**ERP** **Implementation**

**Document : Business Process Design**

**Module : DPE**

**Process : 200.10.22 DPE**

**Version : v1.1**

# DOCUMENT INFORMATION

**Client Name**:

**Document Details**:

|  |  |  |
| --- | --- | --- |
| **Name of Document** | **Version** | **Description** |
| 200.10.22\_CWC\_To-Be\_DPE\_v1.1 | v1.1 | All the Requirements as mentioned in FRS have been classified into **Processes and Sub-Processes**. In the Business Process Re-engineering and the Business Process Design Document, To-Be Process flows have been prepared at Sub-Process Level.  **Business Process Re-engineering, Business Process Design and Business Solution Design Document comprises of following sections:**   * **Section I : Overview**   + List of Business Processes and Sub-Processes   + Process Overview   + Key Data Structure * **Section II : Sub-Process Description**   + Sub Process Brief Description   + Key Assumptions and Dependencies   + To-Be Process Flows and Steps   + Process Variations   + Changes Impact   + Developments   + Roles & Responsibilities * **Section III: Integration Scenarios** * **Section IV: MIS List** * **Section V: RICEFW Inventory List** * **Annexure I: Updated Bill of Material/Bill of Quantity** * **Annexure II: FRS and BPML Mapping** * **Annexure III: Requirement Traceability Matrix** * **Annexure IV: Updated Functional Requirements Specification** * **Annexure V: Updated Technical Requirements Specification** * **Annexure VI: Non-Functional Requirements Specification** * **Annexure VII: Organizational Structure/ Mapped Organogram of CWC** * **Annexure VIII: List of Role-Based User End users of ERP System.** * **Annexure IX: Any Additional information related to the Business Process** |

**Document Change Details**:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Date** | **Author** | **Role** | **Version** | **Page Nos.** | **Description** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**Document Sign off Details**:

:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Role** | **Sign off Date** | **Signature** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# TABLE OF CONTENTS

[DOCUMENT INFORMATION 1](#_Toc20133)

[TABLE OF CONTENTS 6](#_Toc7867)

[ABBREVATIONS 8](#_Toc10376)

[Visio Legends 9](#_Toc12390)

[SECTION I: Overview 10](#_Toc11948)

[1.1 List of Business Processes and Sub-Processes 10](#_Toc8492)

[1.2 Process Overview: 200.10.22: DPE 11](#_Toc13538)

[1.3 Key Data Structure 11](#_Toc24204)

[SECTION II: Sub Processes 12](#_Toc32733)

[2.1. Sub Process : 200.10.22.01:Export Operations 12](#_Toc6895)

[2.1.1. Sub Process Brief Description 12](#_Toc32469)

[2.1.2. Key Assumptions & Dependencies 14](#_Toc23873)

[2.1.3. To-Be Process Flow 15](#_Toc26453)

[2.1.4. To-Be Process Steps 16](#_Toc19967)

[2.1.5. Process Variation 18](#_Toc27773)

[2.1.6. Changes Impact 18](#_Toc13824)

[2.1.7. Developments 19](#_Toc21814)

[2.1.8. Roles & Responsibilities 20](#_Toc1094)

[SECTION III: Integration Scenarios 20](#_Toc4399)

[SECTION V: MIS List 20](#_Toc7065)

[SECTION VI: RICEFW Inventory List 21](#_Toc10908)

[Annexure I:Updated Bill of Material/Bill of Quantity 22](#_Toc28093)

[Annexure II:FRS and BPML Mapping 22](#_Toc8972)

[Annexure III:Requirements Traceability Matrix 22](#_Toc22905)

[Annexure IV:Updated Functional Requirement Specification 22](#_Toc31699)

[Annexure V:Updated Technical Requirement Specification 22](#_Toc10708)

[Annexure VI:Non-Functional Requirements Specification 22](#_Toc28374)

[Annexure VII:Organizational Structure/Mapped Organogram of CWC 22](#_Toc18476)

