JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DIRECTORATE GENERAL OF CUSTOMS & EXCISE

MINISTRY OF FINANCE

REPUBLIC OF INDONESIA

THE STUDY

OF

IMPROVEMENT OF CUSTOMS SYSTEM

IN

INDONESIA

FINAL REPORT

VOLUME IV CSS PROPOSAL

MARCH, 1999

NTT DATA CORPORATION

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DIRECTORATE GENERAL OF CUSTOMS & EXCISE

MINISTRY OF FINANCE

REPUBLIC OF INDONESIA

THE STUDY

OF

IMPROVEMENT OF CUSTOMS SYSTEM

IN

INDONESIA

FINAL REPORT

VOLUME IV CSS PROPOSAL

MARCH, 1999

NTT DATA CORPORATION

Exchange Rate of Currency

November 30th, 1998

US$1=Rp.7,375

Final Report

Table of Contents

Volume IV CSS Proposal

CHAPTER 1 Development Policy of CSS

1.1 General View

The Role of customs, border controlling, detecting smugglers, controlling goods and collecting government revenue will be among the most important jobs for years to come. Additionally to the above role, under the economical globalization era, customs is required to perform the role as facilitator for international trade. Recently this role has become more significant than the traditional role.

Market forces have exerted large amounts of pressure on the Directorate General of Customs an Excise (DJBC) to facilitate the flow of international trading cargo to support the economic development of Indonesia. In order to cater to those demands, DJBC has implemented a new computer system to assist with import procedures that is including Electrical Data Exchange (EDI) and New Customs Law. Those DJBC's effort to improve customs activities have succeeded in improving of Customs activities and have been highly noticed by market players.

Indonesian is facing more economic globalization and trade liberalization, in the form of AFTA 2003. DJBC has to improve and modernize customs system procedures in order to achieve the government policy; "Developing Indonesia Economy by enhancing non export and increasing direct investment through improving trade and investment environment". The implementation of an advanced, integrated and fully effective computer system for all customs clearance procedures and utilizing a completely integrated computerized database system are urgent methods to accomplish above the objectives.

1.2 Integrated CSS System

DJBC maintains the computerized import clearance system, which consist of Customs Fast Release System (CFRS), and EDI system telecommunications between importer and customs. This system has achieved significant progress in betterment the flow of import goods and has reduced import clearance time. However CFRS was develop in 1989 and has been updated several times to conform with amendment related the regulatory and legal framework as well as

in satisfying the requirements of market players and customs. The frequent update of the system made its structure complicated and less reliable system.

DJBC is also developing a Customs Export System in cooperation with PT. EDI Indonesia, which will be implemented on April 1998. It is expected to facilitate export customs procedures and to expand export.

Considering the new globalization era and environment of Customs, a development of a radically integrated new Customs computer clearance system, that is called Customs Service System (CSS), is inevitable for DJBC. CSS should be developed based on the latest computer technology available and the latest Customs clearance concept to be established by WCO. It is expected to cover all Customs clearance procedures,

- Import Clearance
- Export Clearance
- Bonded Transport
- Arrival/Departure Control

Implementation of CSS including EDI must completed at least before the year 2003 when the AFTA new free trade era comes full force to Indonesia.

Regarding the development of CSS, the following maters should be taken into consideration;

- The new system should be ultimately be based on the latest version of UN/EDIFACT.
- The server of the new system should have sufficient capacity be utilized during certain period and enough capacity to expand memory in conformity with the increase of transaction of data required by the increase of PIB and PEB during those periods.
- Terminals should be replaced with PC's and be used as for multi-screen functions for CSS, and other Customs systems, the popular operating system is suitable for this purpose.
- System architecture should be design based on the philosophy of easy amendment that the development of EDI.

In addition to the development of house application of CSS, it should be considered that the development of EDI system would be used for communication between CSS and the its users.

Since CSS needs to be a comprehensive Customs clearance system, it seems, it seems that feedback from users, such as importers, customs brokers, banks, operators of bonded zones and warehouses, etc should become an important component to making an efficiency system. The establishment of committee that consist of representatives of those parties is a one very excellent way assures the system success and assimilation.

CHAPTER 2 Current Custom Service and CFRS

2.1 Current Procedures

In this part, current Customs procedures are described.

An overview of the Customs procedures is shown in Figure 2.1-1. In this figure, each arrow represents the flow of cargo, which constructs one procedure. Thick arrows show the computerized procedures in April, 1998.
Figure 2.1-2 summarizes the Data Flow Diagram (level 0). To help explain current procedures, we use 2 methods, which are:

2.1.1 Data Flow Diagram

Data flow diagrams (DFD) are used to model the passage of data through the system by showing a networked structure of the data. DFDs do not show the processes that control this flow of data, nor do they make any attempt to distinguish between valid and invalid paths through the data. However, DFDs have many useful features; they:

- Provide a way to document the system from the point of view of the data itself.
- Illustrate external data feeds that will require an interface of some kind.
- Document the manual processes of the system, as well as computer-based ones.
- Perform a data-centric partitioning of the overall system.

(Dave Ensor, Ian Stevenson : "Oracle Design", O'Reilly & Associates, p.95, 1997)

In the level 0 DFD, the target organization is treated as a black box. All the data flow between the target organization and related organization should be shown. No process conducted inside the organization shall appear.

To achieve the technical transfer in limited time, the JICA Study Team has chosen a sector of Customs procedures, that is the sector of Arrival/Departure management, to be analyzed with DFD. Other sectors are analyzed with Process Flow method explained below.

In the lower level of DFD, the JICA Study Team made two DFDs for each procedure, because of complication of the procedures. One is similar to the level 0 DFD, and the other shows the detail.

2.1.2 Process Flow

Each procedure except for the procedures in the sector of arrival/departure management is described in Process Flow. This type of diagrams is describing the flow of job process. An arrow means the flow of job process, which means that latter job process shall be processed after the former job is processed. Latter process is usually initiated with receiving some data from former process, so the main flow of data is also described in this type of diagram. Some of the described data flow does not mean process flow, so those are distinguished by a dashed line.

