



Ministry of Finance, Planning and Economic Development

Excise Department of Sri Lanka

PROCUREMENT DOCUMENT (Volume 2)

Section VI: SCHEDULE OF REQUIREMENTS

International Competitive Bidding (ICB)

Single Stage Two Envelope Bidding Procedure

Procurement of Supply, Implementation, and Operation of a Security Features and Security Features Management System (SFSFMS) for Liquor-Based Products for Excise Department of Sri Lanka

IFB No: ED/AC/20/F/19/2026

Employer:

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Section VI: Schedule of Requirements

Contents

1. Introduction:.....	1
2. Background:	1
3. Scope of Services:	1
4. Implementation and Delivery Plan	3
5. Business, functional, architectural and security requirements.....	4

1. Introduction:

The Excise Department of Sri Lanka (EDSL), under the Ministry of Finance, Planning and Economic Development, is initiating an International Competitive Bidding (ICB) process for the "Procurement of Supply, Implementation, and Operation of a Security Features and Security Features Management System (SFSFMS) for Liquor-Based Products". The successful bidder will be responsible for providing a comprehensive track-and-trace solution to monitor liquor products on a strict Build-Own-Operate (BOO) basis. The duration of this operational contract is five (5) years following successful implementation and operational acceptance.

2. Background:

The Excise Department of Sri Lanka is tasked with enforcing laws, maintaining regulatory oversight, and collecting revenue associated with the production and distribution of liquor-based products. A core objective of the Department, particularly emphasized by its Internal Affairs Unit, is to prevent corruption, ensure transparency, promote ethical governance, and assist law enforcement agencies in combating illicit activities.

To maximize revenue collection and prevent tax leakage caused by counterfeit, smuggled, or illicitly produced alcohol, the EDSL requires a robust tracking system for four main categories of liquor products: Hard liquor (all types of spirits), Beer, Wine, and Bottled Toddy. The implementation of the Security Features and Security Features Management System (SFSFMS) will modernize EDSL's regulatory capabilities. By utilizing highly secure holographic physical stickers and digital codes integrated with a centralized tracking software, the EDSL aims to ensure authentic product verification, seamless supply chain traceability, and accurate consumption-based tax monitoring. Currently, EDSL issues approximately 45 million physical and digital prints per month.

3. Scope of Services:

Under the BOO model, the Contractor shall fully finance, supply, install, own, operate, and maintain all Capital Expenditure (CapEx) and Operational Expenditure (OpEx) elements for the entire five-year contract lifecycle. The scope of services includes, but is not limited to, the following core requirements:

- **Design and Supply of Security Features:**

- Supply highly secure, tamper-evident physical stickers (paper and polyester/PET based) with multi-level (overt, covert, and forensic) holographic authentication features. Expected volume: 1.5 billion physical stickers over five years.
- Provide secure digital verification codes specifically for beer products (bottles and cans), supporting simultaneous printing of alphanumeric and machine-readable codes. Expected volume: 1.32 billion digital codes over five years.

- **System Architecture, Hosting, and Software Platform:**

- Design, deploy, license, and maintain the central Security Features Management System (SFSFMS) software platform.
 - Provide secure, redundant, and automated failover infrastructure for both primary Data Center (DC) and Disaster Recovery (DR) facilities.
 - Develop web-based dashboards for administration, stock management, transaction exploration, and customized reporting.
- **Production Line Infrastructure and Integration:**
 - Supply, transport, install, and commission all high-speed application machinery, digital code printing equipment, and inline tracking hardware directly at the local manufacturers' and brewers' production premises.
 - Integrate Online Production Counters (OPC), Machine Vision Systems (MVS), and control units into production lines to automate the detection of line stoppages, bypass attempts, and stamp misapplications.
- **Mobile and Public Authentication:**
 - Provide iOS and Android smartphone applications, as well as an SMS-based verification module, enabling consumers, EDSL officers, and Customs officials to easily verify product authenticity in real-time.
 - Supply 600 handheld verification devices to the EDSL and law enforcement agencies for field control.
- **Advanced Analytics and Traceability:**
 - Implement AI-powered anomaly detection and predictive analytics to identify illicit trade hotspots, unusual ordering frequencies, and verify stamp-to-production ratios.
 - Enable item-level and hierarchical supply chain traceability, capturing events from production and aggregation through to dispatch, sale, and destruction.
- **Command, Control, and Testing Facilities:**
 - Design and equip a fully operational Command and Control Center at the EDSL head office for real-time monitoring of nationwide system metrics.
 - Establish a Sticker Testing Center at the EDSL office, providing all equipment required for technical verification of the stamps.
- **Operations, Maintenance, and Training:**
 - Provide all necessary field manpower, line engineers, technical operators, and maintenance staff to run and monitor the code application/printing process daily at the manufacturers' packaging lines.
 - Deliver comprehensive classroom and hands-on training for EDSL and Sri Lanka Customs (SLC) personnel on system operations.