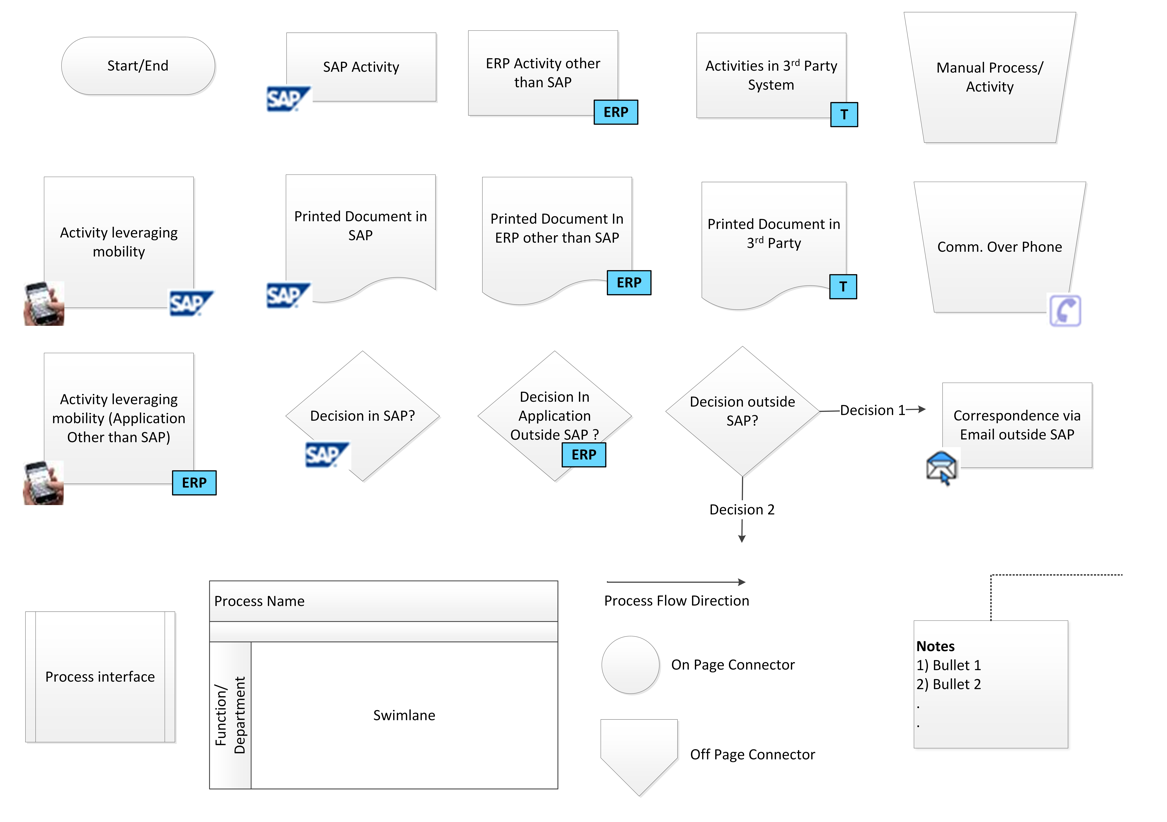
[Annexure VIII: List of Role-based End users of ERP System. 22](#_Toc17095)

[Annexure IX:Any Additional information related to the Business Process 22](#_Toc20)

ABBREVATIONS

|  |  |
| --- | --- |
| **Abbreviations Used** | **Description** |
| CWC | Central Warehousing Corporation |
| RO | Regional Office |
| RM | Regional Manager |
| HOD | Head of a Department |
| DPR | Detailed Project Planning |
| NSEZ | Noida Special Economic Zone |
| SEZ | Special Economic Zone |
| EXIM | Export Import |
| ICEGATE | Indian Customs Electronic Gateway |
| RICEFW | Report Interface Conversion Enhancement Form Workflow |
| DPE | Direct Port Entry |
| RMS | Risk Management System |
| HHT | Hand-Held Terminals |
| AO | Appraising Officer |

Visio Legends



SECTION I: Overview

* 1. List of Business Processes and Sub-Processes

*[Document the processes and sub-processes as per Business Process Master List]*

At CWC, the Direct Port Entry (DPE) system will serve as a digitally enabled export process that will allow containers to move directly from the CFS to the port terminal, minimizing delays, manual interventions, and redundant cargo handling.