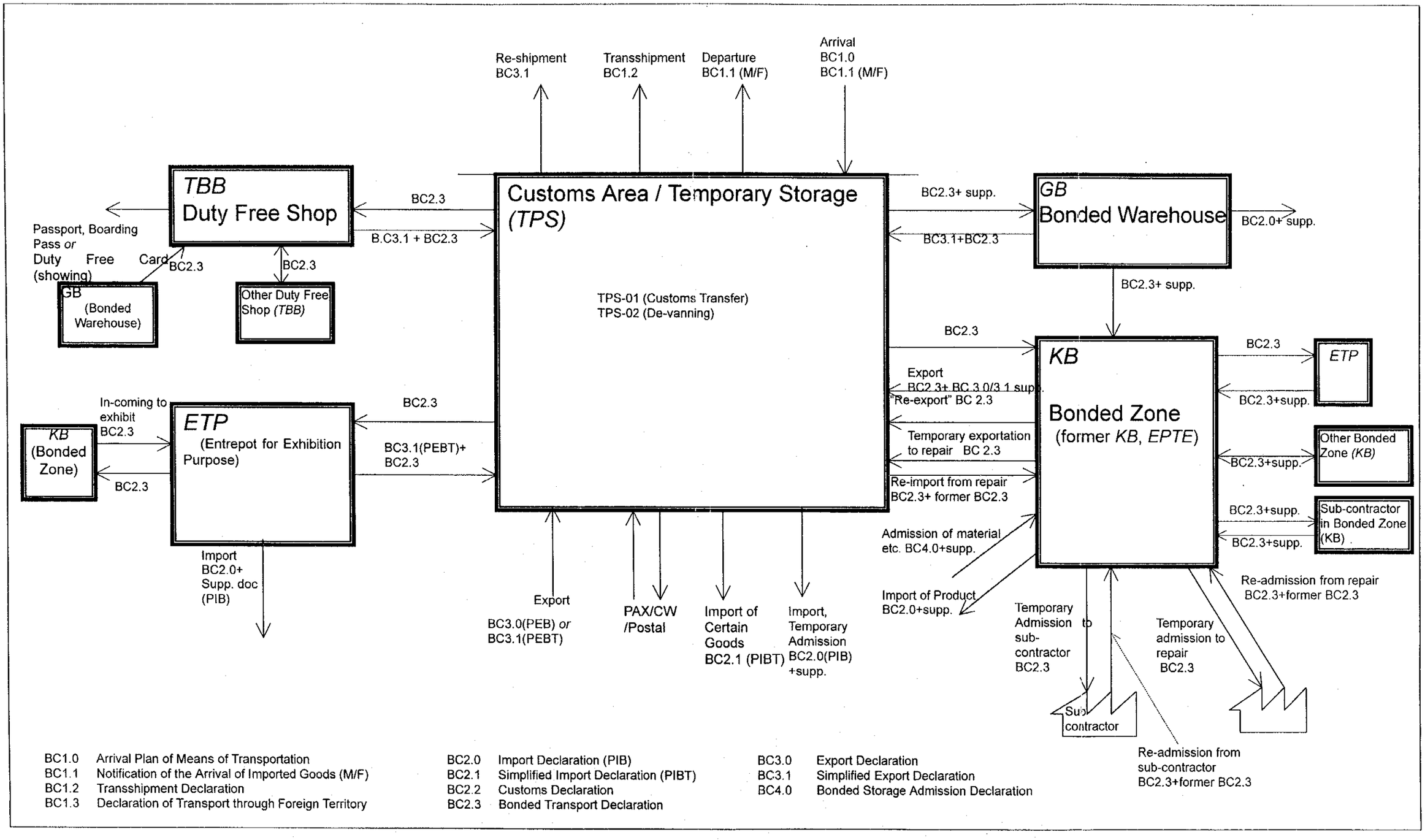

Figure 2.1-1: Overview of the Procedure before Computerization

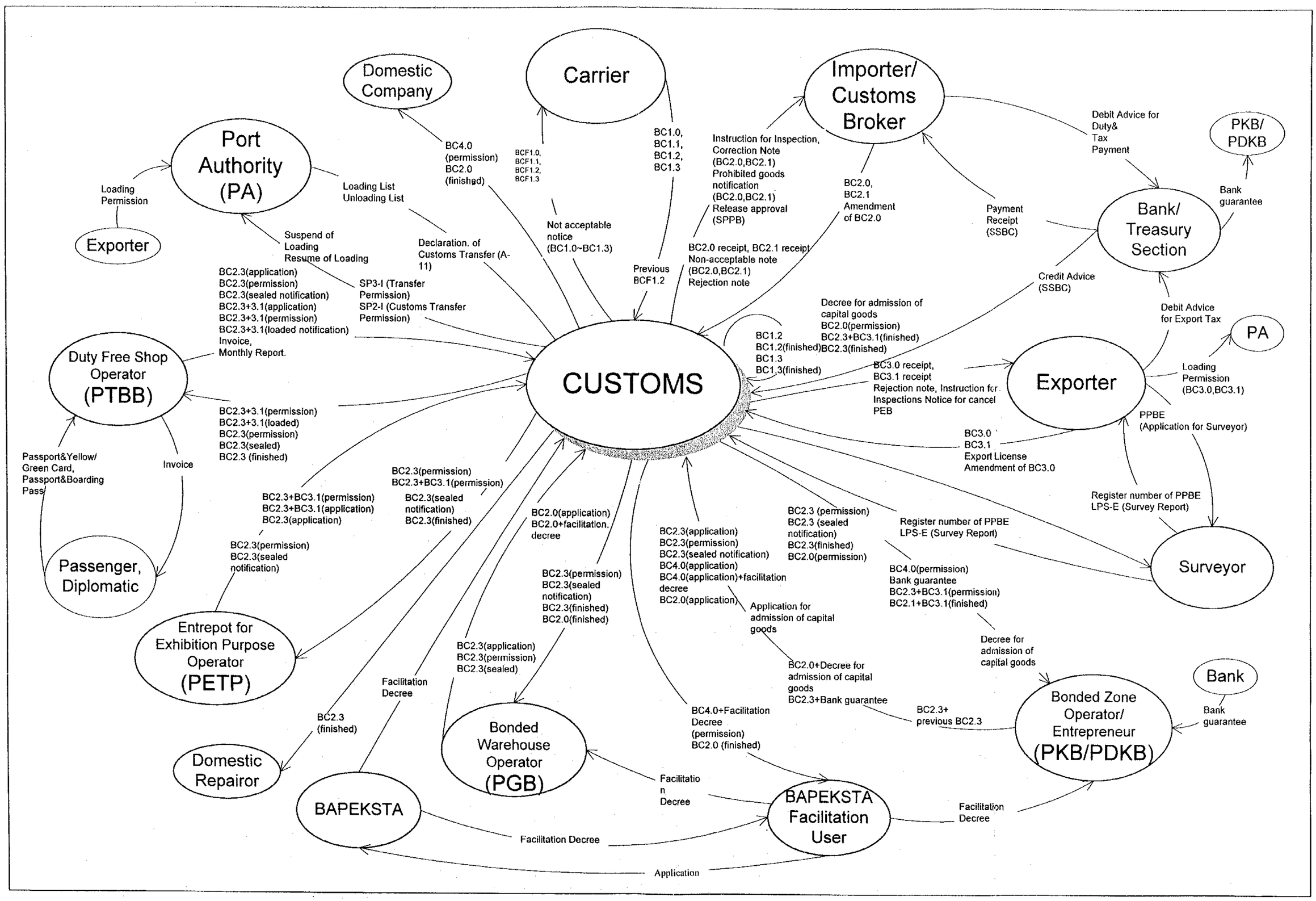

Figure 2.1-2: Data Flow Diagram (level 0)

2.1.1 Import clearance

"Import" *(Impor)* means activities to bring goods into the "Customs Territory" *(Daerah Pabean),* which means the territory of the Republic of Indonesia covering the land, waters, and air space over them and specified localities in the exclusive economic zone and the continental shelf in which this law applies in full.

The imported goods may be released from the Customs Area in six cases four of them are bonded transfer. "Import Clearance" in this report means the release of the imported goods from Customs Area to Customs Territory (domestic) that is above two cases. There are two types of releasing of imported goods from Customs Area; 1) to be imported for home use; 2) to be temporarily admitted.

As for the Customs procedures, Import Clearance is categorized following three procedures.

In the first type of procedure, the Customs declaration form BC 2.0 (Declaration of Import Goods / *Pemberitahuan Impor Barang,* hereinafter called as PIB) is used. This procedure covers "Importation of General Goods," which means the goods not specified to be subject to another procedure shall be covered by this procedure. Goods to be temporarily admitted shall also be subject to this procedure. This procedure is shown in Figure 2.1.1-1. Current CFRS (Customs Fast Release System) covers this procedure only.