4. Implementation and Delivery Plan

1. Overall Project Timeline The implementation of the Security Features and Security Features Management System (SFSFMS) will strictly adhere to timeframes aligned with the Build-Own-Operate (BOO) model.

- **Commencement:** The Date of Commencement shall be fourteen (14) days from the Effective Date (the date both parties sign the Contract Agreement).
- **Core Implementation:** The Contractor is required to complete the core design, development, and facility implementation works within three (3) months (90 calendar days) from the Date of Commencement.
- **Total Pre-Operational Phase:** The entire project implementation, detailing activities from the Date of Commencement to Go-Live operations, must be finalized within Six (6) months of the contract award.
- **Operation Period:** A five (5) year operational and maintenance period will commence immediately upon the successful completion of Operational Acceptance Testing (OAT).

2. Key Implementation Phases and Deliverables

Phase 1: Project Planning & Site Preparation

- **Agreed Project Plan:** The Contractor must submit a detailed project implementation plan outlining activities, milestones, and resource allocation from contract signature to Go-Live.
- **Site Inspections:** The Contractor is responsible for assessing the installation sites at local manufacturing plants. The Employer will provide space on an "as-is" basis, and the Contractor must ensure their proposed equipment fits within the maximum allowable footprint of 2m x 2m per site.

Phase 2: Supply, Installation, and Integration

- **Infrastructure Deployment:** Provisioning of secure, redundant Data Center (DC) and Disaster Recovery (DR) environments, fully equipped with necessary hardware and software licenses.
- **Central Facilities:** Establishment of a fully operational Command and Control Center (for real-time dashboard monitoring) and a Sticker Testing Center at the EDSL head office.
- **Production Line Machinery:** Installation and commissioning of automated inline pasting/printing hardware, Digital Control Units, and Machine Vision Systems (MVS) at the manufacturers' production lines to detect bypasses, misapplications, and line stoppages.
- **Hardware Delivery:** Supply of 600 Hand Held Sticker Verification Devices to the EDSL and other law enforcement agencies.

Phase 3: Security Clearance and Training

- **SLCERT Approval:** The Contractor must obtain system security approval from Sri Lanka CERT (SLCERT) prior to Go-Live. All associated costs for this approval shall be borne by the Bidder.

- **Capacity Building:** Comprehensive training must be delivered to EDSL and Sri Lanka Customs (SLC) officials. This includes classroom sessions, demonstrations, hands-on experience, and the provision of both printed and electronic manuals. **Crucially, all training must be successfully completed before the system's trial tests commence.**

Phase 4: Testing, Trial, and Final Acceptance The system will undergo rigorous testing prior to Final Acceptance to ensure zero single points of failure across the workflow:

- **Site Acceptance Test (SAT) & User Acceptance Testing (UAT):** Conducted post-installation according to the Employer's approved methodology guide.
- **Trial and Test Period:** Commencing only after a successful SAT, a formal trial run will last for 10 business days or the processing of 1,000,000 stickers (whichever is achieved first).
- **Malfunctions & Extensions:** If severe performance issues occur during the trial, they must be rectified and a 30-day trial extension applied. A maximum of two such extensions may be granted. If the system fails to complete the trial successfully within the extension(s), the contract is liable for immediate cancellation without penalty to the Employer.
- **Final Acceptance and Go-Live:** Upon successful completion of the trial period and resolution of any defects, the Employer will grant final Operational Acceptance. Billing for the sticker usage and enforcement of Service Level Agreement (SLA) penalties will strictly commence from the first calendar day following this final acceptance.

5. Business, functional, architectural and security requirements

Schedule I: All bidders shall respond to following requirements in Schedule I

Parameter		Minimum Requirement
A	General Requirement and conditions	
A.1	Project implementation plan	The Bidder must include a detailed project implementation plan detailing activities from signing of the contract to Go-Live operations with the Bid document. The project must be implemented within 6 months from the Date of Commencement.
A.2	Market stability of products offered	Bidder must provide documentary evidence to prove that the products it is proposing are being used by a Government Revenue Authority at National Level for a period of more than 5 years.
A.3	Client's (Employer) right for site / experience verification	The Client (Employer) may carry out an independent verification regarding the reference sites quoted by the Bidder as per standard guidelines for government service procurements. Such may include written communication with the references included in the Bid document.

