ESCIMS
Excise Supply Chain Information Management System

DEPARTMENT OF EXCISE, ENTERTAINMENT AND LUXURY TAX, GOVERNMENT OF NCT, DELHI

Standard Operating Procedure
For
Bonded Warehouse

ESCIMS

About this Document

Purpose

The purpose of this document is to detail down the specification for Bonded Warehouse barcode readiness as per the project requirements.

Intended Audience

Bonded Warehouses under advice from Delhi Excise will be using this document for receiving, dispatching through scanner and uploading of barcodes in ESCIMS.

Table of Content

Acronyms and Abbreviation

S. No.	Abbreviation	Description
1.	AC	Assistant Commissioner
2.	BW	Bonded Warehouse
3.	ESCIMS	Excise Supply Chain Information Management System
4.	HHT	Hand Held Terminal
5.	IA	Implementation Agency
6.	ICT	Information and Communication Technology
7.	IFL	Imported Foreign Liquor
8.	IP	Import Permits
9.	SKU	Stock Keeping Unit
10.	SOP	Standard Operating Procedure
11.	TP	Transport Permits
12.	XML	Extensible Markup Language

1. Introduction

Delhi Excise Department, Government of National Capital Territory of Delhi proposes to initiate 'Excise Supply Chain Information Management System' (referred as ESCIMS throughout the document) in order to automate and regulate liquor sale in Delhi. The objective of ESCIMS is to make the system more transparent, efficient, effective and accountable with the help of Information & Communication Technology (ICT). The project covers the Excise services at Department and Corporations, Bonded Warehouses, Vends and Distilleries. The system shall prevent any leakage and provide real time information to the excise department. The system should enable the department to track the source of the each bottle that is sold at the vends in Delhi.

ESCIMS shall work on GS1 compliance barcodes placed at case and bottle level. These barcodes will be generated and printed on case/bottle by liquor manufacturing distillery as per the specifications recommended in distillery specification document.

The objective of this document is to indicate relevant technology and process details for implementation of the bar code mechanism in bonded warehouse including Imported Foreign Liquor (IFL) bonded warehouse. It needs to be highlighted and understood by all stakeholders that if the bar code is not found readable due to transit damages, poor quality of printing, paper, pasting, etc., suitable penal action will be taken.

1.1 Objectives of ESCIMS

The Delhi Excise Department has envisaged to meet the following objectives through ESCIMS solution:

- To enforce and regulate liquor trade in Delhi without promoting it
- To mobilize revenue generation under the multiple heads of taxation that it administers.

1.2 Benefits from ESCIMS

The benefits expected out of implementing the ESCIMS solution are:

- Reduction in smuggling and brand pushing of liquor which help in better revenue mobilization.
- Automation of the issue of Transport Permits, Import Permits and No Objection Certificates will reduce the need of people coming to the department.
- Generation of timely, intelligent reports and comparisons will help managerial control, Inventory management, improve efficiency and enable revenue record reconciliation on daily basis.
- Ease of tax rates or regulatory changes being put in force immediately and also providing transparency to department and its business with its clients.

1.3 Outcomes from ESCIMS

The outcomes expected out of ESCIMS are:

- Assessment of Excise duty to be paid/ paid in real time
- Online MIS system for prompt and efficient decision making
- Online availability of Allocation, Sales and Payments related information
- Transport of Liquor within defined service levels
- Ease of payment of fees for Vend owner.
- An effective grievance redressal mechanism by providing a Helpline/ Call Center function with single seat in 2 shifts
- Online status tracking and enquiry facility
- Ensuring the genuine and correct amount of liquor reach the citizen.

1.4 Implementation Agency

Tata Consultancy Services (TCS) has been selected as Implementation agency (IA) for ESCIMS. The Implementation Agency is responsible for full system Integration of all Excise Department functional areas. Procurement, Installation and commissioning of hardware & software, application development, operation and maintenance support all comes under the scope of TCS. **The scope excludes provision of infrastructure capabilities to Bonded Warehouses.**

Thus the need to make bonded warehouse ready for the proposed system before it goes live.

1.5 Scope

The scope of this document is to detail down the technical recommendation as per the project requirements.

- Bonded Warehouse Processes
- Imported Foreign Liquor (IFL) Bonded Warehouse Processes
- ESCIMS Implementation and Operation
- Recommendation
- Application Security

1.6 Change Management

The existing business processes will be affected with the onset of the new system. It is important that the transition process be smooth and systematic. A detailed training material shall be prepared for the stakeholders and shared before the project 'Go-Live' in order to make change management a collaborative process. The most critical change that bonded warehouses will have to take up is related to bar-coding. Hence, the requirements of bar-code specifications and related infrastructure are being shared

2. Bonded Warehouse as Stakeholder

ESCIMS proposes to automate and regulate liquor sale in Delhi. In order to carry out the project successfully it is important to collaborate with all the stakeholders. The tracking of liquor entering into Delhi starts from Distilleries to Point of Sale including storage at Bonded Warehouses. Thus bonded warehouses have an important role to play in this endeavour.

2.1 Business Functions Covered

In the proposed system following business functions shall be covered:

- Applying and Issuing of License
- Issuing of Import Permit
- Issuing of Transport Permit
- Revalidation of IP and TP
- Receiving of liquor
- Handling of Damaging of cases or bottles (Transit, Storage and loading and unloading)
- Repackaging of cases
- Dispatching against TP
- Payment of Requisite fee and excise Duty

2.2 Benefits for Bonded Warehouse

Bonded Warehouses shall also be benefited from this system as:

- Bonded warehouse can apply online for license and track its status.
- IP revalidation and dry day permission can be obtained online once the truck has arrived at boned warehouse if IP has expired or dry day permission has not been taken on “on arrival” day.
- EVC (Excise Verification Certificate) can easily be available to Excise online for availability of inventory after receiving stocks against import permit.
- Need to visit the department office for import permit, transport permit, no objection certificates is eliminated.
- Better control over inventory is achieved.
- Supply of spurious liquor is eliminated.
- Reliability and efficiency in delivery is achieved.
- All payments of requisite fees and duties can be made online with proper tracking and controls.

2.3 Bonded Warehouse Processes

For the purpose of understanding of ESCIMS, Bonded Warehouse processes are mapped to ESCIMS requirements by dividing in four steps:

1. Receiving of Liquor as per Import Permit
2. Handling Breakage during “In Transit”
3. Handling Breakage “At Bonded Warehouse”
4. Dispatching of Liquor as per Transport Permit

2.3.1 Brief Processes at Bonded Warehouse

- Bonded warehouse user will download the Advance Shipment Notice (ASN) corresponding to the IP against which the material is to be received.

- Bonded warehouse will receive the materials through HHT scanner and upload received details on to the ESCIMS in two steps:
    - Receive intact cases and upload generated XML of received intact case details in ESCIMS

- **Handling breakage handling during In Transit** and upload generated XML of repacked cases and leftover loose intact bottles barcode details in ESCIMS

Note: XML will be generated by the HHT and ESCIMS application.

- First, bonded warehouse will receive intact cases through HHT and keep damaged cases in separate location for repackaging. Bonded warehouse uploads generated XML of intact cases received details on to the ESCIMS.

- Secondly, if cases or bottles are damaged during "**In Transit**" then bonded warehouse will repack the stocks in new case.

- Bonded warehouse will download the damaged case barcode details from ESCIMS for printing case barcodes since bonded warehouse has uploaded received intact cases details and ESCIMS can provide remaining case barcode details from ASN. Also, Bonded warehouse can scan case barcode of damaged cases and get the case barcode details.

- Bonded warehouse will paste the case barcode on new case (supplied by the distiller) and put bottles of damaged cases into new case as per pack size to make it complete.

- Bonded warehouse will repack the cases as far as possible from damaged cases.

- Bonded warehouse will map case and bottles barcodes of repacked cases through HHT scanner.

- Bonded warehouse will scan intact leftover bottle barcodes.

- Finally, bonded warehouse will upload case-bottles mapping of repack cases and status of loose intact bottles in ESCIMS.

- Status of Broken, Missing, Lost bottles will be marked as damaged by default in ESCIMS and left over intact bottles marked as Further Repackaging in ESCIMS.

- In case of **handling breakage at Bonded Warehouse**, bonded warehouse user will repack the damaged cases or leftover intact bottles in new case for single brand.

- Bonded warehouse will scan damaged cases of single brand and upload generated XML of case barcode details in ESCIMS.

- Bonded warehouse will download the case barcode details for printing and pasting of barcode on new case.

- Bonded warehouse will follow the same process of repackaging of bottles into new cases as follow in handling breakage during "**In Transit**". Bonded warehouse will repack the cases, map case-bottles, scan leftover intact bottles and upload generated XML of barcode details in ESCIMS.

- Transport permit will be printed at Bonded warehouse after the purchase order is approved by excise department.

- Bonded Warehouse will dispatch the material against the Transport Permit and upload the dispatch details in ESCIMS.

2.4 Bonded Warehouse ESCIMS Operation and Implementation

The detailed step-by-step process of how the bonded warehouse operations pertaining to receiving of liquor against IP, handling breakage and dispatching of liquor against TP are explained here.