In the second type of procedure, the Customs declaration form BC 2.1 (Declaration of Certain Import Goods / *Pemberitahuan Impor Barang Tertentu,* hereinafter called as PIBT) is used. "Certain Import Goods" means that some goods, such as household removal goods, goods temporarily admitted by passenger, consigned goods, means of sea / air transportation, certain imported goods which shall be stipulated by the Directorate General of Customs and Excise. The most significant difference from the former procedure is that the assessment of the import duty and import related taxes is done by Customs official. This procedure is shown in Figure 2.1.1-2.

The last type of procedure covers the goods accompanied by passengers / crews, which is used the Customs declaration form BC 2.2 (Customs Declaration/*Pemberitahuan Pabean*).

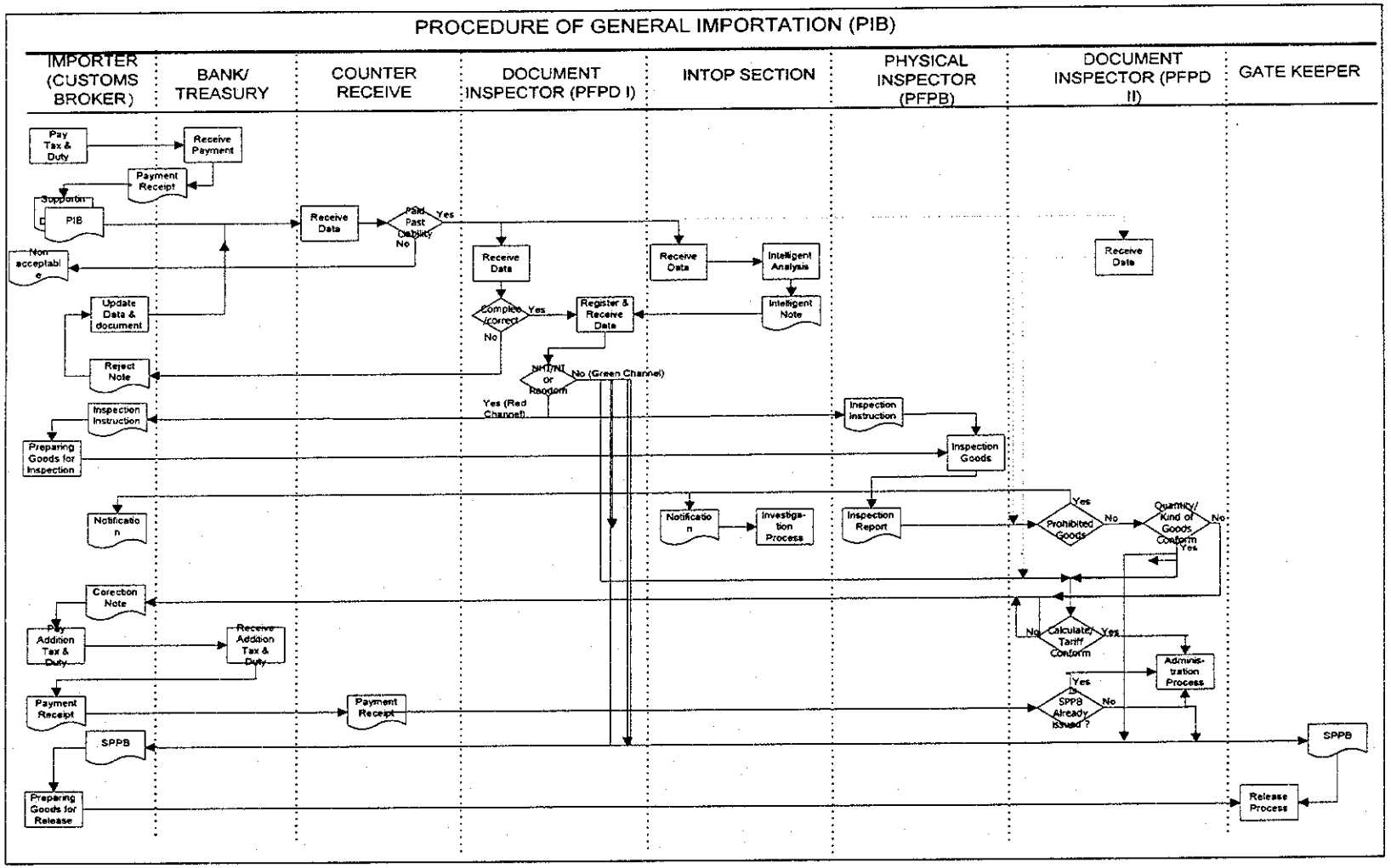

Figure 2.1.1-1: Procedure of general importation (PIB)

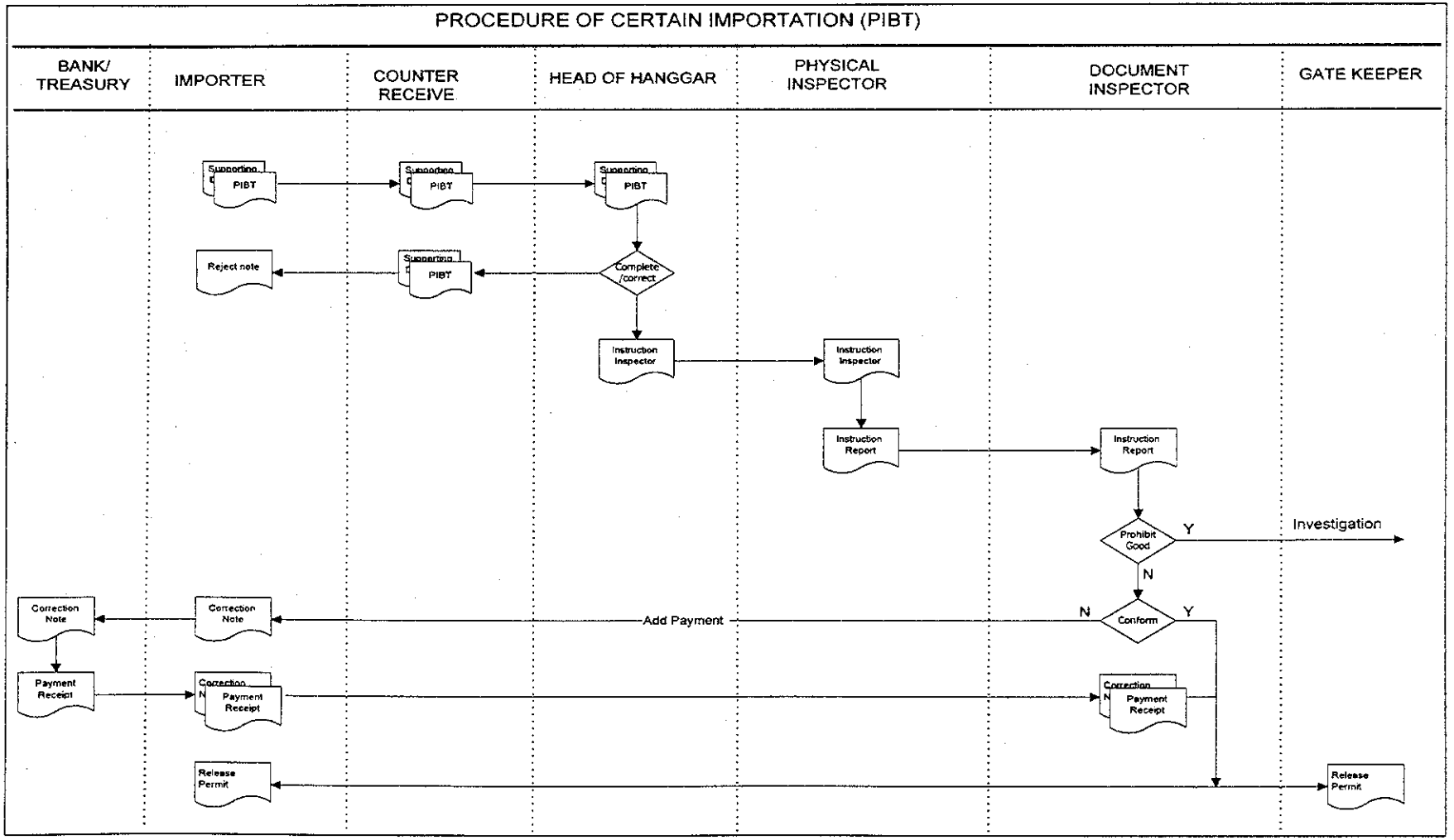

Figure 2.1.1-2: Procedure of certain importation (PIBT)

2.1.2 Export clearance

"Export" *(Ekspor)* means activities to take goods out of the Customs Territory.