A.5	Use of brand-new equipment and equipment refresh plan	I. All equipment offered shall be at brand new state at the time of installation. II. The Bid must include an equipment replacement plan during the stipulated contract period (i.e. for those having service life less than the contract period).
A.6	Service and support plan	The Bid must include the details of Bidder's plan / strategy in providing un-interrupted services during the contract period. Bidder must provide details of upstream maintenance and support agreements with their respective equipment manufacturers / suppliers that are related for maintenance and support of the equipment being proposed.
A.7	Technical compliance sheet and Price Schedule	Bidders must only use the forms prescribed in this document in preparation of their technical / Price Bids. Use of any other format or making alterations to the format given may result the bid to be considered as non-responsive. Bidder must complete the Requirement Compliance Schedules and Price Schedules based on the payment option as indicated in the tender document. Failure to complete a required schedule may result the entire bid to be considered non-responsive
A.8	Service Level Agreement	The selected Bidder will be required to sign a service level agreement with the Employer for maintaining service availability and standards for all equipment provided under this contract. The Service levels will be broadly based on the requirements specified in this document
A.9	Completion and commissioning of the facility	The facility must be implemented / and should obtain the OA within 90 calendar days from the Date of Commencement.
A.10	Bill of material and quantities	The Bidder must include a detailed Bill of Materials and Quantities covering all major equipment / works proposed for the project. This information shall be included in the Bid. Any omission of substantial details in this document may result the bid to be considered as non-responsive. Bidder may use information provided in Annexure 02 for the required quantities of the equipment. This is only a guidance and any other items are required the bidders shall specify
A.11	Data collected during operations	All data and information collected and stored by the system directly or indirectly shall be treated as confidential. Ownership of such data shall remain totally with the Employer. The Bidder shall not

		use or disclose such data to any other party without written permission from the Employer. The Employer may require the Bidder to sign a Non-Disclosure Agreement (NDA) in this respect.	
A.13	Facility installation site	The bidder shall be responsible to provide the solution as per site condition. The Employer's obligations in this regard will be limited to providing the specified space area on a " as-is" basis at the locations specified in Contract. The Bidder shall ensure that the space available (Max 2m X 2m) is sufficient for installation and operation of all equipment as proposed in the Bid. Bidders are requested attend to the site visits.	
B	<u>Foolproof sticker system requirement</u>		
B.1	Nature of the requirement, services and payment procedure	The Security Features and Security Features Management System (SFSEMS) needs to facilitate seamless and fast management of the following four major processes; i. Foolproof Sticker (Physical and Digital Stamp) requesting and processing ii. Product verification of Foolproof Stickers iii. Foolproof Sticker ordering, printing and issuing iv. Production Monitoring of Control System. Payment procedure: The ownership of the facility will remain with the Contractor throughout the contract period. All operational costs shall be on the account of the Contractor.	
B.2	Items to which the stickers are required	Volume	Container Type
		4500ml	Bottle
		2000ml	Bottle
		1000ml	Bottle
		750ml	Bottle
		500ml	Bottle
		375ml	Bottle
		200ml	Bottle
		180ml	Bottle
		625ml	Bottle
		300 ml	Cans
		500ml	Cans
		330ml	Cans
		30.0 L	Kegs
		19.0 L	Kegs
		15.0l	Kegs
		10.0l	Kegs
		5l	Pack (Container)

		3l 1.5l	Pack (Container) Pack (Container)
B.3 (i)	Sticker Pasting Method and activation	The bidder shall support an automated sticker pasting method for automated bottle filling manufacturers and a manual pasting method for manually filled (hand filled) bottles. The manufacturers may use the existing affixing system or procure new equipment. Labels must be supplied as reels of self-adhesive stamps for high speed automated application by the manufacturer in line with the production process or for label gun or manual application by the producer offline during the packaging process. The bidder shall provide a facility to the excise officer at the manufacturing plant to activate the range of pasted stickers on the liquor bottles. The range of pasted stickers must be captured via the Production Control System in real time.	
B.3 (ii)	Digital Codes Printing and Activation	The bidder shall provide, install and maintain the Digital Sticker Printing equipment for selected high speed automated bottle filling manufacturers. The bidder shall provide a facility to the excise officer at the manufacturing plant to activate the range of printed codes on the Beer bottles. The range of printed codes must be captured via the Production Control System in real time.	
B.4	Foolproof sticker and Digital Sticker requesting and processing	I. All manufactures/ importers shall be provided with secure login credentials in order to access the system. II. Liquor importers or distributors need to be facilitated with an option to place Foolproof / Digital Sticker order and collection requests. III. The system should obtain the necessary information from the manufacturer/ importer or distributor to specify request details such as CUSDEC number, types of liquor products, included quantity, etc. IV. Subsequent tracking of each request in above ii should be facilitated with maintenance of appropriate order IDs. V. System Logs with Audit trails should be maintained regarding the manual approvals	