2.4.1 Receiving of Liquor against Import Permit

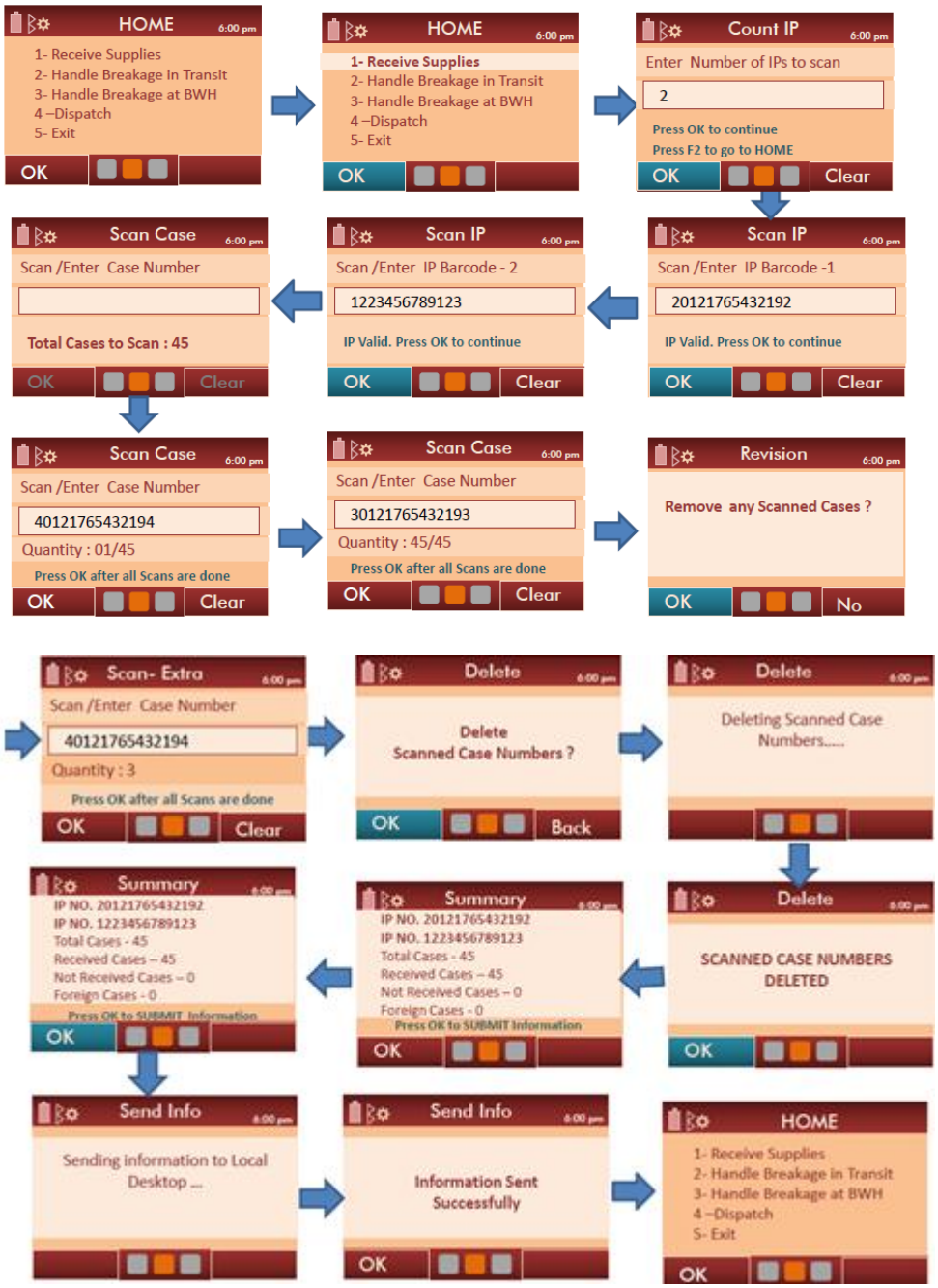
Below are the steps of "TO BE" processes of receiving Stocks against Import Permit in Bonded Warehouse.

- As truck arrives at bonded warehouse, bonded warehouse user requests for in-bonding of truck from Excise inspector.
- ESCIMS verifies IP validity and dry day permission. If IP has expired or day is dry day then Excise Inspector requests for IP revalidation or dry day permission for in-bonding.
- If IP is valid, Excise inspector scrutinizes received documents, verifies truck arrival time and enter brief note.
- Excise inspector allows in-bonding of receive stocks against IP.
- Bonded warehouse user downloads the Advance shipment Notice (ASN) against IP into Hand Held Terminal (HHT) through desktop/directly and starts scanning of received intact cases and keeps damaged cases aside which will be dealt with **"Handle Breakage In-Transit"** process. Finally, Intact received scanned cases uploaded into ESCIMS through desktop/directly.
- Excise Inspector finally approves the receive stock and issue EVC (Excise Verification Certificate). Finally, actual Inventory at bonded warehouse will be updated. Stocks will be available to Excise for issuing Transport Permit against raised purchased order.
- In case of bonded warehouse reports unknown cases, ESCIMS sends notification to AC Permits and AC IMFL to take necessary action against the foreign case received.

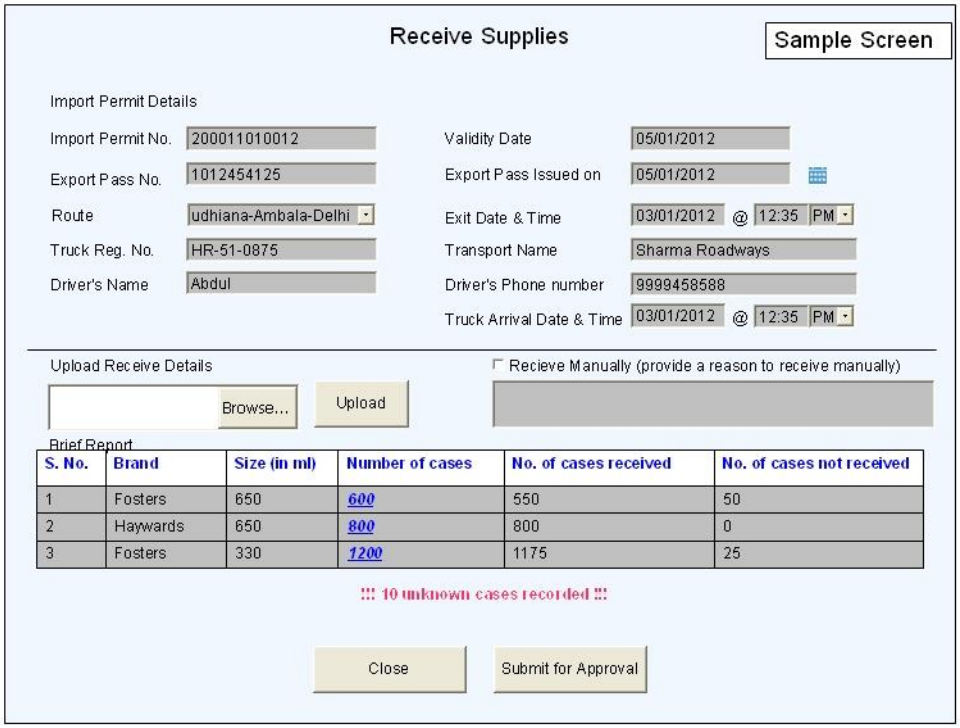
Below are the HHT and ESCIMS screens for receiving of liquor against IP and uploading of generated XML of received intact cases.

1. Bonded Warehouse will scan the received cases through HHT and XML file will be generated for all received cases against Import permit.

   Sample XML format is shown in **Annexure II** in Appendix.



2. Bonded Warehouse will upload generated XML of received intact scanned cases details after selecting import permit.



2.4.2 Handle Breakage

Repackaging of bottles (of a particular SKU) into new cases would be allowed for the bottles of a same batch & shipment (i.e. Import Permit) only. The bottles which cannot be repacked into complete cases would be moved into a separate inventory in the bonded warehouse so that such bottles can be repacked while handling breakage at BWH.

2.4.2.1 Handle Breakage In-Transit – Repackaging of Damaged Cases

The process of handling damaged cases or bottles during "**In-Transit**" against IP at bonded warehouse are as follows:

- Bonded Warehouse accesses the **"Handle Breakage In-Transit"** functionality and selects the Import Permit. ESCIMS displays information of cases which are yet to be received against selected import permit.

- Bonded warehouse will download the damaged case barcode details from ESCIMS for printing case barcodes since bonded warehouse has uploaded received intact cases details and ESCIMS can provide remaining case barcode details from ASN. Also, Bonded warehouse can scan case barcode of damaged cases and get the case barcode details.

  A detail of GS1 Barcode Standards for bottles and cases is provided at **Annexure-I** for ready reference in **Appendix**.

- Bonded warehouse will paste the case barcode on new case (supplied by the distiller) and put bottles of damaged cases into new case as per pack size to make it complete.

- Bonded warehouse will repack the cases as far as possible from damaged cases.

- Bonded warehouse will scan and make mapping of case and bottles barcodes of repacked cases through HHT scanner. Also, **scan the intact leftover bottles** through HHT scanner.