Following Business Processes and sub-processes are covered in this document:

|  |  |  |  |
| --- | --- | --- | --- |
| **Process No.** | **Process Name** | **Process No.** | **Sub-Process Name** |
| 200.10.22 | NSEZ-RC\_DC\_DTA |  |  |
|  |  | 200.10.22.01 | RC/DC/DTA Export Operations |

# Process Overview: 200.10.22: DPE

*[Document the Process brief description, the importance/ purpose of the process and the key points involved in the process]*

|  |  |
| --- | --- |
| **Applicable Businesses** |  |

**Brief Description of Process:**

The DPE Export Operation will be a simplified and efficient process to handle export cargo. It will begin with cargo arrival, followed by seal checks, vehicle and document verification, and parking slot assignment using real-time yard data. The system will then guide users step-by-step through gate-in, customs clearance, billing, and final dispatch. This will be supported by fully integrated digital systems, RFID and E-Seal checks, automated documents, and real-time coordination with customs and port platforms.

**Key steps will involve:**

* Generating a Gate-In Slip using handheld terminals and RFID/E-Seal validation
* Verifying submitted documents such as invoice, packing list, shipping bill, and board approvals
* Registering the Shipping Bill in the ICES portal
* Performing customs examination where applicable, and recording it with photo documentation
* Issuing the Let Export Order (LEO) digitally by the Superintendent/AO
* Generating the tax invoice and reconciling with any pre-paid or credit balances
* Issuing a Gate Pass upon successful payment verification, embedded with a unique hologram identifier
* Logging the Gate-Out through RFID validation and automatic port system updates (Form 13, SCMTR)

This process will ensure smooth handling of export operations while maintaining full regulatory compliance and minimizing delays through automation and system-led checkpoints.

# Key Data Structure

*[Document the key data structure that is required in the process]*

|  |  |  |
| --- | --- | --- |
| **Sub-Process -PR** | **Document Type** | **Number Range** |
| NA |  |  |
|  |  |  |

SECTION II: Sub Processes

# Sub Process : 200.10.22.01:Export Operations

*[Document the sub-process description, key assumptions & dependencies, process flows, process steps, required ABAP developments, testing scenarios and roles & responsibilities]*

### Sub Process Brief Description

*[Document the sub-process brief description, the importance/ purpose of the process and the key points involved in the process]*

The Export Operations at CWC, will be executed through a digitally integrated, compliance-driven process designed to ensure transparency, efficiency, and full trace ability of container movement. The future-state process will commence with the pre-arrival notification of factory-stuffed export containers and will conclude with their gate-out for shipment to the port, under the supervision of both CWC officials and Customs authorities.

**Pre-Arrival Notification**

* Factory-stuffed containers will be notified in advance through a digital platform.
* The system will preregister key shipment details, optimizing yard planning.

**Truck Arrival**

* Upon reaching the CFS gate, the E-Seal on the container will be verified using handheld RFID readers.

**Gate-In Slip Generation**

If the seal is intact, a Truck-In Slip will be auto-generated, recording:

* Shipping Bill number & date
* Container number & size
* Trailer & driver details
* Seal number
* Date & time of gate-in

**Gate-In**

* The RFID tag on the trailer will be scanned at the gate to log in-time and trigger surveillance image capture.

**Document Check**

The CHA/Exporter will submit supporting documents:

* Invoice, Packing List, Checklist, Board Approvals

The system will validate details digitally and complete admission electronically.

**Job Order**

* Customs officers will access Shipping Bill data via the ICES portal for bill registration.

**Customs Examination (If Required)**

The RMS (Risk Management System) will determine if inspection is needed.

If flagged:

* HHT devices will be used for tally verification & photo uploads.

A Stuffing Report will be filed in ICES.

**Let Export Order (LEO)**

* Once inspection is completed successfully, the Appraising Officer (AO) will issue the LEO.

**Shipping Bill Generation**

* The system will auto-print the Shipping Bill, one copy for customs and one for the exporter.

**Invoice Generation**

* The system will generate the Tax Invoice based on contract terms.
* Data Transfer to Ledger: All financial transactions will be digitally recorded in the CWC ledger for transparency.

**Payment Receipt:**

* User can receive payment from a party against one or more invoices,ensuring that the total receipt amount matches the total invoice amount.
* During the receipt process, user also have the option to input the TDS amount
* This ensures accurate payment handling and proper record-keeping for financial transactions.

**Payment Online**:

* The system is integrated with HDFC payment gateway so, the user can pay single invoice or multiple invoice or can pay in advance also to the SD account through online payment .