		of Foolproof sticker collection request done by EDSL and Sri Lanka Customs (SLC). VI. The system should support acceptance of payments through bank deposits or direct debits. VII. At the issuance of stickers after payment evidence is provided, the necessary updates of database and record management regarding stamp issuance should be maintainable consistently through the system VIII. Activation of the issued secure stickers or printed digital codes should be facilitated. IX. Update and management of stock details regarding available sticker stocks and available digital codes should be maintained through the solution. X. Options should be provided for the importers to confirm the receipt of sticker order and those details should be maintained consistently. XI. Requests for sticker deactivation that need to be handled immediately by EDSL or SLC should be allowed and facilitated through the system. XII. The Bidder shall propose workflows for Digital and Physical Stickers.
B.5	Product verification and tracking process	I. A separate module should be provided by the solution to track and verify the authenticity of local liquor products through a smart phone-based verification system for the Consumers, Excise and customs officers. The app should work on iOS and Android platforms. II. A separate module should provide an option to verify the authenticity of the liquor products for the general consumers through a SMS based verification system where details regarding the liquor Product could be retrieved through an SMS within seconds.
B.6	Foolproof / Digital Sticker ordering, printing, issuing reimbursement, activation and rejection process	I. Stock details of foolproof sticker pertaining to the four categories as referred in B.7 shall be maintained by the system separately. II. Reordering of stickers shall be supported by an alert once the stocks reach to the reordering level.

		III. Options should be provided for EDSL to request new sticker stocks. IV. Verification of new sticker stock request, printing and delivery record management shall be carried out appropriately by the sticker supplier.
B.7	Details that need to be managed/ recorded	As of the current requirement the solution should require to maintain categories of liquor products. Eg. I. Hard liquor (All types of spirits) II. Beer III. Wine IV. Bottled Toddy (For more information please see Annexure - 01). The records should consist of the following information regarding the liquor products enabling precise tracking of the item; • Manufacturer/ importer or distributor details • CUSDEC number (in case of imports) • Liquor category (Hard liquor, Beer, Wine and Toddy) • Date of sticker issuance to the manufacturer, importer or distributor • Quantity of stickers issued to the manufacturer, importer or distributor with serial numbers. • Facility to record any other information • The type of the bottle/ container to which the stickers issued • Applicable excise tax rate for each category of liquor • EDSL will provide the existing data in PLAIN TEXT format The above information should be available for the confirmation of the authenticity of the liquor products for verification by relevant law enforcement agencies and the SMS based verification for customers.
B.8	Foolproof Sticker Details - Security, Authentication, Tracking etc.	In order to facilitate secure and reliable implementation of the track and trace solution, the solution should have a high secure paper-based sticker with embedded / hotstamped hologram with the following features adhering to international standards.

		• Security -shall have high security for visual animation and authentication - Highly secure multilevel security features • Authentication - Embedded security for digital authentication with a smart phone - Possibility of convenient visual authentication • Tracking - Serial number/ encrypted data matrix for traceability • Impossible to copy or reproduce • Tamper proof evidence • Self-adhesive, self-destructible and non-reusable • Compatibility with most product packaging every Liquor product • Easy and high-speed application • Real time declaration of the use of label • Bidder must propose all above.
B.9	Foolproof Sticker - Recommended Specifications	The foolproof sticker shall comprise of state of the art technology incorporating Paper substrate with a hotstamped holographic foil. Optical effects shall be highly bright, pixel free, and contain definition features including robust first, second and third levels of authentication.
B.10	Holographic Security Label - General Specifications	1) The holographic security label supplier shall use a non-pixel based technology to generate the hologram image to provide high-resolution effects. 2) The holographic security label shall provide following three levels of authentication : a. Overt b. Covert and c. Forensic Bidders shall specify their security features: i. Security against copying the color ii. Line patterns

		iii. Security against color scanners and copiers iv. Induced errors v. QR Code vi. Optically changing features such as OVI vii. Any other security features
B.11	Overt Securities	Up/down effect & left/right effects: I. high diffractive colored animation should appears when the label is tilted up and down/left and right with a very wide angle II. high diffractive colors shall be assigned to various elements of the design III. a text or symbol should exhibit a relief effect
B.12	Covert Securities	I. Micro elements visible with X10 magnifier: II. Highly diffractive micro letters 150 micrometers height and micro symbols. III. The holographic security label shall have diverse viewing effects IV. The holographic security label supplier shall provide a suitable device which can detect security features in the stamp and train the law-enforcing agencies on the usage of the device. V. The label shall incorporate an encrypted 2D barcode/QR code which can be detected with a smart phone. VI. The label shall incorporate bifluorescent ink into the sticker. VII. The Digital Codes shall include Covert Security to be defined by the bidder. Contractor shall change all or few of above security features in every 12 months.
B.13	Forensic Securities	The holographic security label shall incorporate nano text and/ or symbol only visible with X100 microscope. Lines thickness: 4 micrometers maximum. Text height: 25 micrometers maximum