"Export Clearance" in this report means the release of the exported goods out of Customs Area to outside the Customs Territory *(Luar Daerah Pabean / LDP)*.

Export clearance system using EDI is going to be introduced in April, 1998. This system will cover from Surveyor inspection to loading. This includes almost all the procedures relating to export, except for consolidating and departure.

There are three types of procedures in the field of Export Clearance. Two forms are used for Export Clearance, namely BC 3.0 (Declaration of Export Goods / *Pemberitahuan Ekspor Barang,* hereinafter called as PEB) and BC 3.1 (Declaration of Certain Export Goods / *Pemberitahuan Ekspor Barang Tertentu,* hereinafter called as PEBT). The difference of these forms are the number of items to be filled in.

The first type of procedure, described in Figure 2.1.2-1, "Export procedure of General Goods" shall cover all the goods not specified to be subject to other procedures.

Next type of procedure, described in Figure 2.1.2-2, "Export procedure for BAPEKSTA facilities" shall cover the goods exported by the company that uses BAPEKSTA facilitation. BAPEKSTA is an agency of the Ministry of Finance, namely "the Agency for Export Facilities Service and Financial Data Processing" *(Badan Pelayanan Kemudahan Ekspor dan Pengolahan Data Keuangan)*, which have the task of administration of duty drawback facilitation for exporters located outside the Bonded Storages (this term will be explained in respective part). The goods to be reimbursed the taxes (BAPEKSTA facilitation) shall be inspected by the Surveyor designated by the government before entry to the Customs Area. Currently, the Surveyor is PT. Sucofindo. This procedure is basically same with above-mentioned procedures except this procedure is required to the surveyor inspection in advance to the entry to the Customs Area.

The last type of procedure, described in Figure 2.1.2-3, "Export procedure for determined goods" shall cover the goods that require a certain license to export. The difference from the "Export procedure for general goods" is the processes related to the required license. The term "determined goods" in this report is chosen to prevent confusing with the term "certain goods," which is used to indicate the goods to be subject to PIBT.

There are some goods not covered by these three procedures. Those goods, which are the goods accompanied by passengers / crews, are not subject to Customs procedure.