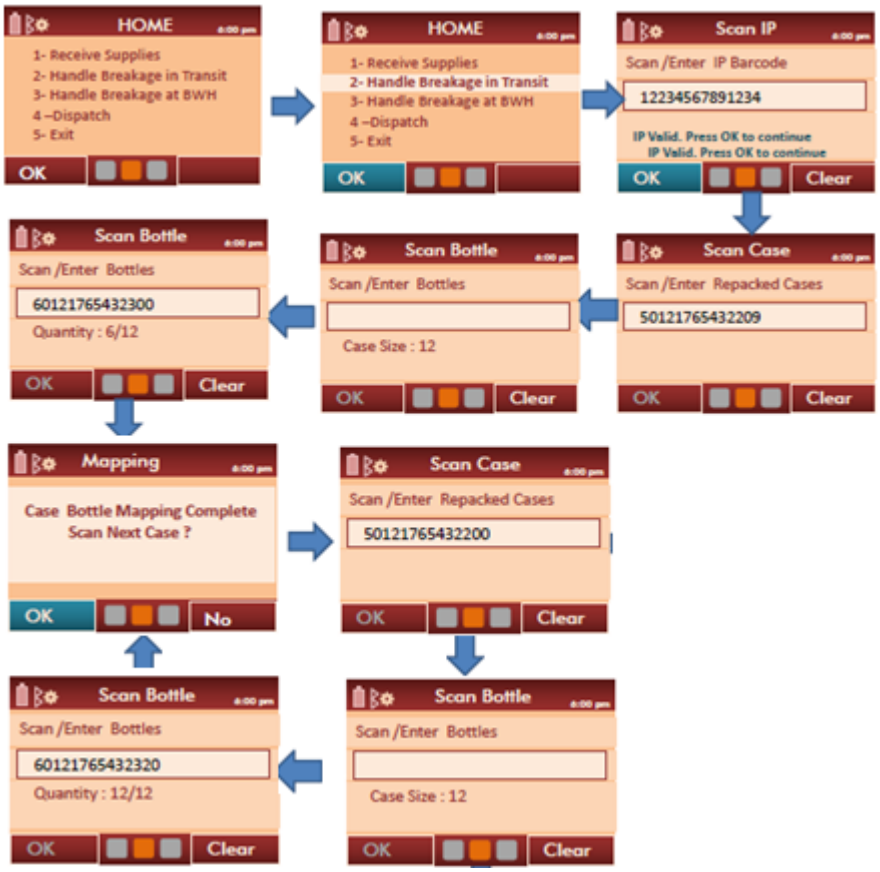
- Finally, bonded warehouse will upload generated XML of case-bottles mapping of repack cases and status of loose intact bottles in ESCIMS. ESCIMS will do validation of mapped cases and bottles barcode details and status of leftover bottles.

- Status of Broken, Missing, Lost bottles will be marked as damaged by default in ESCIMS and left over intact bottles marked as Further Repackaging in ESCIMS.

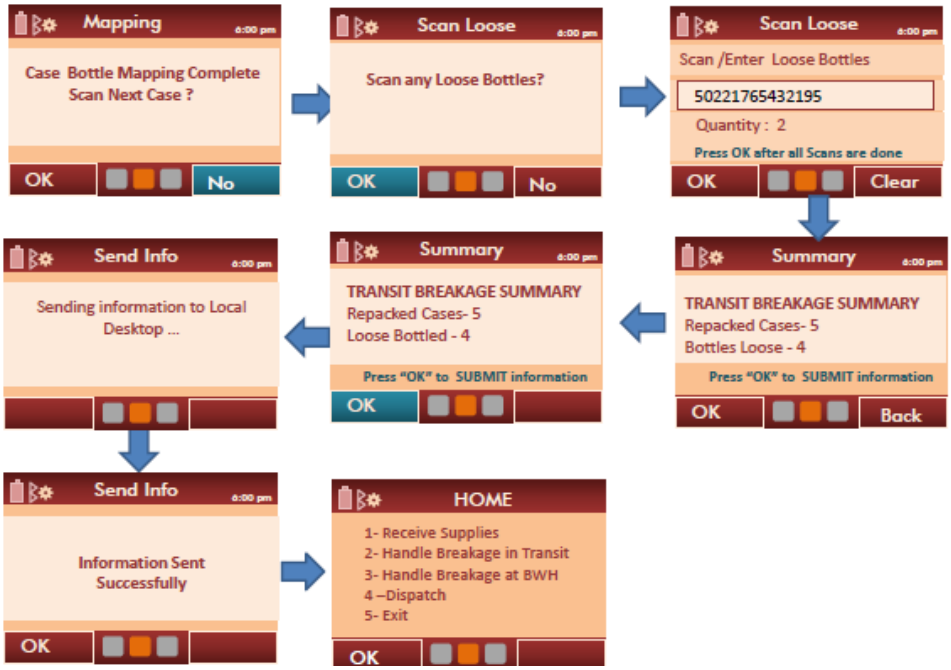
- ESCIMS calculates breakage duty and Excise Inspector confirm breakage in ESCIMS. After Excise Inspector approval, repacked cases inventory gets updated in ESCIMS and will be available to Delhi Excise for Transport Permit.

Below are the HHT and ESCIMS screens for handling breakage during In Transit and upload of generated XML of repacked cases and leftover intact bottles status.

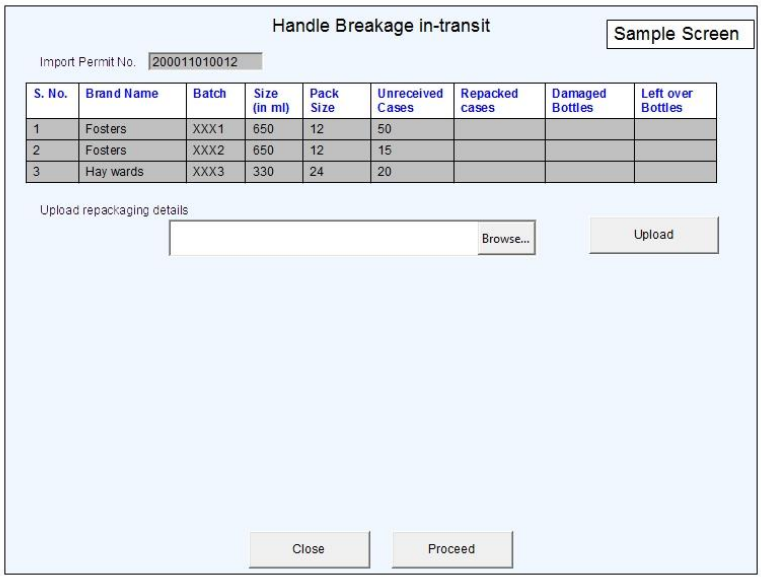
1. Scan of repacked cases and bottles through HHT



2. Scan of leftover bottles through HHT. If No press on “Case Bottle Mapping Complete Scan Next Case?” screen, “Scan any loose bottles?” screen will come up.



3. Upload of mapped details of repacked cases and status of leftover bottles.



2.4.2.1.1 Business Validation

1. Number of repacked cases GTIN will be validated as advised.
2. SSCC must be unique for case GTIN.
3. Repackaging of bottles into new cases would be allowed for bottles of same batch and shipment (i.e. Import Permit).
4. Repackaging of beer bottles into new cases would be allowed of same batch and same expiry date.
5. System shall only calculate the breakage duty if the number of bottles broken of each SKU exceeds 0.2% of the bottles of that SKU contained in the shipment.

2.4.2.2 Handle Breakage at BWH – Repackaging of Damaged Cases or Leftover bottles

The process of handling damaged cases or leftover bottles "**At Bonded Warehouse**" is as follows:

- Bonded Warehouse user accesses the "**Handle Breakage at BWH"** and selects Brand and size.
    - Upload the scanned damaged cases generated XML at Bonded Warehouse.
    - ESCIMS displays inventory details of selected brand and size.

- Bonded warehouse user repacks damaged cases into new cases to make complete cases. BWH user print and paste case barcodes on new cases after getting barcode details from ESCIMS or scan the case barcode of damaged barcode. Batch Number, Manufacturing Date and Expiry Date will be padded zeros for generating the case barcodes.

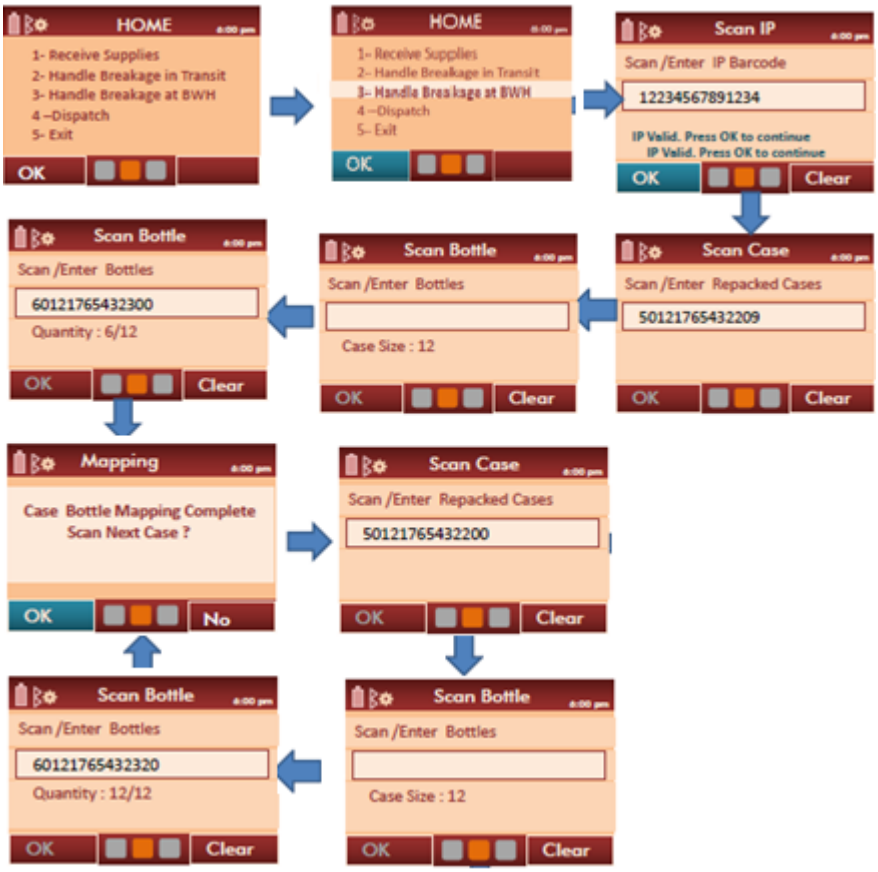
- Bonded warehouse will scan repacked cases and bottles through HHT and make mapping of repacked cases and bottles**.** Also, **scan the intact leftover bottles** through HHT scanner.