		The Sticker shall include advance security features such as DNA Ink, invisible UV Ink, etc in both the Paper / PET Based and Digital Codes.
B.14 (i)	Foolproof Sticker Specifications	Bidders shall provide proposed foolproof sticker specification which includes following properties The bidder shall annex ten (10) samples of foolproof sticker in accordance with relevant technical specification with customised EDSL Hologram given in schedule 1 in a sealed envelope along with the bid document. Sticker Physical properties (Both Paper and Polyester) The sticker size shall be compatible with high speed pasting devices and manual devices which are widely available in the market and currently in use in Sri Lanka. The bidders have the flexibility to provide the size such that it could be used on widely available and currently installed devices in Sri Lanka. <u>Paper / PET (polyester) Specifications</u> (i) Length (100 mm) (ii) Width (20 mm) (iii) Weight 80 gsm and above (iv) Thickness of Polyester Film 30-36 Micron (v) UV Dull (vi) Self-Adhesive (vii) Water Resistant (viii) Textured under lens <u>Hologram</u> (i) Must not be made from Aluminium or Gold (ii) Custom Designed and registered in IOTA (iii) Visibility of Content (iv) Image Shift (v) Text viewable under flashlight <u>Applicability</u> (i) Self Adhesive (ii) Tamper Evident <u>Traceability</u> (i) Digital

		<u>Verifiability</u> I. Authenticity of Products via Smartphone app <u>Codes Required</u> I. Manufacture codes II. Product Codes III. Volume Codes IV. Manufactured Date V. Activated Date VI. Batch Number
B.14 (ii)	Digital Stamp Specifications	<u>Control Unit</u> - Bidder should install a Digital Control Unit to monitor and control the Printing of Digital Stamps onto the products <u>Code Types and Location</u> - System should support simultaneous printing of 2 codes (Alphanumeric and Machine Readable) at 2 different locations on the bottle / can <u>Code Scanability</u> - Digital code should be able to be scanned using Smartphone app on multicolored caps.
B.15	Authentication and tracking System	The Authentication and Tracking system shall be based on the following; • Central database deployed on a Server within Sri Lanka • Distribution process management shall ensure secured distribution of stickers for the liquor products to the manufacturer/ importer or distributor • A field control tool which is either a dedicated tool or a smart phone for digital authentication • SMS based verification system for customers
B.16	Authentication and tracking System functionalities overview	This module shall facilitate the communication in most efficient and convenient way between following parties or Systems: • EDSL • SL Customs • The solution provider; • Liquor Manufacturer;

		• RASED. The following functions shall also be facilitated; • Transaction exploration • Sticker Order process • Sticker issuance process • Stock detail management • Standard and Customized Report generation tool • Dashboards etc.
B.17	Field control tool	Field control shall be supported by following mechanisms in order to facilitate tracking of liquor products at any given time; • 500 Nos of Handheld security feature verification devices • Smartphone based verification system
B.18	SMS Based Verification	SMS based verification system shall facilitate the general public as well as law enforcement officers to identify the authenticity of liquor products.
B.19	Management Information	The system shall provide Management and statistical information such as revenue collection, sticker issuance summary etc.
B.20	Administration Module for EDSL and SLC	The following key functionalities shall be supported through the administration module; • User Management • Sticker Stock Level Management • Manufacturer/ Importer/Distributor Account Management • Sticker Activation and Approval Management • Report Generation • Dashboards • Audit trail • Transactional statistics management
B.21	High availability and fault tolerance	The Contractor shall be fully responsible for provisioning and maintaining secure, redundant Co-Location hosting environments for both the Primary Data Center (DC) and the Disaster Recovery (DR) site. Furthermore, the Contractor shall supply, install, configure, and maintain all necessary system software, licensing, and hardware infrastructure required to operate the entire system seamlessly. All provided infrastructure must strictly adhere to the technical specifications and operational performance metrics stipulated in the Service Level Agreement (SLA).
B.22	Overall reliability and fault tolerance	The design of the proposed system must ensure that there are no single point of failure in the

		entire workflow from secure sticker ordering to pasting/printing on the all products
B.23	Quality of equipment	a. All key equipment, where the Bidder is not the manufacturer or direct agent must be covered with a comprehensive warranty / annual maintenance support agreement b. The Bid document must include documentary evidence (in terms of maintenance agreement with equipment manufacturers, maintenance / upgrade plans etc.) to show how the equipment will be maintained during the contract period c. All equipment used in the project must conform to their relevant international and local standards related to quality, reliability, performance and safety d. All equipment provided must be brand-new at the time of installation e. Bidder must provide details of the retirement/ replacement time plan for all equipment that would reach their designed service life during the specified contract period. This plan shall be included in the Bidding document. f. No equipment shall be used beyond their designed operational life as designated by the manufacturer during the contract period.
B.24	Services provided by manufacturer	a. Manufacturer will provide water, electrical power and space.
B.25	Operational and maintenance costs	The price quoted by the Bidder shall absorb all operational and maintenance costs related to the system.
B.26	Command and Control Center	The Selected Bidder shall design, deploy, and establish a fully operational Command and Control Center at the EDSL office. This center must be equipped to monitor the real-time performance, operational health, and system metrics of the deployed platform on an island-wide basis excluding equipment cost
B.27	Production Line Integration	The system should integrate the following into the Production line of the Manufacturer a. Online Production Counters (OPC) b. Authentication of the security features of the Stickers / Digital Codes c. Machine Vision Systems (MVS) d. Control Unit integration e. Automated detection of: i. Line stoppages ii. Bypass attempts iii. Stamp misapplications

