly reviews. The PIR database would be managed by the Supplier during the contract and available to the Purchaser for enquiry. The Supplier shall ensure the protection of the data. At the end-of-project, the database and licenses for any software management tools would be turned over to the Purchaser	
DC.06	**Briefing Materials** The Supplier shall develop content for the following information packs in a form and to an extent and with content to be agreed with the Purchaser:	

	1 Seminar materials – trader briefings a. These materials would provide overviews of business procedures under MNSW from the trader point of view. b. They would be distributed by the Purchaser during its briefing seminars for Traders / Agents. The materials shall cover in overview each and every aspect of interaction of the Purchaser with the general public and registered Traders / Agents. c. The materials shall comprise content for a summary flyer plus a detailed information document with usage examples. d. The materials shall also be available on-line on the MNSW public website. e. The seminar materials documents would be prepared for each major release of MNSW, including at least for each CLP prior to operationalization. 2 Briefing materials – Officers **a.** These materials shall be prepared and distributed at the start of each stage of the MNSW implementation and in good time prior to the release of any new MNSW modules for the various GAs. The material would be available on intranet pages available to Officers. MNSW Operator would broadcast messages to the Officers to advise them that the material is available. **b.** The briefing materials for the Officers would be prepare for each major release of MNSW, including at least for each CLP prior to operationalization.	
DC.07	Documentation – general requirements ● All documents to be prepared by the Supplier during the project execution are required in English language. ● All documentation shall have a reference, date, title, and version control (author, versions and dates and reasons for each version). ● Pages available via the internet / intranet, shall have a reference, date, title, and version control (versions and dates and reasons for each version). ● All documents to be prepared by the Supplier during the project execution shall be in at least: 1 two printed copies – one bound, one loose leaf, with cover page with title, version, date, author, intended recipient, excerpt and number of pages	

	2 two electronic copies per language: with cover page as described above and prepared using PDF, or Microsoft Word, Excel, Project in any current or immediate past version. 3 Except for standard materials, all hardcopies shall be A4 or A5 size sheets and usually double-sided. ● Right to copy, use and edit: **1** The Purchaser must have right of copy and usage for all documentation including standard materials. **2** The Purchaser must have right of editing for all documentation, except standard materials	
Implementation Requirements		
IR.01	**Phase 1 Implementation Acceptance** The implementation must include Primary Stakeholder (Phase 1) Implementation Acceptance with an approach to fulfil the following signoff criteria: ● Phase 1 Implementation Acceptance is subject to Purchaser approval ● Phase 1 Implementation test execution results are subject to Purchaser signoff and approval	
IR.02	**Phase 2 Implementation Acceptance** The implementation must include Secondary Stakeholders (Phase 2) Implementation Acceptance with an approach to fulfil the following signoff criteria: ● Phase 2 Implementation Acceptance is subject to Purchaser approval ● Phase 2 Implementation test execution results are subject to Purchaser signoff and approval	

---end of Technical Responsiveness Checklist