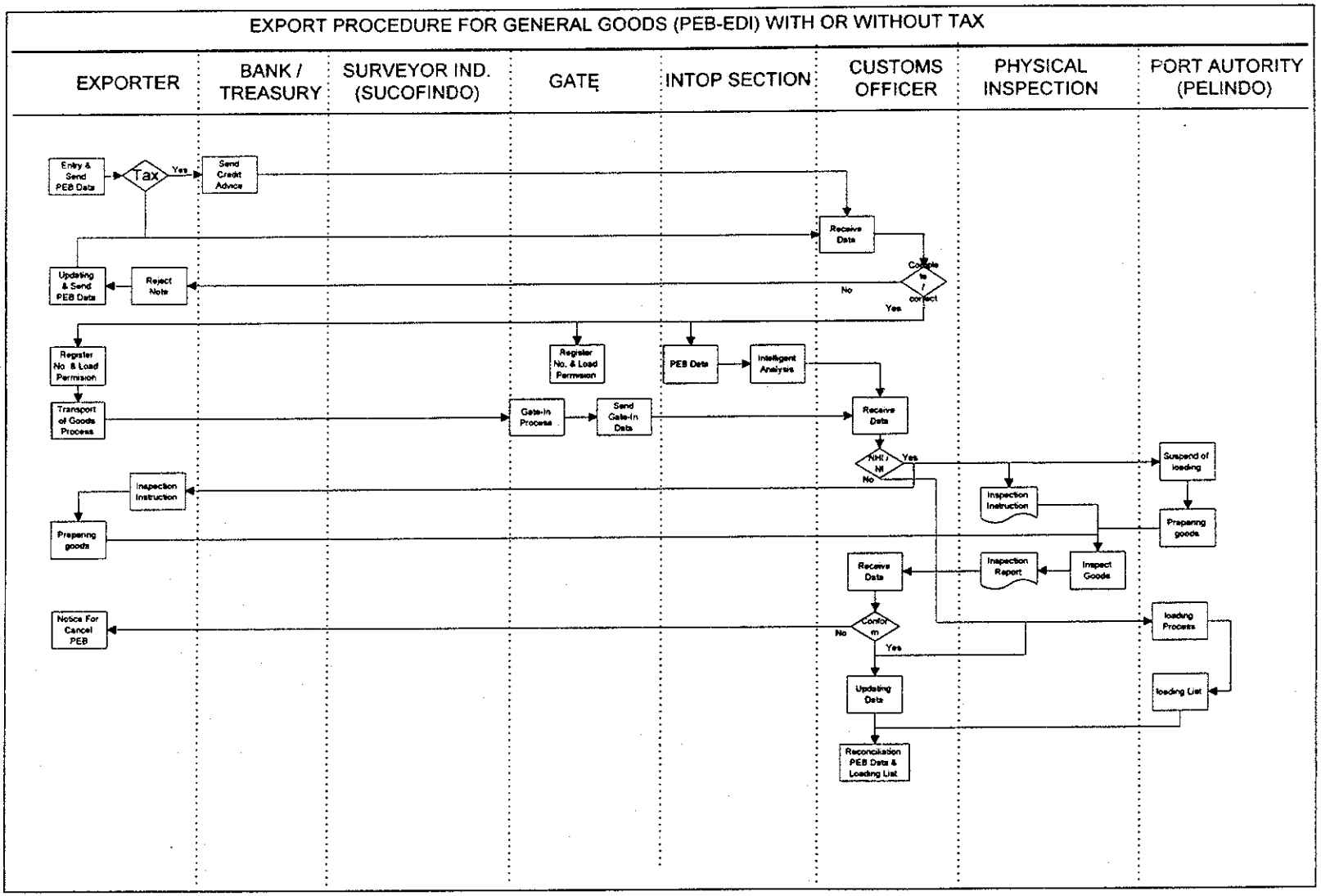

Figure 2.1.2-1: Export procedure for general goods (PEB-EDI) with or without tax

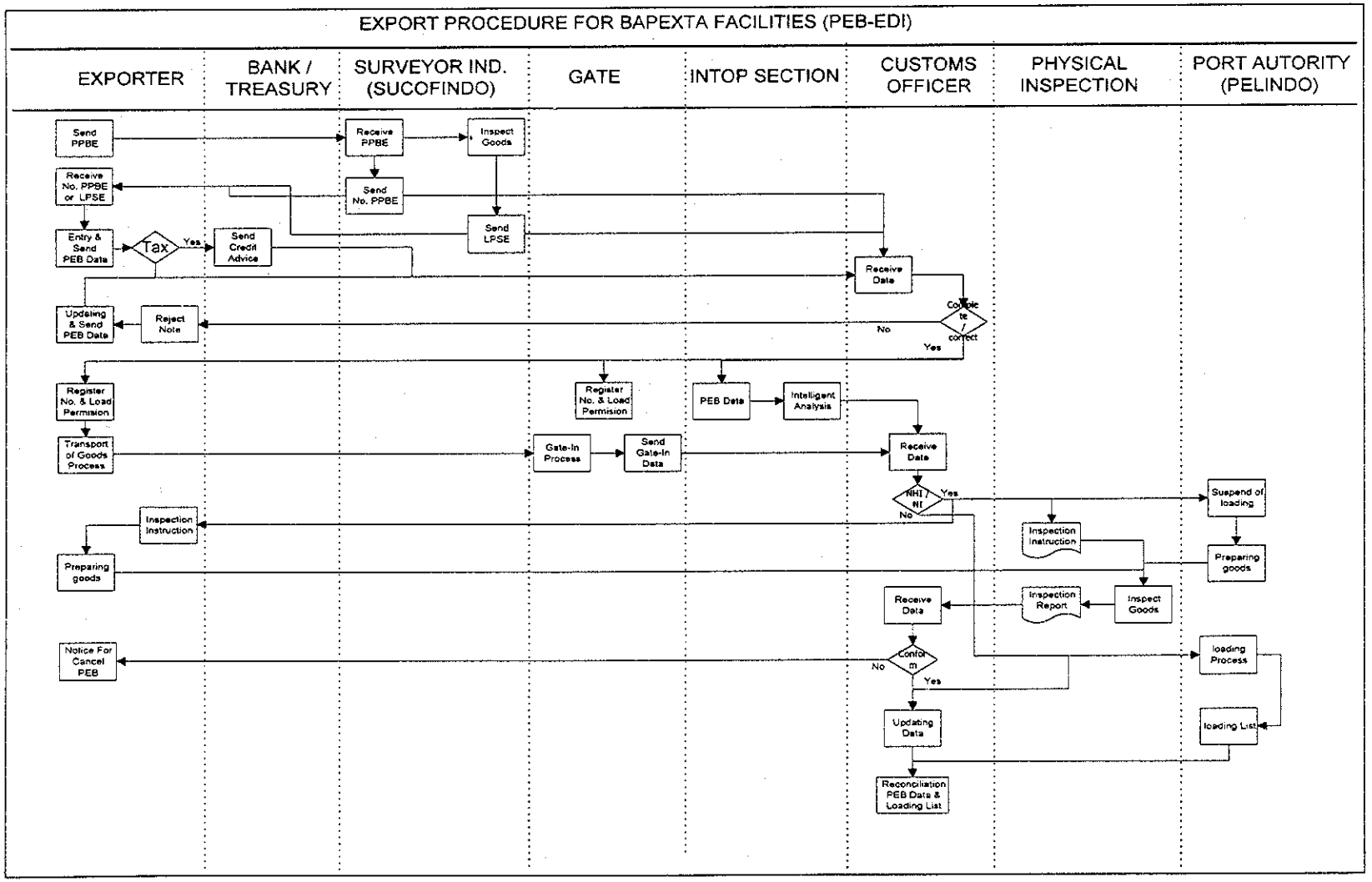

Figure 2.1.2-2: Export procedure for BAPEXTA facilities (PEB-EDI)

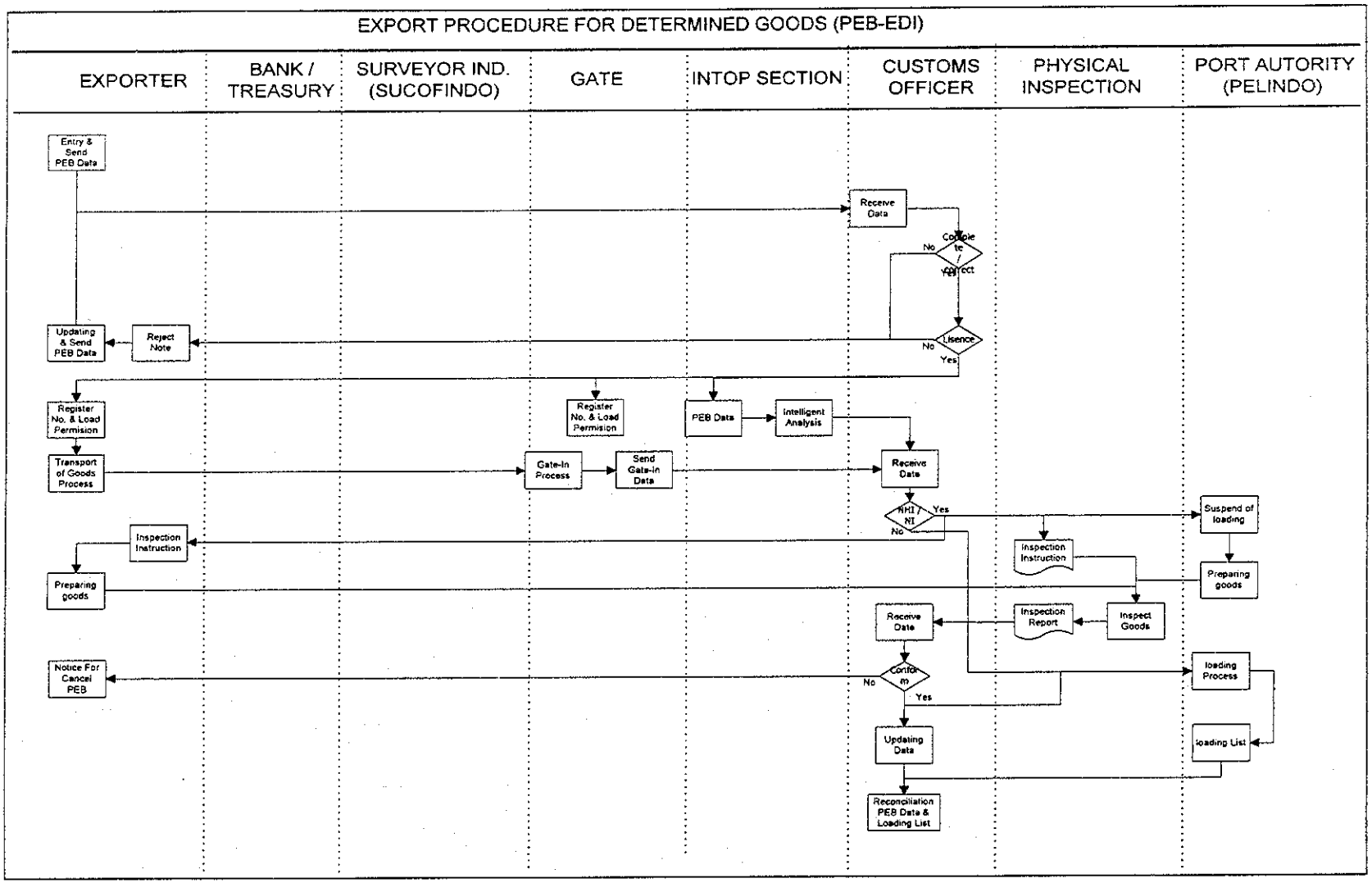

Figure 2.1.2-3: Export procedure for determined goods (PEB-EDI)

2.1.3 Arrival of Means of Transport:

In advance to the arrival of means of transport ("means of transport" would usually be a vessel or an airplane, and might be a truck or a train, because Republic of Indonesia has land borders with Malaysia and Papua New Guinea) the carrier submits an arrival plan of means of transport. When the means of transport arrives periodically, the carrier submits a schedule of an arrival plan of means of transport. These are used to control the means of transport or goods, such as the planning of ship searching. These documents are reconciled with the notification of arrival of means of transport mentioned below.