		iv. Discrepancies between stamp orders vs stamps applied vs actual production
B. 28	Analytics and Business Intelligence	a. The system must provide out-of-the-box reports and dashboards. b. The system will allow end users to be able to build ad-hoc queries through a self-service, drag-and-drop report builder requiring no SQL or coding knowledge. c. The system should expose all its data models to EDSL staff. d. The system to provide configurable trend analysis tools that allow for tracking of volumetric, behavioural, and revenue trends across user-defined periods. e. Automated real-time alerts shall be triggered when any monitored metric crosses an EDSL-defined threshold, delivered via dashboard notification, email, and SMS.
B. 29	Anomaly and Fraud Detection	a. Demonstrate predictive analytics for illicit trade hotspots b. Demonstrate anomaly detection using machine learning, including abnormal stamp-to-production ratios, unusual ordering frequency and verification failure clusters. c. AI powered production reconciliation: Demonstrate automatic reconciliation of existing flow meter readings against stamp affixation records and excise return
B. 30	Aggregation and Supply Chain Traceability Enablement	a. The system shall support item-level and hierarchical traceability, including aggregation and disaggregation of single units into consignments, while maintaining secure parent-child relationships at all packaging levels. b. The system shall capture and preserve traceability events across production, packaging, storage, dispatch, transfer, receipt, return, sale, and destruction, as applicable. It shall support unique and secure identification, authentication, and validation of products at each level of the supply chain. c. The system shall provide real-time or near-real-time visibility of product status and custody, and enable detection of anomalies such as broken aggregation links. d. The Aggregation system shall generate the Master Codes and print / affix the Master Codes onto the Aggregate Pack. e. The Bidder shall provide the aggregation code printers. Sticker Paper for aggregated code shall be borne by the respective manufacturers, but

		cost of Ribbon / Ink shall be borne by the bidders.
B.31	Sticker Testing Center	The Selected Bidder shall design, deploy, and establish a fully operational Sticker Testing Center at the EDSL office. The Contractor must provide all equipment for testing and verification.
C.	System Training, testing and acceptance	
C.1	Types of test	During the phases of installation and prior to the final Go-Live the system will be subjected to the following tests • User Acceptance Testing (UAT) • Site acceptance test (SAT) • Test runs and trial period • Bidder shall obtain SLCERT approval. Payment to SLCERT will be borne by Bidder
C.2	System acceptance test (SA1)	a. The system acceptance shall be carried out after successful completion of the system installation. b. The bidder shall provide a guide describing the methodology of the site acceptance.
C.3	Training	a. The Selected Bidder shall provide comprehensive training for the officials of EDSL and SLC. b. Training must include all key operations of the system. Contractor shall provide training for all new versions prior to release. c. Training shall include class-room activities, demonstrations as well as hands-on experience. d. All trainees must be provided with a comprehensive set of training manual in printed form. A master copy of the same must also be provided to the EDSL and SLC in print and electronic formats for future use. e. All training must be completed before the trial tests of the system. f. Details of the training plan shall be provided with the Bidding document
C.4	Trial and test period	a. Once the Selected Bidder has completed all his internal tests and performance tuning, the Employer shall be informed to commence the trial and test period. b. The trial and test period will be for 10 business days or 1,000,000 stickers (whichever comes

		first) and will commence only after the successful completion of SAT. c. If any malfunctions or sever performance issues occur during the trial period such should be noted, rectified and a further trial period of one month (30 days) shall be added to permit an additional attempt to meet contract specifications. The Selected Bidder may be granted two such extensions at maximum. d. If trial test is not successfully completed within a period of 30 days contract shall be liable for cancellation without any penalty or liability (direct or implied) to the Employer. The decision of the Employer in this regard shall be final and binding on the Contractor. e. The Employer will not be liable for any payments with respect to inspections carried during the trial and test period (including any extended periods)
C.5	Final acceptance	a. Upon the successful completion of the trial and test period the Employer will accept the commencement of normal operational services using the system. b. Billing for the service offered by the facility (including the applicable minimum committed volume) will start from the date of final acceptance. c. Enforcement of the service levels and penalties will start from the beginning of the first calendar day from the signing of final acceptance by the Employer
C.6	Regular / routine inspection and test	a. Once the facility is put under regular commercial operation, it shall undergo periodic quality assurance checks/ tests to ensure that the system/ sub-systems are working as per the requisite specifications and regulatory requirements. b. The periodicity of such checks/ tests/ surveillance will be decided based on the system/sub-system/ instrument involved.
C.7	Data storage, backup and redundancy	a. The system shall have sufficient capacity to store not less than the secure sticker information requirement for five (05) years online in a unified storage system b. The storage system must be fully redundant with one node located at EDSL and the other located at a site specified by the Employer. c. Data backup devices must be provided and need to train the EDSL staff to take the routine