**Add Money To SD:**

* Users have the option to receive money from a party without linking it to a specific invoice by using the 'Add Money to SD' feature.
* The received amount is directly credited to the party's Security Deposit (SD) account, ensuring flexibility in payment handling and maintaining accurate records for future transactions.

**Integration with ERP System :**

* System send Invoice, Credit note, Debit note, Bill of Supply, Payment receipt data to ERP system through API communication. Individual, Cash Receipt information will be sent to ERP System

**Gate Pass Issuance**

* After verification, the system will auto-generate the Gate Pass with a hologram & unique identifier.

**RFID Verification at Exit**

* Security personnel will conduct final checks using RFID & manual validation.

**Gate Exit**

* The system will register the final gate-out upon successful verification.

### Key Assumptions & Dependencies

*[Document Key assumptions that should be considered for implementation of the process.*

*Document key dependencies related to the business process as well as third party systems. This shall cover major technical or functional dependencies w.r.t business processes discussed in the document. Also document major data objects needs to be considered to execute To Be processes explained in the document.]*

| **Sr. No.** | | **Assumption Description** |
| --- | --- | --- |
| 1. | All user machines are connected with internet | |
| 2. | GST portal is available to provide IRN | |
| 3. | All master information should enable to generate IRN | |
| 4. | All HSN code have mapped ledger code | |
| 5. | Real-time data exchange between cloud (customer portal) and on-premise CFS software. | |
| 6. | Integration with ICEGATE, PCS, and RFID infrastructure must be functional. | |
| 7. | Weighment bridge should operative and able to transfer data to ERP system | |
| 8. | Integration document of SCMTR for DPE is available at DPE | |

| **Sr. No.** | **Dependency Description** |
| --- | --- |
| 1. | ICEGATE for SCMTR |
| 2. | GST portal should available to generate IRN. |
| 3. | Master information of Importer, CHA, Shipping line, Consolidators should available before operation. |
| 4. | Separate IP address for each DPE |
| 5. | IP address whitelisting with customs (ICEGATE) |
| 6. | HHT devices must support bar-code and e-seal scanning |
| 7. | CHA/exporters must complete digital registration (KY C-compliant). |

### To-Be Process Flow

*[Document the end-to-end Process flow. Use the symbols according to the defined legends. For manual steps, manual operation should be used. Each task/ activity should be properly numbered, so that each task/ activity could be referenced]*



### To-Be Process Steps

*[Document in detail the steps involved in the end-to-end process. For each activity/task, identify whether the task will be in SAP or Non-SAP. Also cross-reference the number of each task to the number of step in the process flow diagram]*

| **Sr. No.** | **Activity / Task Name** | **Activity / Task Description** | **SAP / ERP/ 3rd Party / Manual** | **Role** |
| --- | --- | --- | --- | --- |
| 10. | Pre- arrival notification | Exporters or CHAs will upload documents such as invoices, packing lists, checklists, and board approvals digitally by the CHA/exporter.The system will automatically prepare a record for the expected container and allocate a tentative parking slot based on capacity. | ERP | CWC |
| 20. | Truck Arrival | Upon arrival, the container’s E-Seal will be scanned and verified.The RFID tag on the trailer will be scanned to capture in-time, vehicle number, and driver credentials into the system. | ERP | CWC |
| 30. | Gate In slip Generation | Based on successful validation, the system will auto-generate a Truck-In Slip. Simultaneously, the entry will be logged in the Gate Register for compliance and trace ability. | ERP | CWC |
| 40. | Gate In | Capture gate in date and time,Shipping bill number, Shipping bill date, vehicle number, container number,Trailer number,Seal number, exporter information, CHA information, E seal no, driver name, driver License no and shipping bill details. Gate In will be done on the basis of application of allow. | ERP | CWC |
| 50. | Document Check | CFS staff will cross-check uploaded documents like Invoice, Packing List, Board Approvals against the container and shipment data. | ERP | CWC |
| 60. | Job Order | If a container is flagged for customs examination a job order will be generated in the system for custom verification. | ERP | CWC |
| 70. | Custom Examination | Customs will conduct an open examination of the container (if required) and check the cargo.  During the Examination, services the unloading will be categorized based on the extent of unloading, such as:   * Below 25% container unload * Above 25% container unload | ERP | CWC |
| 80 | LEO | Based on examination status or direct clearance if not examined, the Appraising Officer (AO) or Superintendent will issue the LEO through the ICES system.  Once customs clearance is granted, the system will record the Let Export Order (LEO). Shipping Bill details will be updated in ICES, marking the container ready for export dispatch. | ERP | CWC |
| 90. | Shipping bill generation | Once LEO is granted, the system will calculate charges based on pre-configured tariff and contract data. Services such as container handling, stuffing, examination, and storage will be factored into the bill. | ERP | CWC |
| 100. | Invoice | Invoice has been generated on the basis of fixed CWC charges and H&T changes as applicable. | ERP | CWC |
| 110. | Data Transfer to Ledger | Invoice/bill of supply/ credit note/debit note/ receipt information will transfer to accounting software end of each business days. A single JSON will generate against transaction of a business day. | SAP | CWC |
| 120 | Payment Receipt | Payment receipt has been generated against each payment. Payment has been done against individual invoice. Receipt can be generated for payment against SD account also. | ERP | CWC |
| 130 | Gate Pass | Upon successful payment, the system will generate a digital Gate Pass, indicating that the container is cleared for exit. | ERP | CWC |
| 140 | RFID Verification | As the truck reaches the outbound gate, the RFID system will once again scan the container and match it against gate pass records. If all data aligns, the gate barrier will be lifted for dispatch. | ERP | CWC |
| 150 | Gate Exit | The system will update the Truck-Out Register with time, date, and transporter details and gate exit will be done against valid gate pass. | ERP | CWC |