- These mapped details of repacked cases and leftover bottles status details finally get uploaded on to ESCIMS. ESCIMS will do validation of mapped cases and bottles barcode details and status of leftover bottles.

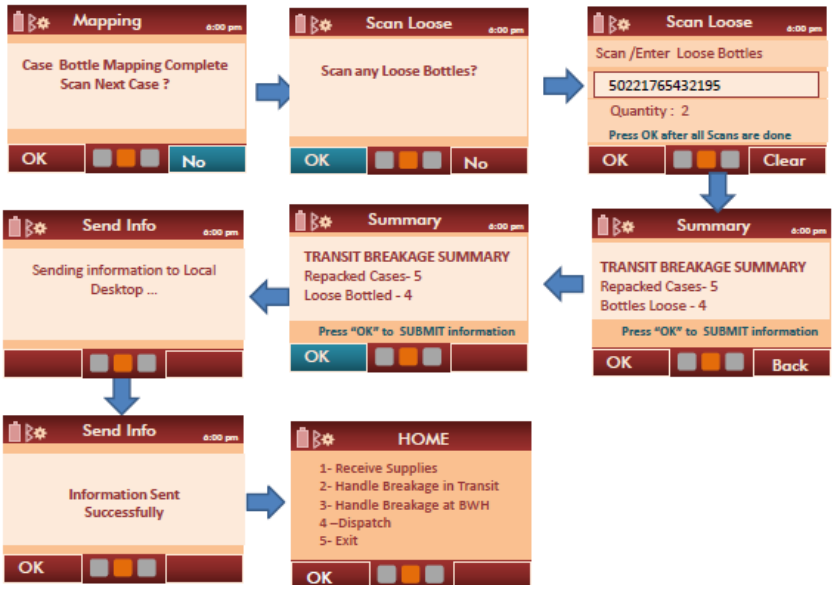
- ESCIMS calculates breakage duty of damaged bottles and Excise Inspector confirms the breakage duty. Inventory will be available to Excise for issuing transport permit.

Below are the HHT and ESCIMS screens for handling breakage at Bonded Warehouse and upload of generated XML of repacked cases and leftover intact bottles status.

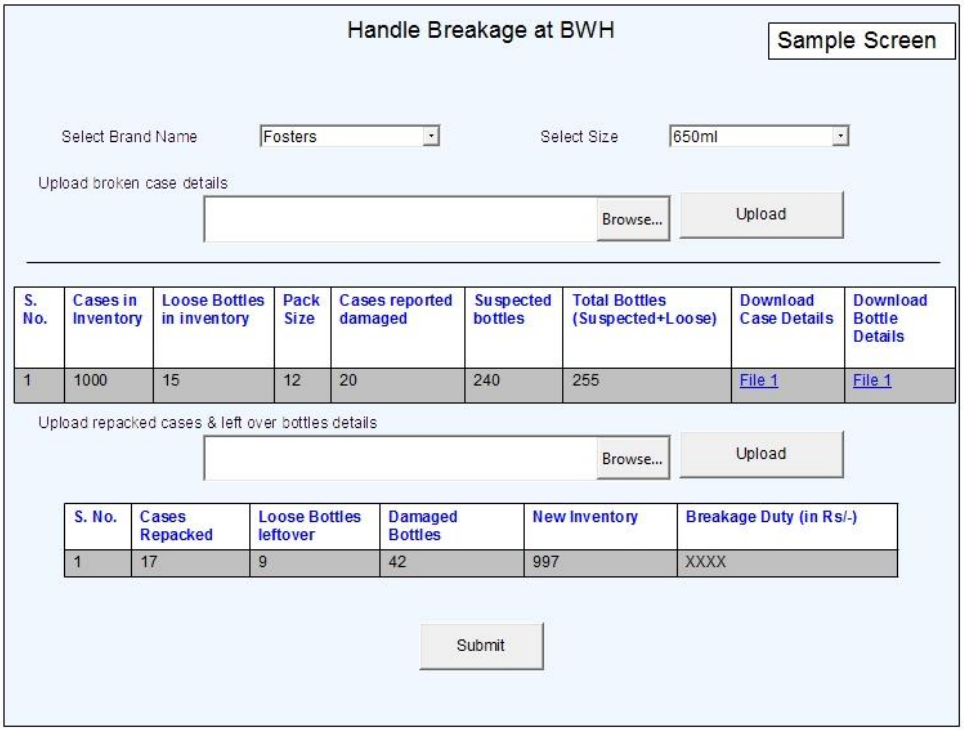
1. Scan and prepare mapping of repacked cases bottles through HHT



2. Scan of leftover bottles through HHT



3. Bonded Warehouse will upload generated XML of scanned repacked cases-bottles mapping and status of leftovers intact bottles.



2.4.2.2.1 Business Validation

1. Number of repacked cases GTIN will be validated as advised.
2. SSCC must be unique for case GTIN.
3. Repackaging of bottles into new cases would be allowed for bottles of different batches but it must be of same SKU.
4. Repackaging of beer bottles into new cases would be allowed of same batch and same expiry date but it must of same SKU.
5. System shall only calculate the breakage duty if the number of bottles broken of each SKU exceeds 0.2% of the bottles of that SKU contained in the shipment.

2.4.3 Dispatching of Liquor against Transport Permit

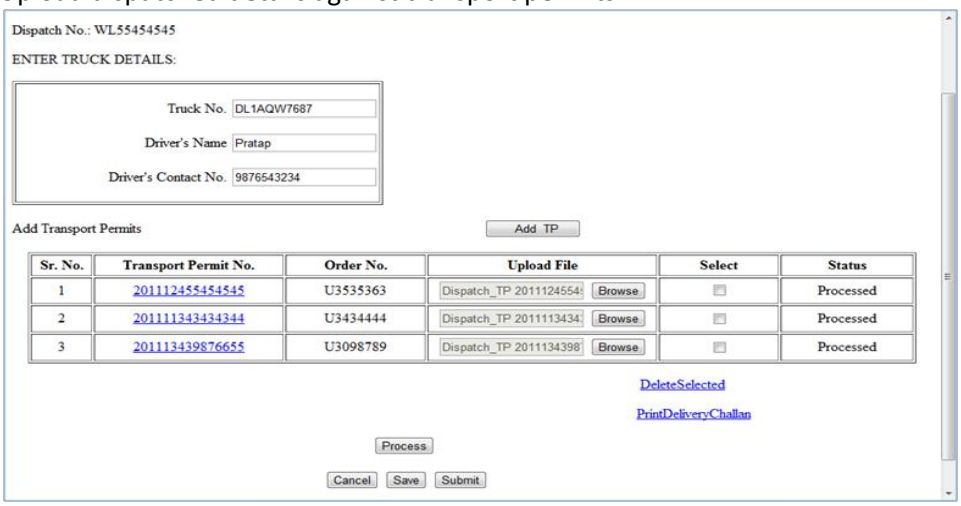
Below are the steps of "TO BE" processes of dispatching Stocks against Transport Permit in Bonded Warehouse.

- Bonded warehouse scans Transport Permits and starts scanning of cases to be dispatched through HHT.
- Bonded warehouse uploads generated XMLs of scanned barcodes of cases as per transport permits for a truck.
- ESCIMS validates uploaded generated XML details. If dispatched details are validated then delivery challan will be printed transport permits wise.
- ESCIMS sends ASN to vend for receiving of stocks.

Below are the HHT and ESCIMS screens for dispatching of liquor and uploading of generated XML as per transport permits.

1. Scan cases through HHT as per Transport Permit.

2. Upload dispatched details against transport permits.



2.4.3.1 Business Validation

1. Number of dispatched cases will be validated against TP.
2. Number of dispatched cases GTIN will be validated against TP.

3. Imported Foreign Liquor (IFL) Bonded Warehouse as Stakeholder

ESCIMS proposes to automate and regulate liquor sale in Delhi. In order to carry out the project successfully it is important to collaborate with all the stakeholders. The tracking of imported foreign liquor entering into Delhi starts from IFL Bonded Warehouses. Thus IFL bonded warehouses have an important role to play in this endeavour.

3.1 Business Functions Covered

In the proposed system following business functions shall be covered:

- Applying and Issuing of License
- Issuing of Transport Permit
- Receiving of liquor from Custom Bonded Warehouse to Excise Bonded Warehouse
- Dispatching of liquor against Transport Permit
- Payment of Requisite fee and excise Duty

3.2 Benefits for IFL Bonded Warehouse

Bonded Warehouses shall also be benefited from this system as:

- IFL bonded warehouse can apply online for license and track its status.
- A standardize approach will be followed across each IFL bonded warehouses so that inventory can be available to Excise before issuing Transport Permit and stock can be tracked and traced across supply chain.
- IFL warehouse will apply for Transit Transport Permit (TTP) for transferring of stocks from custom bonded warehouse to excise bonded warehouse.
- Inventory will be available to Excise after stock is made available in IFL BWH against Transit Transport Permit (TTP).
- Need to visit the department office for transit transport permit, transport permit and no objection certificates will be reduced.
- Better control over inventory is achieved.
- Supply of spurious liquor is reduced.
- Reliability and efficiency in delivery is achieved.
- All payments of requisite fees and duties can be made online with proper tracking and controls.

3.3 IFL Bonded Warehouse Processes

For the purpose of understanding of ESCIMS, IFL Bonded Warehouse processes are mapped to ESCIMS requirements by dividing in two steps:

1. Receiving of Liquor from custom bonded warehouse to excise bonded warehouse against Transit Transport Permit
2. Dispatching of Liquor against Transport Permit

3.3.1 Brief Processes at IFL Bonded Warehouse

- Raise Transit Transport Permit (TTP) to Excise to get the clearance of stocks from custom bonded warehouse to excise bonded warehouse.

- Request of barcode sequence number and download the barcode details of hard liquor and beer.