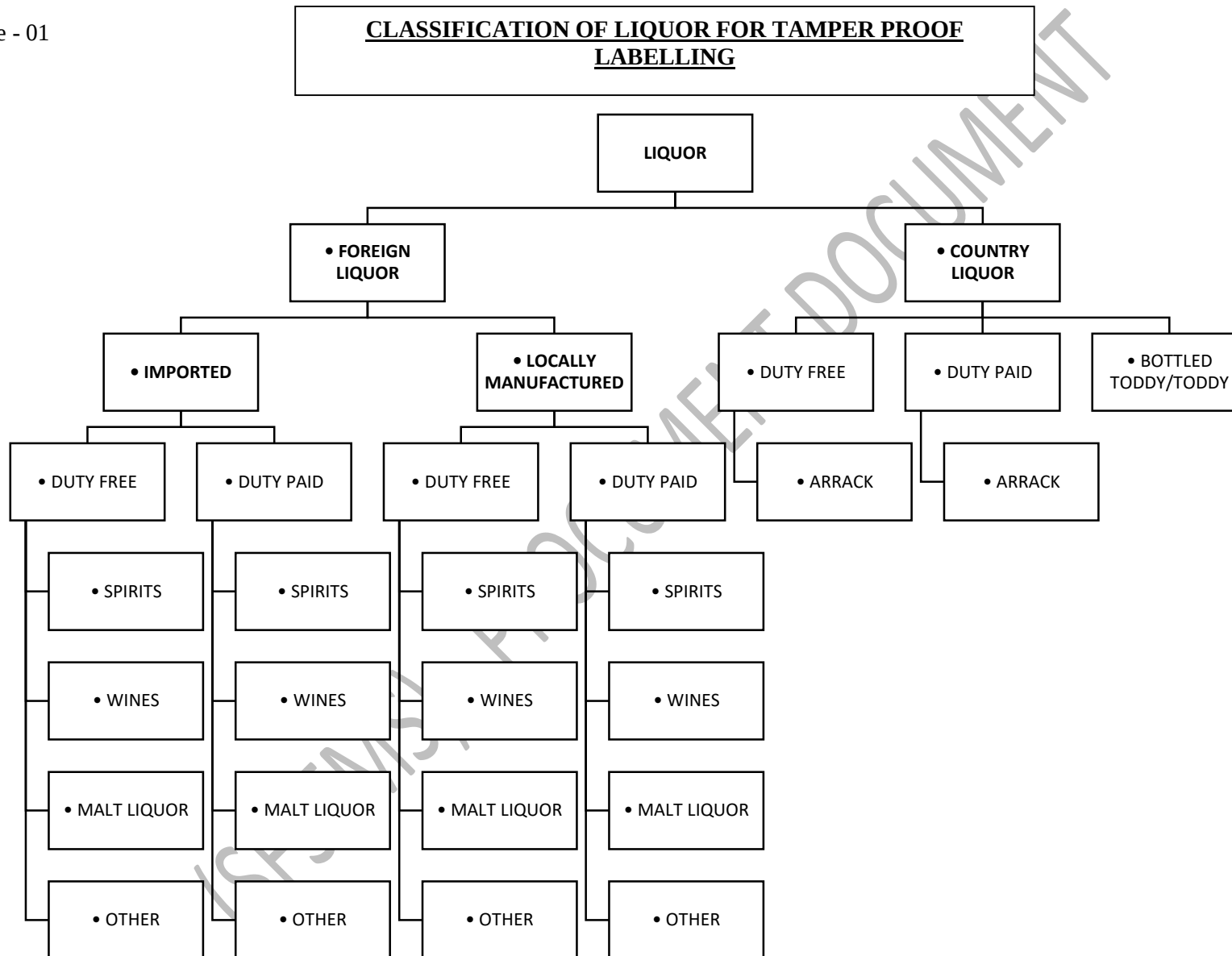
		backups or shall be done by the staff of the bidder.
C.8	Information security, integration and access control	a. All data stored in the system must be protected using an industry standard information security scheme based on controlled and monitored access. b. Access to system components must be restricted using a role based, single-sign-on access control system. c. All transactions that occur within the system must be logged on to an audit trail for future reference. d. The system must be provided with a web based dashboard interface for overall monitoring of the inspection procedure and its status together with major statistical information. e. All communication with external entities (manufacturers, mobile devices, regional offices etc.) shall be encrypted. f. A secure service based interface must be provided to share data within the system and its integration with' existing information systems.
C.9	Data network	a. The Bidder must provide a data network to connect liquor manufacturers, regional offices and major sellers. The bidders may suggest alternative connectivity methods such as secure internet-based connectivity method using SSL. b. The network infrastructure must be redundant to avoid any single point of failure c. The Bidder may set up and maintain a virtual private network (VPN) between the head office of the EDSL and the other locations specified above.