On the arrival of means of transport the carrier submits the notification of arrival of means of transport with Cargo Manifest (M/F), which lists all the cargoes in accordance with Bill of Lading (B/L/if vessel) or Air way Bill (AWB /if airplane), to the Manifest Section of the Inspection Office. M/F is used; 1) to control the unloading goods; 2) to reconcile with release or re-shipment of goods, and to manage goods still in Customs Area.

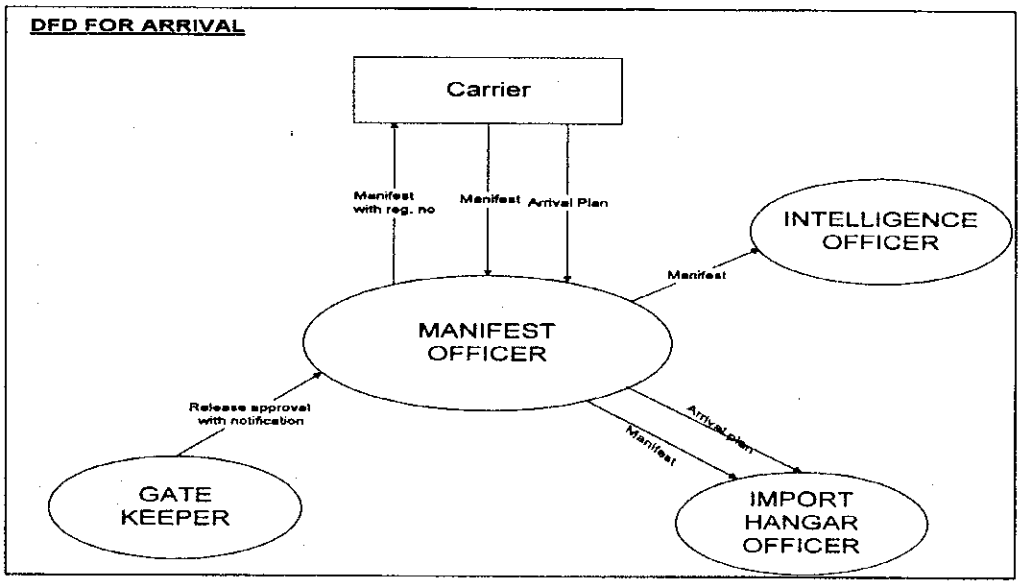

Figure 2.1.3-1: Data flow diagram for arrival

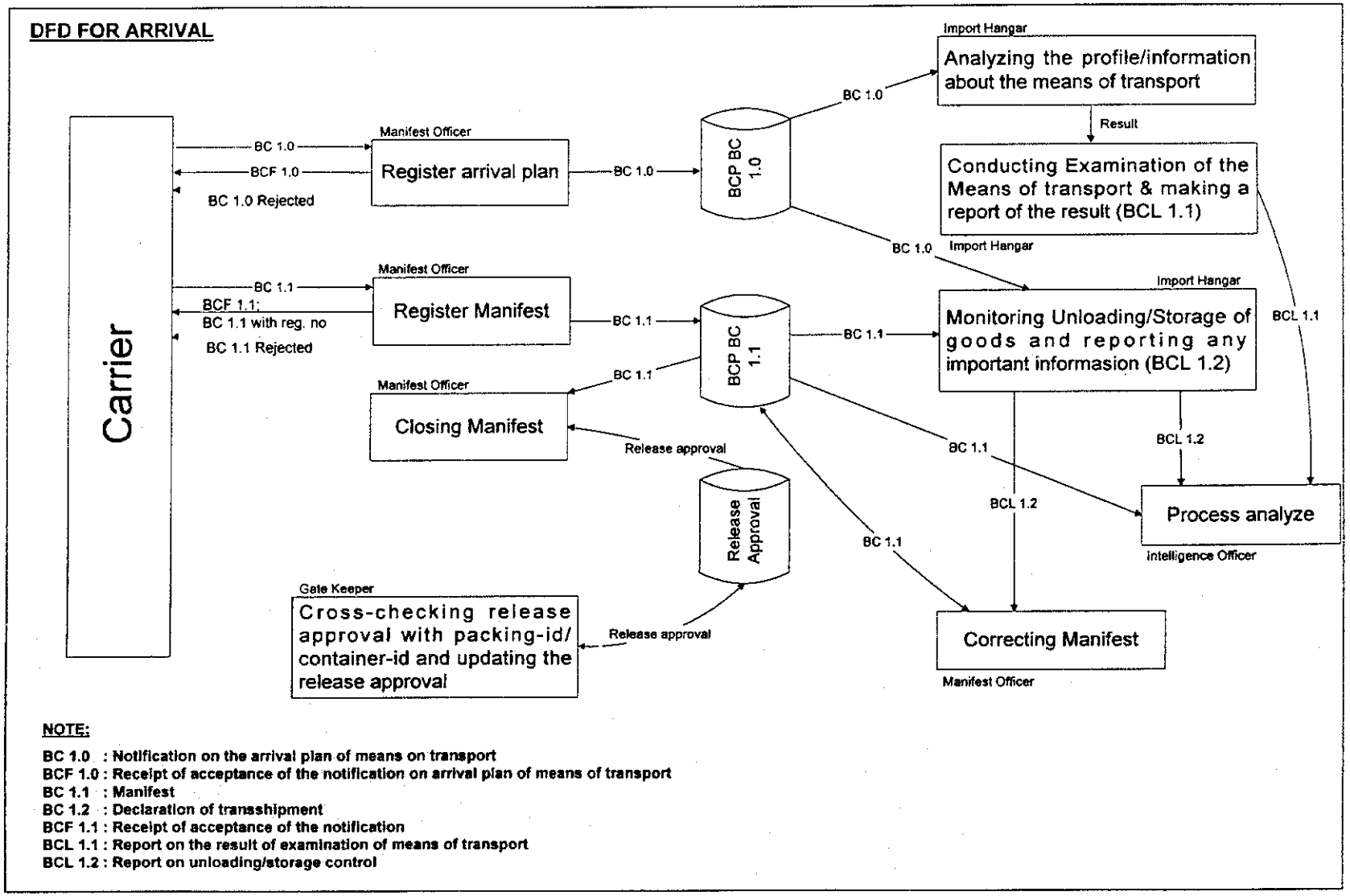

Figure 2.1.3-2: Data flow diagram for arrival

2.1.4 Departure of Means of Transport

On the departure of the means of transport, the carrier submits the notification of departure of the means of transport with outward Cargo Manifest. The purpose of this Manifest is to reconcile with the goods brought into the Customs Area for export purposes and to manage the goods in Customs Area. This Manifest could not be used to control the unloading goods, because the carrier may submit the Manifest three (3) days after the departure.