- In case of hard liquor, ESCIMS will provide the unique serial number of bottles for selected SKUs/GTINs while mapping of bottles unique serial number and Serial Shipping Container Code (SSCC) of cases for selected SKUs/GTINs will be downloaded in case of beer.

- Print and paste GS1 2D Data Matrix bar-code on bottle cap and its mono case using the downloaded unique serial number for a GTIN (Unique Serial Number on each bottles and its mono case must be same).

- Print and paste GS1- 128 linear barcode using downloaded Serial Shipping Container Code (SSCC) for cases**.**

- Since ESCIMS will provide the data in the format, where bar codes for number of bottles in one case and associated bar code of case can be printed together (Mapped data), IFL bonded warehouse will have to make sure not to mix bar codes while pasting on bottles and cases.

- IFL bonded warehouse will upload details of requested barcode sequence number for hard liquor and beer.

- Transport permit will be printed at IFL Bonded warehouse after the purchase order is approved by excise department.

- Bonded Warehouse will dispatch the material against the Transport Permit and upload the dispatch details in ESCIMS.

3.4 IFL Bonded Warehouse ESCIMS Implementation and Operations

The detailed step-by-step process of how the IFL bonded warehouse operations pertaining to receiving of liquor against TTP and dispatching of liquor against TP are explained here.

3.4.1 Prerequisites

To integrate IFL bonded warehouse processes to meet the ESCIMS requirements, IFL bonded warehouses have to fulfil prerequisites.

3.4.2 GS1 Registration

- IFL bonded warehouse has to register with GS1 India and get **Global Company Prefix (GCP)** from GS1.
- **GCP** to be supplied to Excise department at the time of license application by all IFL bonded warehouses in future.
- Respective SKUs (bottle/cases) are also to be registered with GS1 to get GTIN.
- GTIN number is also to be provided to Excise department at the time of license registration.

Note: In ESCIMS, cases will be tracked and traced across supply chain from Distillery to the end point in vends, therefore, GTIN will be assigned to each cases and registered with GS1.

A detail of GS1 Barcode Standards for bottles and cases is provided at **Annexure-I** for ready reference in **Appendix**.

3.4.3 IFL Bonded Warehouse Activities

3.4.3.1 Transfer of Liquor from Custom Bonded Warehouse to Excise Bonded Warehouse

Below are the steps of “TO BE” processes of receiving Stocks against Transit Transport Permit from custom bonded warehouse to excise bonded warehouse.

3.4.3.1.1 Raise Transit Transport Permit

IFL bonded warehouse will raise Transit Transport Permit (TTP) in ESCIMS to Delhi Excise to transfer stocks from custom bonded warehouse to Excise Bonded Warehouse.

Delhi Excise will issue TTP to transfer stock from Custom bonded warehouse to Excise bonded warehouse.

3.4.3.1.2 Request for Barcode Sequence Number

IFL bonded warehouse will request barcode sequence numbers from ESCIMS against TTP.

IFL bonded warehouse will selects the products or brands already registered in ESCIMS and enter quantities of cases for beer and mono cartons for hard liquor.

In Case of Hard Liquor

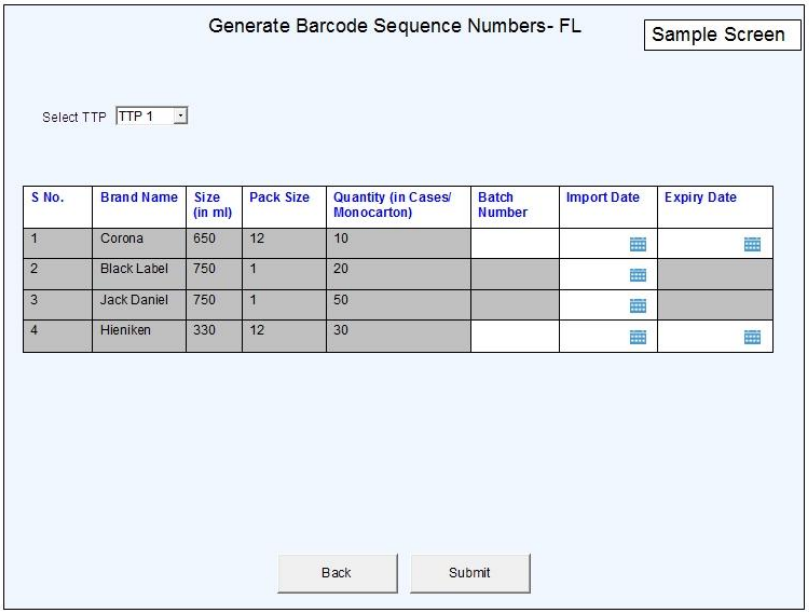
- IFL BWH selects the brand and size already registered in ESCIMS and enters the quantity of bottles. ESCIMS will provide barcode sequence numbers for bottles.
- IFL BWH downloads bottle barcode sequence numbers.
- IFL BWH will generate barcodes from the numbers provided for hard liquor and print generated barcodes in duplicates (one for bottle and one for mono carton) using barcode printer.
- IFL BWH will paste generated barcodes on bottle cap and duplicate barcode on its mono carton.

In Case of Beer

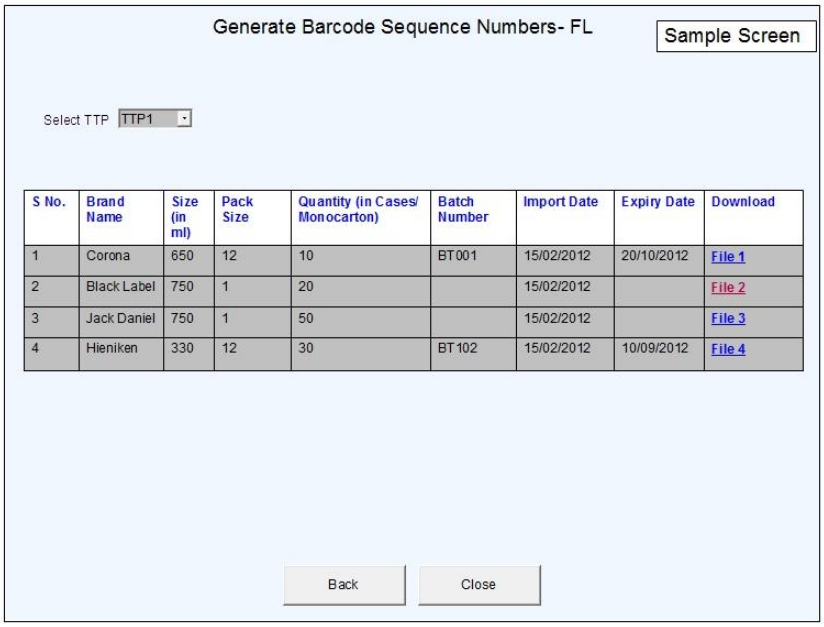
- In case of beer, ESCIMS will provide mapped bar code details of bottles and cases.
- IFL BWH downloads mapped data.
- While IFL BWH will maintain the mapping of data in case of beer (e.g. one strip shall have 1D bar code for case and 2D bar code for bottles as per pack size).
- IFL BWH will paste generated barcodes on bottle caps and cases as per printed mapped data. Precaution will have to be taken to maintain the mapping of data.
- IFL BWH will strike through existing barcode through black maker.

Below are the screens for requesting and downloading barcode sequence numbers:

1. Request barcode sequence number



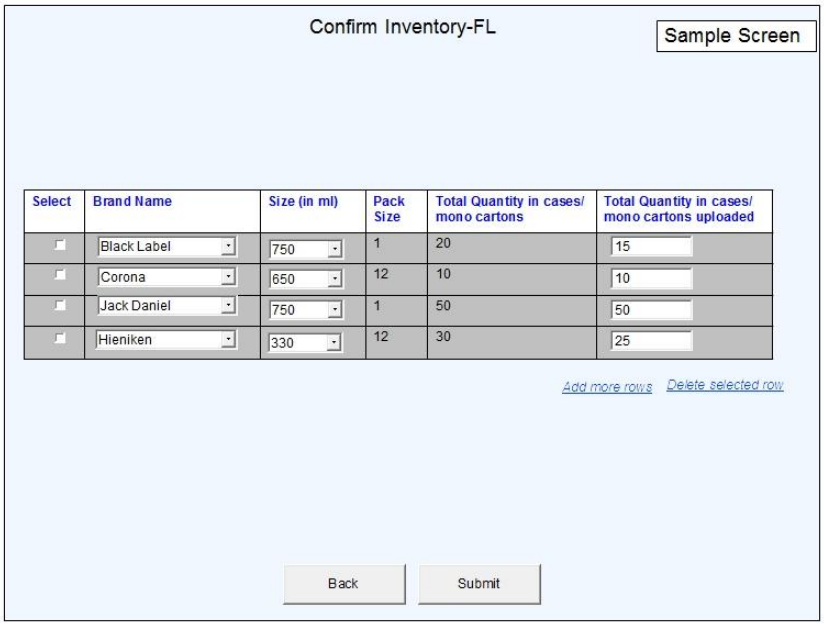
2. Download barcode sequence number in excel format or XML format. Sample XML format is shown in **Annexure II** in Appendix.