Schedule II: Service availability, billing, payment and penalty related requirement during contractual period

Note: Bidders MUST respond in full to the following schedule

D	Facility/Service availability, billing, payment and penalty related requirements during contractual period for Own and Operate	
D.1	Billing Cycle	Billing for payments shall be carried on a monthly cycle The billing cycle shall start at 00.00hrs on the first day of a calendar month and should end at mid-night on the last day of a calendar month. For billing purposes all time durations will be converted to nearest hour and be considered in hourly blocks (i.e. 60 minute blocks starting at 00 minute on each hour) Each billing cycle will be computed independently and any grace period or penalty time unused in a billing cycle shall not be carried over to the following cycle
D.2	Expected service availability period	Foolproof sticker verification and ordering facility shall be available on a 24x7 basis.
D.3	Computation of service availability	At the end of the billing cycle the Service Availability (SA) will be computed as follows $SA = \frac{\text{Number of Operational Hours}}{\text{Total Number of hours during the billing cycle}}$
D.4	Equipment "operational" status	Non-operational status (Downtime) of the entire system or any component shall be measured from the time Employer makes formal notification (telephone call, fax or email or any other agreed method) of a problem, and shall continue until the affected component is fully operational in accordance with the Technical Specifications. The equipment shall be considered as "operational" during the "Test" period which is 24 hours after the service is resumed for the purpose of computing Overall Service Availability (OSA). However, if the same equipment fails again during the test period it will be deemed have been non-operational continuously from the initial notification of the problem
D.5	Minimum service availability	The Service Provider is required to maintain a Service Availability (SA) of at least 99% over a monthly billing cycle. Penalties shall be applicable if the Overall Service Availability falls below 99%.
D.7	Penalties of service non-availability	The Selected Bidder shall be liable for financial liabilities based on the total billed amount per billing

		cycle based on the Cumulative Overall Service Availability (COSA) of the billing period. The following table shall be used in computing such penalties: <table><tr><th>Cumulative Overall Service Availability (COSA)</th><th>Penalty liability as a percentage of total billed amount</th></tr><tr><td>SA ≥ 99%</td><td>0% (no penalty applicable)</td></tr><tr><td>99% > SA ≥ 90%</td><td>5%</td></tr><tr><td>90% > SA ≥ 85%</td><td>10%</td></tr><tr><td>85% > SA ≥ 80%</td><td>15%</td></tr><tr><td>80% > SA ≥ 75%</td><td>20%</td></tr><tr><td>Less than 75%</td><td>25%</td></tr></table>	Cumulative Overall Service Availability (COSA)	Penalty liability as a percentage of total billed amount	SA ≥ 99%	0% (no penalty applicable)	99% > SA ≥ 90%	5%	90% > SA ≥ 85%	10%	85% > SA ≥ 80%	15%	80% > SA ≥ 75%	20%	Less than 75%	25%
Cumulative Overall Service Availability (COSA)	Penalty liability as a percentage of total billed amount															
SA ≥ 99%	0% (no penalty applicable)															
99% > SA ≥ 90%	5%															
90% > SA ≥ 85%	10%															
85% > SA ≥ 80%	15%															
80% > SA ≥ 75%	20%															
Less than 75%	25%															
D.8	Maximum Penalty amount	The maximum penalty amount for a given billing cycle shall not exceed 25% of the total billed amount .														
D.9	Bill submission and Payment of bills	1. The Contractor shall submit the monthly bill on or before the 10th working day of each calendar month. 2. The Employer shall inform the Service Provider of any disputes in the bill (if any) on or before 15th working day of the calendar month.														
D.10	Scheduled maintenance	1. The bidder shall take every effort to carry out scheduled maintenance on public holidays to ensure minimum impact on the service demand. 2. The selected bidder shall inform the Employer in writing on such scheduled maintenance at least 07 working days in advance. 3. Downtime of equipment due to a scheduled maintenance shall be excluded in determining Monthly Applicable Committed Volume (MACV) or financial penalties if all the following conditions are satisfied: a. Employer has been given 07 working days' notice of the scheduled maintenance. b. The Overall Service Availability (OSA) remains at least 75% during the scheduled maintenance period. c. The Cumulative Overall Service Availability (COSA), including any downtime caused by scheduled maintenance for the billing cycle, is more than 99%.														
D.11	Fixed price	The price quoted by the bidder in United States Dollars (US\$) for “per 1000 stickers” shall remain constant throughout the contract period														



Annexure-02- Supplementary Information

List of equipment

Note: If any more equipment are required other than the ones mentioned below bidder shall include them to the Bill of Material,

Item	Quantity
1 Hand Held Sticker Verification Device	600

1. Hand Held Sticker Verification Device

To be used by the Excise Department and other law enforcement agency staff to detect genuines of the security features (Stickers and Digital Codes) and liquor products in the market.