### Process Variation

*[Brief description if there are more than one variation of processes as per business units / Geographies etc.]*

1. The system will handle both e-sealed containers (ready for export) and empty trucks (for on-site stuffing), triggering the appropriate work-flows.
2. Weighbridge will be integrate with ERP system.
3. Insertion of manual charge during preparation of invoice to incorporate
4. Containers may or may not be selected for inspection based on ICEGATE's RMS. If flagged, examination will be carried out using HHTs; otherwise, LEO will proceed directly.Credit facility to consumer.
5. Vehicles will be diverted to waiting zones if primary bays are full, based on real-time yard capacity monitored by the system.
6. Exim Traders will be categorized as Prepaid or Postpaid. Prepaid invoices will auto-adjust against balances, while Postpaid clients will make payments before gate-out.
7. Data to integrate with DPEAS system.

### Changes Impact

*[Identify Key Changes suggested in To-Be Processes. Also mention the Impact on Business due to suggested Changes]*

| **No.** | **Description** | **As-Is** | **Key Change Suggested in To-Be** | **Change Impact on Business** |
| --- | --- | --- | --- | --- |
| 1. | Parking management | No parking management in the system | EXIM trader will apply for verification and CWC allow on the basis of availability of space at yard. | Operation process will slow but consumer have confirmation about availability of space. |
| 2 | Integration with Weighbridge. | No integration with system | Weighbridge will provide weigh of container plus vehicle and vehicle alone to calculate weight of container. | CWC can change on the basis of weight of LEO and actual weight, whoever is higher. |
| 3. | Manual charges entry provision in invoice | Presently system will provide enter charge manually. | System will calculate charges on the basis of days, hours, size, weight etc and allow user to change calculated charges and allow to enter new charges | Manual modification and addition of charges is not good practice for integrated ERP system |
| 4. | Payment gateway incorporation | Presently payment gateway is not incorporate in the system | User can pay online. | It will be easier for user to pay online and get acknowledgement. |
| 5. | Modification of tax invoice | Modification of tax invoice is not permissible as per instruction of CO, CWC | Modification of invoice after generating. | Manual modification is not recommended in integrated ERP system. |
| 6. | Supplier will generate IRN | CWC generate IRN through system | Supplier will generate IRN. There is no clarity has been provided during discussion with DPE on flow/operation of generation of IRN by supplier. | Ensures GST compliance and faster invoice validation. Reduces manual paperwork and delays in billing |
| 7. | Integration with DPEAS | No such integration available | There is no clarity has been provided on integration with DEPAS during meeting with DPE. | Enables real-time data sharing, reducing redundancy. Improves coordination between departments and with external agencies |
| 8. | Uploading e-way bill data | Presently not available in the system | There is no clarity has been provided regarding uploading e-way bill in GST system | Prevents gate delays due to missing documentation. Supports compliance audits and regulatory reporting |
| 9. | Sending digitally signed to supplier to generate IRN | Presently IRN is generating at CWC | There is no clarity has been provided regarding sharing digitally signed JSON to supplier. | Maintains data authenticity and security. Reduces manual intervention, ensuring quicker invoice life-cycle |