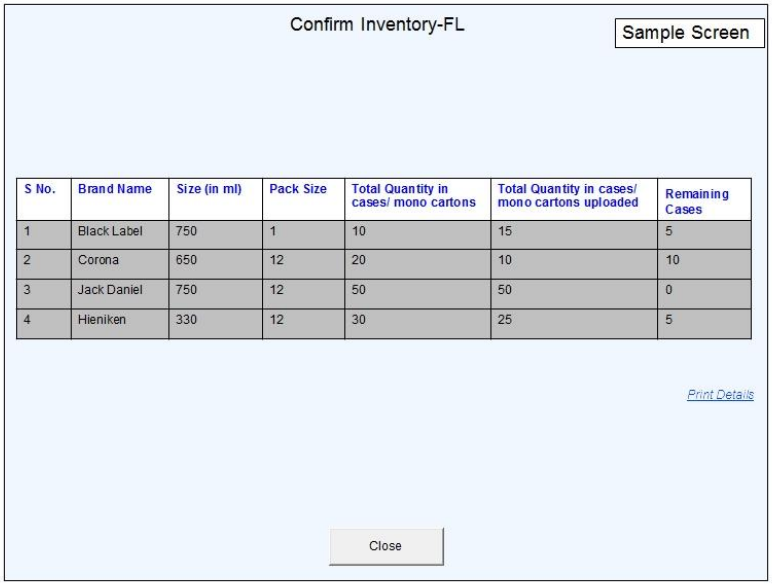
3.4.3.1.3 Confirm Inventory

After downloading barcode sequence number, IFL bonded warehouse will print and paste barcode labels on bottles and cases as per data provided from ESCIMS. IFL bonded warehouse will confirm how many cases and bottles have been readied for dispatch therefore, IFL bonded warehouse will enter total number of quantities for selected brands to make inventory available to Excise in ESCIMS so that Excise can issue transport permit to IFL bonded warehouse whenever vends or HCRs raised purchase order.

1. Enter total number of quantities for selected brands which are readied for dispatch.



2. Print details of confirmed inventory.



3.4.3.2 Dispatching of Liquor against Transport Permit

Same process will be followed as mentioned in **Section 2.4.3** for dispatching of liquor against Transport Permit in Bonded Warehouse.

4. Application Security

The OWASP Top 10 (Open Web Application Security Project) web application security will be implemented in ESCIMS (portal and core application) application. It will be implemented in different layers of ESCIMS application.

The OWSAP Top 10 securities are:

1. A1: Injection
2. A2: Cross-Site Scripting (XSS)
3. A3: Broken Authentication and Session Management
4. A4: Insecure Direct Object References
5. A5: Cross-Site Request Forgery (CSRF)
6. A6: Security Misconfiguration
7. A7: Insecure Cryptographic Storage
8. A8: Failure to Restrict URL Access
9. A9: Insufficient Transport Layer Protection
10. A10: Unvalidated Redirects and Forwards

Authentication and Authorization of login through portal is the first level security. Further, as soon as user login to the ESCIMS application through portal, a **secure Session will be started.**

Since Bonded Warehouse will upload the received and dispatched details in XML format against Import Permits and Transport Permits respectively therefore uploaded XML will be virus scanned through antivirus. **Application firewall ModSecurity** with Clam Antivirus will be used for virus scanning.

5. Recommendation

Below are the recommendation based on the interactions, site visits and requirements of the project as specified.

1. Each bonded warehouse should study and analyze their current process and adopt the new system in a manner that suits their process.

2. The process of upload XML should be tested and followed as advised so as to avoid any mismatches of data about bottle/cases in the supply chain.

3. In case of damage of bottles at any point of supply chain during transit from distillery to bonded warehouse or bonded warehouse to vends, it will be marked as damaged in ESCIMS application.

4. Handling breakage during In Transit, repackaging of bottles into new cases of same SKU would be allowed for bottles of same batch and shipment i.e. of same import permit.

5. Handling breakage at Bonded Warehouse, repackaging of bottles into new cases of same SKU and different batches would be allowed for damaged cases or left over bottles.

6. Repackaging of damaged cases or leftover beer bottles into new cases of same SKU would be allowed for bottles of same batch and expiry date.

7. Bonded Warehouse should ensure that 1D and 2D barcode label is not defaced. Regulatory requirements are not stamped or printed over barcode label.

8. The expected completion date of bonded warehouses readiness is **30th Sep 2012**.

6. Appendix

6.1 Bill of Material

S. No.	Hardware	Descriptions
1.	Desktops with Internet Broadband Connection	Standard configuration of 2GB to 4 GB RAM, above 500GB Hard disk and latest Anti-Virus software and requisite application to store data and generated XML for uploading on to ESCIMS using Broadband Internet Connection.
2.	Scanner	Scanning of 1D and 2D barcodes Detailed Specifications is provide in **Annexure- III**
3.	Printer	Printing of 1D barcode for repacked cases Printing of 1D and 2D barcode for IFL Detailed Specifications is provided in **Annexure-IV**
4.	Barcode Labels	For printing 1D and 2D Barcodes on barcode labels Detailed Specifications is provided in **Annexure-V** for Tamper Evident Labels Detailed Specifications is provided in **Annexure-I** for barcode labels dimension.

6.2 Annexure – I – GS1 Barcode Standards for Bottles and Cases

Refer Annexure – I of this document

6.3 Annexure – II – Sample XML Format

Refer Annexure – II of this document

6.4 Annexure – III – Scanner Specifications

Refer Annexure – III of this document

6.5 Annexure – IV – Printer Specifications

Refer Annexure – IV of this document

6.6 Annexure – V – Tamper Evident Labels

Refer Annexure – V of this document

Annexure – I – GS1 Barcode Standards for Bottles and Cases

GS1 standards in general provide interoperability, flexibility and vendor independence which in turn result in reduction in end product costs to businesses and consumers. These widely implemented standards enable unique and universal identification of products, assets, services, entities/locations, data capture and seamless sharing of supply chain information between trading partners including manufacturers/ suppliers, retailers and consumers. Flow of physical supplies and data sharing/querying also becomes faster, more accurate and seamless across multiple trading partners in supply chains.
GS1 standards works on Identifiers, these identifiers combines with automatic identification technologies like Bar-Codes to establish a connection between the physical entities involved in a supply chain and their related information.

Broadly, there are two types of identifiers:
1. GS1 Identification key, For e.g. GTIN, Batch #, Mfg. Date, Unique Serial #,
2. GS1 Application Identifier, For e.g. (01) for GTIN, (10) Batch #, (11) Mfg. Date, (21) Unique Serial #

Based on the symbol used to encode data, GS1 bar-codes can be categorized into two broad categories:

1. **GS1 barcodes with 1D/linear symbols which include:**
    - European Article Number (EAN) /Universal Product Code (UPC)
    - GS1 DataBar
    - GS1-128
    - Interleaved 2 of 5" (the Barcode Symbology used) and 14 digits (the length of the container symbol (ITF-14)

2. **GS1 BarCodes with 2D symbols which include:**
    - GS1 DataMatrix
    - GS1 composite component

As per project requirement, **1D GS1 128 barcode symbology** shall be used at case level and **2D GS1 Data matrix symbology** shall be used at Bottle level/Mono Case/Small Case.

Data Structure

GTIN 14 Data Structure

Extension Digit	Company Prefix ----------→						Item Reference ←----------					Check Digit
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12	N13	N14

Company Prefix

It consists of country code and Company code registered with GS1. Country Code is "**890**" for company registered with GS1 India office.

SSCC (Serial Shipping Container Code) – The GS1 identification key used to identify individual logistic Unit. The key is comprised of an Extension digit, GS1 Company Prefix, Serial Reference, and Check Digit.'

SSCC Data structure

Application identifier	Extn Digit	Company Prefix ----------→							Serial Reference ←----------								Check Digit
00	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12	N13	N14	N15	N16	N17	N18

Application identifier (00) indicates the data field contains an SSCC.

Extension Digit is used to increase the capacity of Serial reference No. with SSCC. It ranges from 0-9.

GS1 Company Prefix A globally unique number assigned to a GS1 member company

Serial reference – A global unique Number assigned by company.

Check Digit A modulo-10 number calculated across the preceding digits to ensure data integrity.

Check Digit

Check Digit is computer check digit which makes sure barcode is correctly composed. This calculation is done by using Modulo 10 algorithm.

Here is how a mod10 check digit is calculated:

1. For this example, we will use a barcode containing the data 12345678912. Starting from the left side of the bar code, add together every other digit, ignoring the check digit. Add the first, third, fifth, seventh, ninth, and eleventh digits:

   1+3+5+7+9+2=27

2. Multiply the result from step 1 by 3:

   27*3=81

3. Add together the remaining digits. Add the second, fourth, sixth, eighth, tenth, and twelfth digits:

   2+4+6+8+1=21

4. Add the results of steps 2 and 3:

   81+21=102

5. Find the minimum number which, when added to the result from step 4, will generate a number that is evenly divisible by 10:

   102 + n = 110
   n = 8

The number 8 is the mod10 check digit for this arrangement of digits.

Case Barcode

Implementation Guidelines for GS1 -128 1D Barcode at Case Level

At case level, two barcodes following GS1 128 Barcode symbology shall be printed on a single label to be pasted on each case.

a) The first barcode will encode GS1 GTIN number, batch number, manufacturing date and expiry date.

Attribute		Value	Size(N-numeric, AN-Alpha Numeric)
Application identifier	To Identify GTIN Number	01	N2
GTIN	Indicator + Company Prefix + Item Number+ Check Digit		N14
Application identifier	To identify Batch number	10	N2
Batch Number	A unique Number assigned by Distiller for a batch		AN7
Application identifier	To identify Manufacturing Date field	11	N2
Manufacturing Date	Manufacturing Date of liquor	Date shall be in (YYMMDD) format	N6
Application identifier	To identify Best before date field	15	N2
Expiry Date	Expiry date of liquor	Date shall be in (YYMMDD) format	N6

In case of IFL, Manufacturing date will be import date

b) The second Barcode will encode unique serial number (SSCC – Serial Shipping Container code) of each case up to 18 Digits.

Attribute	Description	Value	Size(N-numeric, AN-Alpha Numeric)
Application identifier	To identify Data filed as SSCC	00	N2
SSCC	Unique Serial shipping Container Code		N18

First bar-code structure at case level:

This bar-code will have GTIN number (a unique product code for case), batch number, manufacturing date and expiry date.