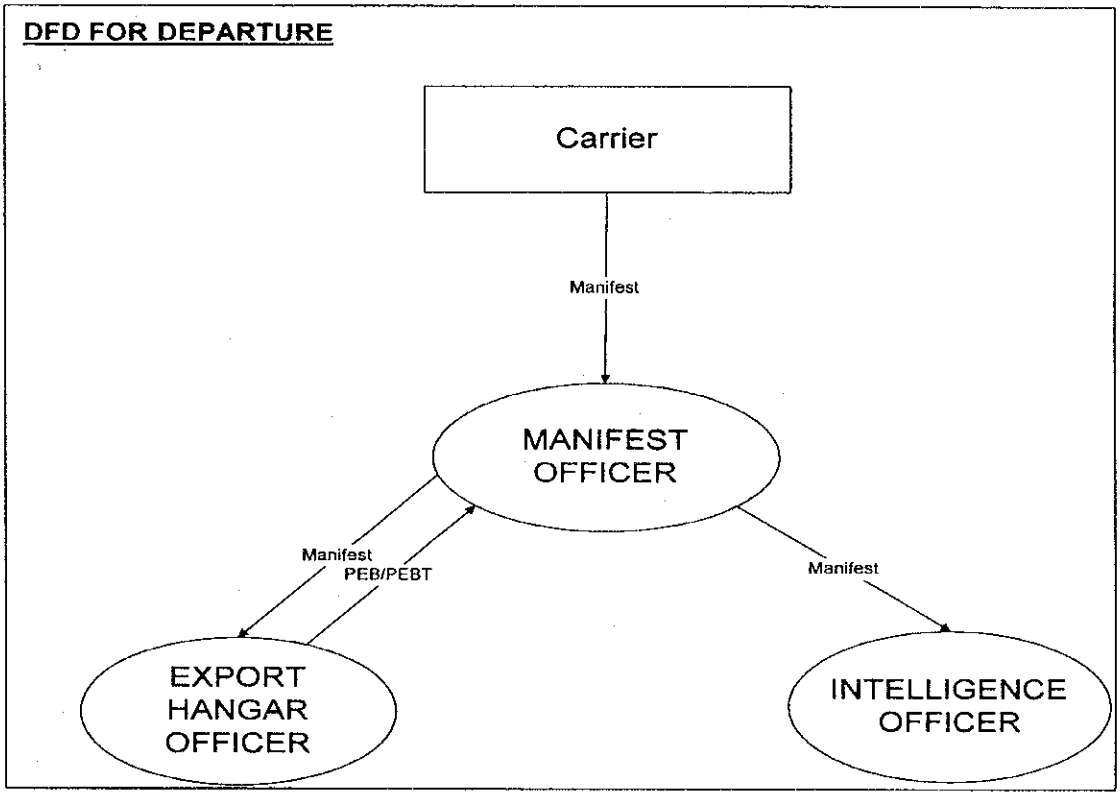

Figure 2.1.4-1: Data flow diagram for departure

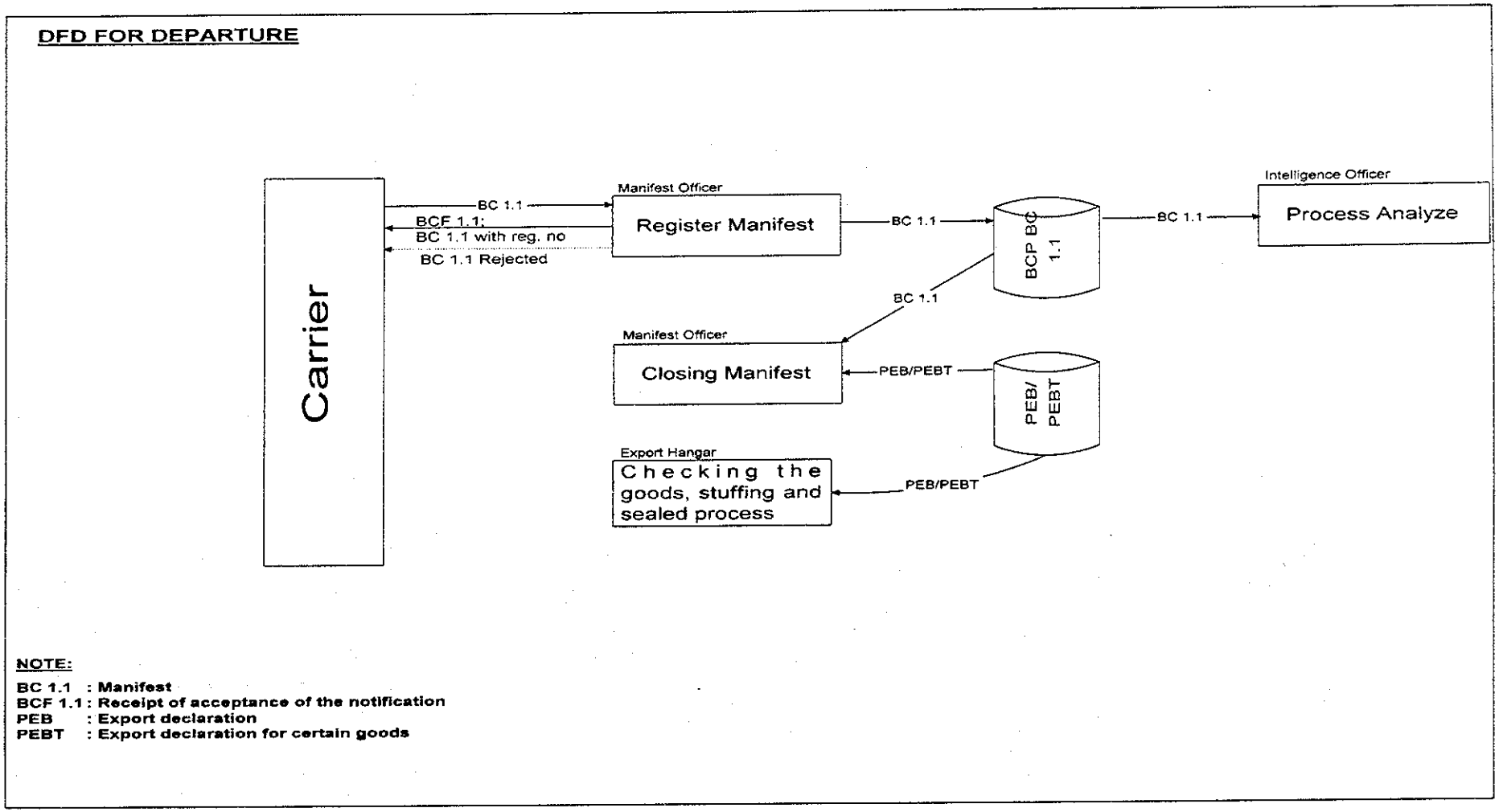

Figure 2.1.4-2: Data flow diagram for departure

2.1.5 Transit/Transshipment

The carrier should submit a transit/transshipment Manifest to the Manifest Section of Inspection Office. The transit/transshipment Manifest is used; 1) to notify that the goods are leaving the Customs Area and to manage the goods in a Customs Area; 2) if the next destination of the means of transport is within the Customs Territory, it is required to notify those goods to the Customs Office at destination port and to reconcile them with the arriving goods; however, if any cargo is lost, the carrier should pay the respective import duty and other taxes.