### Developments

*[Record development objects.  Specify their Ref. To-BE Steps, RICEFW Type Also cross-reference the number of each RICEFW object to the number of step in the process flow diagram]*

| **Sr. No.** | **Description** | **Ref. To-BE Step(s)** | **RICEFW Type** |
| --- | --- | --- | --- |
| DEV.22.01.01 | Parking management | 10,20, 30, 40 | I |
| DEV.22.01.02. | Modification of tax invoice | 100 | E |
| DEV.22.01.03. | Manual charges entry provision in invoice | 100 | E |

### Roles & Responsibilities

*[Document the key roles along with the responsibilities based on which Authorization matrix would be prepared]*

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Sub Process No. and Sub Process Name** | **Role** | **Responsibility** |
| 1. | 200.10.22.01:Export Operations | CWC | To do all H&T activity as custodian and maintained all records for future reference. |
| 2. | 200.10.22.01:Export Operations | EXIM Traders | Deposit goods information to CWC and apply to custom for clearance of goods. |

# SECTION III: Integration Scenarios

*[Document Integration Scenarios between cross functional modules]*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Integration Scenario** | **Integration between Modules** | **Integration between Modules** | **Process Description** | **Updated Process Description** | **Remarks** |
| 1. | ICEGATE | Export |  | SCMTR will be implemented with DPE operation | SCMTR integration with DPE operation |  |
| 2 | GST PORTAL | Export |  | IRN will be generated | Post preparation of invoice/credit note/ debit note data transfer to GST portal to generate IRN |  |
| 3. | Supplier to generate IRN | Export |  |  |  |  |
| 4. | DPEAS Integration | Export |  |  |  |  |

# SECTION V: MIS List

| **Sr. No.** | **Report ID** | **Name of Report** | **Frequency of Report (Daily, Monthly, Annual)** | **Standard / RICEFW Required** |
| --- | --- | --- | --- | --- |
| 1 | DPE.R1 | Gate IN register | Daily | Standard |
| 2 | DPE.R2 | Gate Exit register | Daily | Standard |
| 3 | DPE.R3 | Lift up/down log. | Daily | Standard |
| 4 | DPE.R4 | Full Examination register | Daily | Standard |
| 5 | DPE.R5 | Reefer plug-in/out register | Daily | Standard |
| 6 | DPE.R6 | Gate pass register | Daily | Standard |
| 7 | DPE.R7 | Daily transaction summery | Daily | Standard |
| 8 | DPE.R8 | Load container report | Daily | Standard |
| 9 | DPE.R9 | Empty container report | Daily | Standard |
| 10 | DPE.R10 | Cash Book | Monthly | Standard |
| 11 | DPE.R11 | Party wise register | Monthly | Standard |
| 12 | DPE.R12 | TDS register | Monthly | Standard |
| 13 | DPE.R13 | GST statement | Monthly | Standard |
| 14 | DPE.R14 | Business Economy Report | Monthly | Standard |

# SECTION VI: RICEFW Inventory List

| **Sr No.** | **RICEFW ID** | **Process No. and Process Name** | **RICEFW  Description** | **RICEFW  Type** | **Development / MIS** |
| --- | --- | --- | --- | --- | --- |
| 01. | I.22.01.01 | 200.10.22.01:Export Operations | Parking management | I | DEV.22.01.01 |
| 02. | E.22.01.02 | 200.10.22.01:Export Operations | Modification of tax invoice | E | DEV.22.01.02. |
| 03. | E.22.01.03 | 200.10.22.01:Export Operations | Manual charges entry provision in invoice | E | DEV.22.01.03. |

# Annexure I:Updated Bill of Material/Bill of Quantity

N/A

# Annexure II:FRS and BPML Mapping

N/A

# Annexure III:Requirements Traceability Matrix

N/A

# Annexure IV:Updated Functional Requirement Specification

N/A

# Annexure V:Updated Technical Requirement Specification

N/A

# Annexure VI:Non-Functional Requirements Specification

N/A

# Annexure VII:Organizational Structure/Mapped Organogram of CWC

N/A

# Annexure VIII: List of Role-based End users of ERP System.

N/A

# Annexure IX:Any Additional information related to the Business Process

N/A