AI	GTIN-14			AI	Batch Number	AI	Manufacturing Date	AI	Expiry Date
	Extension Digit (1 digit) Country Code (3 digits)	Company Prefix + Item Reference Number(9 digits)	Check Digit (1 digit)						YYMMDD
01	08902967201905			10	0000518	15	111010	15	000000

ABC Company Limited registered in GS1 India. The Components of GTINs are follows:
Extension Digit – 0
Country Code – 890
Company Code – 2967
Item Reference – 20190 – Director`s Special Black Whisky 750ml case pack
Batch Number – 0000518
Manufacturing Date – 111010 in (YYMMDD format) - 10-Oct-2011
Expiry Date – 000000 (It will be used in case of beer otherwise it will be zeros for other liquors)

Second bar-code structure at case level:

SSCC (Serial Shipping Container Code) to identify individual case uniquely.

Application Identifier Code	Serial Shipping Container Code (Unique Serial Number) (18 digits)
00	089029670100012345

Extension Digit – 0
Country Code – 890
Company Code – 2967
Unique Serial Number – 010001234 – Uniquely identification of case – It must be unique.

Bottle Barcode

Implementation Guidelines for GS1 2D Data Matrix Barcode at Bottle Level/Mono Case or Small case (secondary packaging)

At Bottle level/Mono Case or Small Case, 2D GS1 Data matrix symbology shall be used encoded with GTIN and unique serial number.

Since, 2D barcode at bottle level will not printed at bonded warehouse during repackaging of cases to handle breakage during "In transit" and at Bonded warehouse. It is mentioned for information only so that bonded warehouse can understand the contents of 2D barcodes and report bottles status of damage, missing, lost or leftover bottles in ESCIMS. In case of IFL, 2D barcode will be printed and pasted on bottles.

Attribute	Description	Value	Size(N-numeric, AN-Alpha Numeric)
Application identifier	To identify GTIN Number	01	N2
GTIN	Extension Digit + Company Prefix + Item Number+ check digit		N14
Application identifier	To identify unique serial number	21	N2
Serial number	Unique Serial Number		N10

Bottle/Mono Case/Small Case Barcode Examples

Application Identifier Code	GTIN-14			Application Identifier Code	Unique Serial Number
	Extension Digit (1 digit) Country Code (3 digits)	Company Prefix + Item Reference Number (9 digits)	Check Digit (1 digit)		(10 digits)
01	08902967200905			21	0000000123

ABC Company Limited registered in GS1 India. The Components of GTINs are follows. It includes Unique Serial Number:
Extension Digit – 0
Country Code – 890
Company Code – 2967
Item Reference – 20090 – Director`s Special Black Whisky 750ml
Unique Serial Number – 0000000123 – It must be unique.

Technical Specifications for Bonded Warehouse

The quality of barcode implementation shall have an impact at various points of the supply chain in terms of readability of the barcode. It is important that barcode complies with GS1 standards and the technical specifications suggested in this section.

Barcode Specification

Bar coding is a Data Encoding and Capture mechanism. It is a way to rapidly, accurately and efficiently gather information and transmit it to a computer.

Case – 1D Barcode Specification

Two linear 1D barcodes are recommended for tracking the cases using GS1 128 symbology.

1. **First barcode contains following information:**

a) AI (01) – GTIN – 14 digits
b) AI (10) – Batch Number – 7 Alphanumeric
c) AI (11) – Manufacturing Date (Import Date for IFL) – 6 digits in YYMMDD format
d) AI(15) – Expiry Date – 6 digits in YYMMDD format

2. **Second barcode contains:**

a) AI (00) – Serial Shipping Container Code (SSCC) – 18 digits.

Note:

- **All above information of first barcode GTIN, Batch Number, Manufacturing Date (or Import Date) and Expiry Date and of second barcode SSCC will also be printed in human readable text as per the statutory requirements.**
- **If Expiry Date is not encoded in generated barcode then it should not be printed in human readable text.**

Bottle/Mono Case/Small Case – 2D Barcode Specification

2D Data Matrix symbology is recommended for tracking the bottles and its mono case or small case in case of secondary packaging of 60 ml bottles, where applicable.

2D barcode contains following information:

a) AI (01) – GTIN – 14 digits
b) AI(21) – Unique Serial number

For secondary packaging, separate 2D Barcodes will be used for printing and pasting on secondary case.

All above information GTIN and unique serial number will also be printed in human readable text.

Note:

a) Regulatory Requirement such as Batch Number and Manufacturing Date will not be encoded in 2D barcode.
b) Unique serial number must be unique for bottles/mono cases.
c) Unique serial number of secondary case must be unique for secondary case.

Note: In Case Imported Foreign Liquor,

d) **ESCIMS will provide barcode sequence numbers for both beer and hard liquor against TTP.**
e) **Import Date will be captured in case of beer while year and month will be accommodated in bottle unique serial number in case of hard liquor. First four digits will be reserved for this.**
f) **Company Name, Batch number and other regulatory requirement of selling liquor in Delhi in four languages will be pasted on bottles same as currently being pasted by IFL Bonded Warehouse.**

Barcode Dimension

Minimum sizes which are readable, are recommended for barcode dimensions of 1D and 2D barcodes. These can easily be scanned by recommended barcode scanners.

Case – 1D Barcode Dimension

First Barcode
Mil Size: 10 Mils
Barcode Dimension – 2.85" (Length) x 0.40" (Width)
Read Distance – By Hand Held Terminal – 4" – 8"

Second Barcode
Mil Size: 15 Mils
Barcode Dimension – 2.27" (Length) x 0.40" (Width)
Read Distance - By Hand Held Terminal – 3" – 9.5"

Label Size – 4''(Length)x4''(Width) or 4''(Length)x3''(Width) for both case barcodes in one label
Paper Type

- **Temper Evident Label** – recommended resin ribbons for Thermal Transfer printing

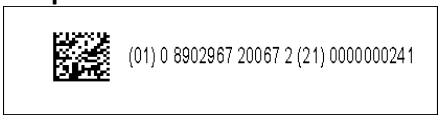
Sample Case Barcode:

Bottle/Mono Case/Small Case – 2D Barcode Dimension

Mil Size: 15 Mils
Barcode Dimension – 0.24" (Length) x 0.24" (Width)
Read Distance – By Hand Held Terminal – 2" – 6"
Label Size – 2''(Length) x 0.6''(Width) sticker
Paper Type –

- **Temper Evident Label** – recommended resin ribbons for Thermal Transfer printing

Sample 2D barcode:



Label Size

Case – 1D Barcode Label Size

The recommended label size for 1D barcode would be 4" (length) X3" (Width) or 4" (Length) x 4" (Width) with 10 mil Bar Code Size for the first bar code and 15 mil Bar Code Size for the second bar code so that human readable text and other text if required can also be accommodated. The size of 1D bar code is more or less same for all cases as there is no space consideration.

Bottle/Mono Case/Small Case – 2D Barcode Label Size

The recommended label size for 2D Barcode would be 2'' (Length) x 0.6'' (Width) on sticker with 15 mil Bar Code Size.

Parameters for 2D Barcodes:

1. **Scanning on Low Visibility** – Should work fine on the low visibility also.
2. **Paper Type –** Water proof, non-tearable, smudge proof – Should preferably be **Temper Evident Label.**
3. **Glue Quality**
4. **Life of Ink printed by printer** – It should be 1 to 2 years.
5. **Quality of Case Paper**
6. **PCR (Print Contrast Ratio)** – Scanner should have minimum PCR of 25% so that it can read poorly printed barcode with low contrast between foreground and background.

Annexure – II – Sample XML Format

Sample XML format is described below:

Sample XML Format of received Intact Cases against Import Permit:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--Sample XML file generated by XMLSpy v2011 rel. 3 sp1 (http://www.altova.com)-->

<BarCodeDetails xsi:noNamespaceSchemaLocation="BarCodeDetails.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <IPDetails IPNumber="IP001">
                <SSCC>08903456000000011</SSCC>
                <SSCC>08903456000000022</SSCC>
                <SSCC>08903456000000033</SSCC>
                <SSCC>08903456000000045</SSCC>
                <SSCC>08903456000000056</SSCC>
                <SSCC>08903456000000067</SSCC>
                <SSCC>08903456000000078</SSCC>
                <SSCC>08903456000000089</SSCC>
                List of SSCC barcode of scanned cases
……..
……
        </IPDetails>
</BarCodeDetails>
```

"Handling Breakage In-Transit"

Sample XML Format of repacked cases and status of leftover bottles:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--Sample XML file generated by XMLSpy v2011 rel. 3 sp1 (http://www.altova.com)-->

<BarCodeDetails xsi:noNamespaceSchemaLocation="BarCodeDetails.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <IPDetails IPNumber="IP001">
                <CaseDetails>
                        <GTIN>18903456789123</GTIN>
                        <BatchNumber>abcde01</BatchNumber>
                        <MfgDate>120308</MfgDate>
                        <ExpDate>000000</ExpDate>
                        <SSCC>089034560000000012</SSCC>
                        <BottleDetails>
                                <GTIN>08903456789124</GTIN>
                                <SerialNumber>1000000001</SerialNumber>
                        </BottleDetails>
                        <BottleDetails>
                                <GTIN>08903456789124</GTIN>
                                <SerialNumber>1000000002</SerialNumber>
                        </BottleDetails>
                        List bottles details of repacked cases
                </CaseDetails>
……..List repacked cases
……
                <BottleStatus>
                        <BottleDetails>
                                <GTIN>08903456789124</GTIN>
                                <SerialNumber>1000000112</SerialNumber>
                        </BottleDetails>
                        <BottleDetails>
                                <GTIN>08903456789124</GTIN>
                                <SerialNumber>1000000113</SerialNumber>
```

```
                    </BottleDetails>
                    ..... List of intact bottles
                </BottleStatus>

        </IPDetails>
</BarCodeDetails>
```

"Handling Breakage at Bonded warehouse"
Sample XML Format of repacked cases and status of leftover bottles:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--Sample XML file generated by XMLSpy v2011 rel. 3 sp1 (http://www.altova.com)-->

<BarCodeDetails xsi:noNamespaceSchemaLocation="BarCodeDetails.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <IPDetails IPNumber="IP001"> /* Current IP number */
                <CaseDetails>
                        <GTIN>18903456789123</GTIN>
                        <BatchNumber>0000000</BatchNumber>
                        <MfgDate>000000</MfgDate>
                        <ExpDate>000000</ExpDate>
                        <SSCC>0890345600000000014</SSCC>
                        <BottleDetails>
                                <GTIN>08903456789124</GTIN>
                                <SerialNumber>1000000011</SerialNumber>
                        </BottleDetails>
                        <BottleDetails>
                                <GTIN>08903456789124</GTIN>
                                <SerialNumber>1000000012</SerialNumber>
                        </BottleDetails>
                        List bottles details of repacked cases
                </CaseDetails>
……..List repacked cases
……
                <BottleStatus>
                        <BottleDetails>
                                <GTIN>08903456789124</GTIN>
                                <SerialNumber>1000000312</SerialNumber>
                        </BottleDetails>
                        <BottleDetails>
                                <GTIN>08903456789124</GTIN>
                                <SerialNumber>1000000313</SerialNumber>
                        </BottleDetails>
                        ..... List intact bottles status
                </BottleStatus>

        </IPDetails>
</BarCodeDetails>
```

Sample XML Format of dispatched Cases against Transport Permit for both bonded warehouse and IFL:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--Sample XML file generated by XMLSpy v2011 rel. 3 sp1 (http://www.altova.com)-->

<BarCodeDetails xsi:noNamespaceSchemaLocation="BarCodeDetails.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <TPDetails IPNumber="TP001">
                <SSCC>089034560000000011</SSCC>
                <SSCC>089034560000000022</SSCC>
                <SSCC>089034560000000033</SSCC>
                <SSCC>089034560000000045</SSCC>
                <SSCC>089034560000000056</SSCC>
                <SSCC>089034560000000067</SSCC>
                <SSCC>089034560000000078</SSCC>
                <SSCC>089034560000000089</SSCC>
List of SSCC barcode details of scanned cases
……..
…….
        </TPDetails>
</BarCodeDetails>
```

In case IFL, Sample XML format is described for a Case of 12 Bottles:

Case 1D Barcode Details:

GTIN : 18903456423462
Batch Number : abcde01
Manufacturing Date : 120308
Expiry Date : 120608
SSCC serial Number : 089034561234567820 (Downloaded from ESCIMS)

Bottle 2D Barcode Details:

S. No	GTIN	Serial Number (Downloaded from ESCIMS)
1	08903456423467	1208000001
2	08903456423467	1208000002
3	08903456423467	1208000003
4	08903456423467	1208000004
5	08903456423467	1208000005
6	08903456423467	1208000006
7	08903456423467	1208000007
8	08903456423467	1208000008
9	08903456423467	1208000009
10	08903456423467	1208000010
11	08903456423467	1208000011
12	08903456423467	1208000012

In case of IFL, Sample XML Format for Cases-Bottles mapping details for mapped data for beer:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2011 rel. 3 sp1 (http://www.altova.com)-->
<BarCodeDetails xsi:noNamespaceSchemaLocation="BarCodeDetails.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <IPDetails IPNumber="IP001">
                <CaseDetails>
                        <GTIN> 18903456423462</GTIN>
                        <BatchNumber>abcde01</BatchNumber>
                        <MfgDate>120308</MfgDate>
                        <ExpDate>120608</ExpDate>
                        <SSCC>089034561234567820</SSCC>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000001</SerialNumber>
                        </BottlelDetails>

                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000002</SerialNumber>
                        </BottlelDetails>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000003</SerialNumber>
                        </BottlelDetails>
```

```
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000004</SerialNumber>
                        </BottlelDetails>
                         <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000005</SerialNumber>
                        </BottlelDetails>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000006</SerialNumber>
                        </BottlelDetails>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000007</SerialNumber>
                        </BottlelDetails>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000008</SerialNumber>
                        </BottlelDetails>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000009</SerialNumber>
                        </BottlelDetails>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>12080000010</SerialNumber>
                        </BottlelDetails>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000011</SerialNumber>
                        </BottlelDetails>
                        <BottlelDetails>
                                <GTIN>08903456423467</GTIN>
                                <SerialNumber>1208000012</SerialNumber>
                        </BottlelDetails>
                </CaseDetails>
        ......................
        </IPDetails>
</BarCodeDetails>
```

Annexure – III – Scanner Specifications

2D Data Matrix is read by imaging cameras devices. The principle is based upon first capturing the image of the symbol and then analyzing it. This is different technology from the one used by many of the laser scanners for reading the linear barcode symbol. A linear symbol can be read by a single laser beam passing across the length of the symbol. However, to read Data Matrix symbol requires the entire image to be read in both the X and Y axis. 2D is considered to be having better readability compared to 1D. It can be read from any angle and side of scanning. In case of any minor damage to the 2D bar code, the readability is still ensured.

Scanners will be used for scanning the cases during receiving of cases against IP, dispatching of cases while uploading the cases on truck against TP and repackaging of cases during breakage “In Transit” and at bonded warehouse.

It is to be understood by the Bonded Warehouse owner that the product features and specifications of the devices recommended in the document for scanners are for reference only. Bonded Warehouse owners have to decide and discussed with vendor to procure and meet the requirement of 1D and 2D barcodes scanning.

To ensure the reliability of barcode scanning, it is recommended that scanner should possess following features:

- Comprehensive data capture options — 1D, 2D, image capture
- Supports for all major 1D, PDF, postal and 2D symbologies
- High Resolution of camera
- Rugged Design
- Tempered Glass exit window
- Multiple on-board interfaces and universal cable
- Omni-directional scanning, wide working range
- Comprehensive connectivity options — including wireless, cordless and corded
- High resolution high contrast color QVGA display

A good quality hand held digital image or mobile scanners (HHT) capable of scanning GS1 barcodes (1D and 2D barcodes) possessing above mentioned features should be used.

Annexure – IV – Printer Specification

In Case of Bonded Warehouse,

Since, the cases or bottles will be damaged during transit from distillery to bonded Warehouse and at bonded warehouse after receiving the stocks. Bonded warehouse supervisor will do repackaging of cases as much as possible to complete the case. If the case is completely damaged, then bonded warehouse will scan the case or get the details of damaged case from downloaded dispatched scanned barcodes of Import Permit.

For printing 1D barcode with other texts in human readable form like GTIN, Batch Number, Manufacturing Date, Expiry Date and Serial Shipping Container Code (SSCC), **the Thermal Transfer Printer is recommended for offline printing on Temper Evident label**.

In Case of Imported Foreign Liquor,

Since, IFL bonded warehouse transfers stocks from custom bonded warehouse to Excise bonded warehouse against Transit Transport Permit (TTP). Once, the stock is available in Excise bonded warehouse then IFL bonded warehouse will download the barcode sequence number against selected TTP.

IFL bonded warehouse will print 1D and 2D barcodes depending on the downloaded barcode sequence number.

For printing 1D barcode and 2D with other texts in human readable form like GTIN, Batch Number, Manufacturing Date (or Import Date) and Serial Shipping Container Code (SSCC), **the Thermal Transfer Printer is recommended for offline printing on Temper Evident label**.

Temper Evident Label – recommended resin ribbons for Thermal Transfer printing

Annexure – V – Tamper Evident Labels

Material Description: Specifically designed for corrugated boxes having rough surface, dust and high moisture content. It is highly effective for manual application of the labels or where no applicator being used. Also, where the storage of boxes is improper so that label does not peel off.

The evident properties are derived from top layer, which is semi gloss white, co-extruded film consisting of an expanded polystyrene layer with a clear polystyrene surface film. The top coat is highly receptive to thermal printing as it is having matt finish. The total calliper of material is being 0.145mm with difference of plus minus 10%.

Adhesive:

A highly aggressive permanent rubber based adhesive featuring high initial tack and excellent ultimate bond strength to a wide range of substrates. The Adhesion is equally effective for Manual as well as Auto Application of the Labels.

Minimum Application Temperature: + 5^{o} C

(The minimum temperature at which the label can be applied and will adhere)

Service Temperature Range: - 20^{o} C to + 70^{o} C

(The temperature range to which the label can be exposed after the adhesion bond to the substrate has been formed)

Application:

Typical applications include product identification labels on various types of corrugated boxes and glass containers. The moderate internal strength of the face allows the product to be used as a tamper evident label. The label can also be used as a shrinkable seal by using heat after application. Adhesive is in compliance with FDA recommendations, where incidental contact between food and adhesive may be possible.

Conversion:

This product can be printed in the usual printing technologies; for variable information printing thermal transfer and inkjet printing can be used. It's recommended to use Resin Ribbons for Thermal Transfer Printing for better outcome.

Customized security cuts are also advised according to label size, to enable a better view of temper evidence if label is tried to be peeled off from the substrate.

It has also been observed that the bigger the label sizes provide better adherence due to larger bonding area and increase the material effectiveness.

Material should be handled with great care; rough handling may leave permanent impressions in the relatively soft face stock.

Shelf Life: Two years when stored at 22^{o} C

ESCIMS

For Suggestions/ Query/ Clarifications, Email at: escimsexcise.delhi@nic.in