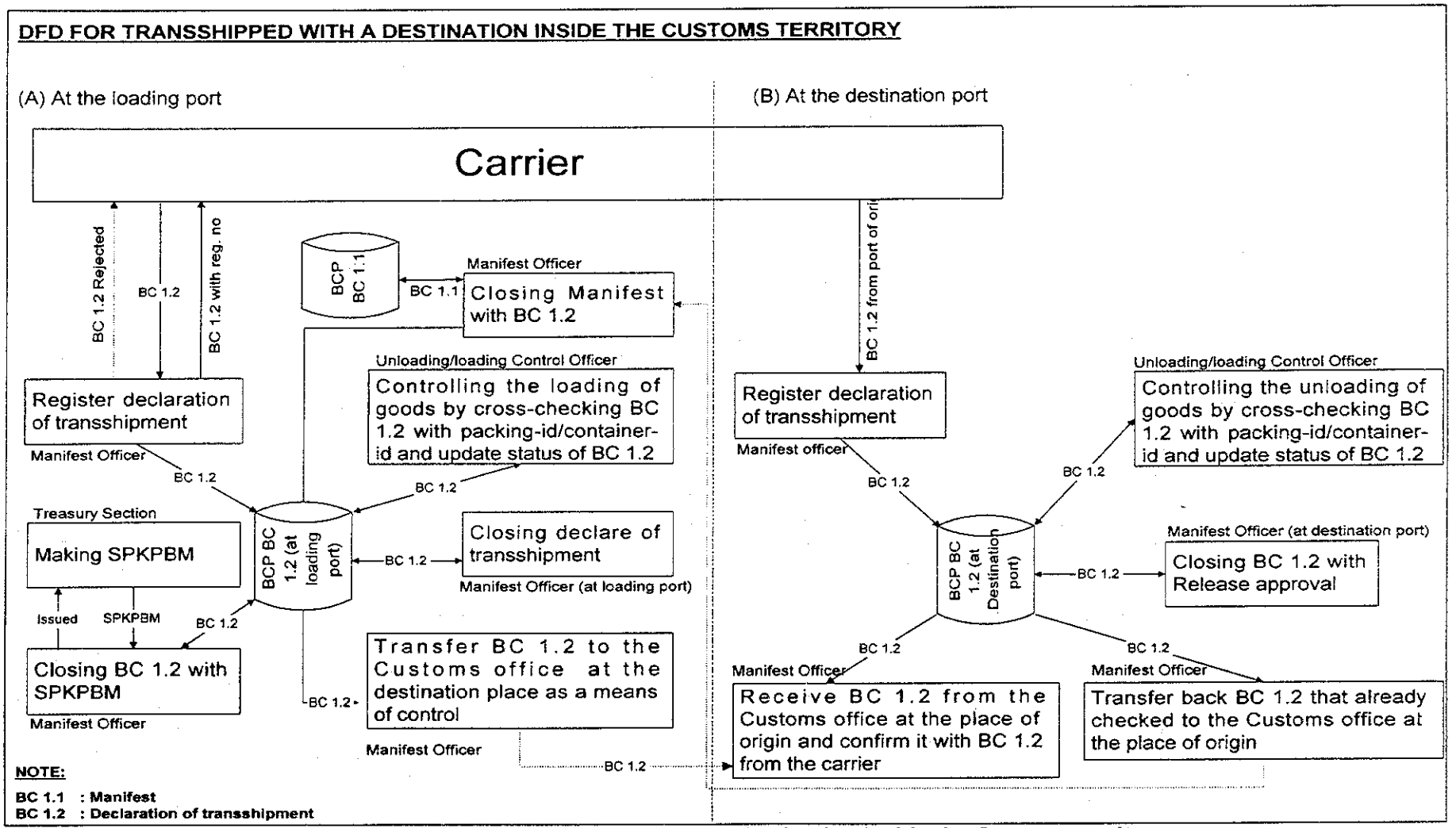

Figure 2.1.5-1: DFD for transshipped with destination inside the Customs territory

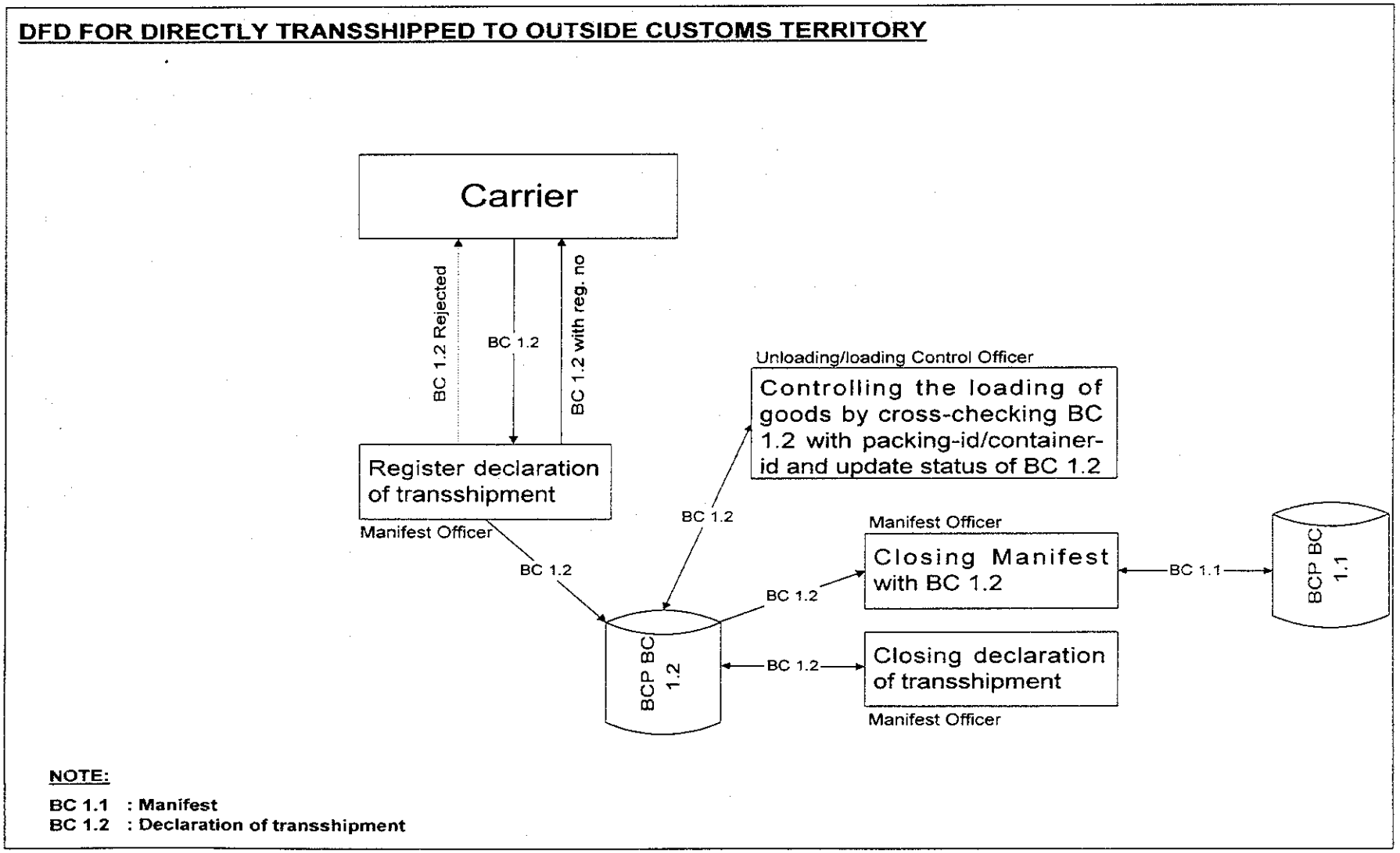

Figure 2.1.5-2: DFD for directly transshipped to outside Customs territory

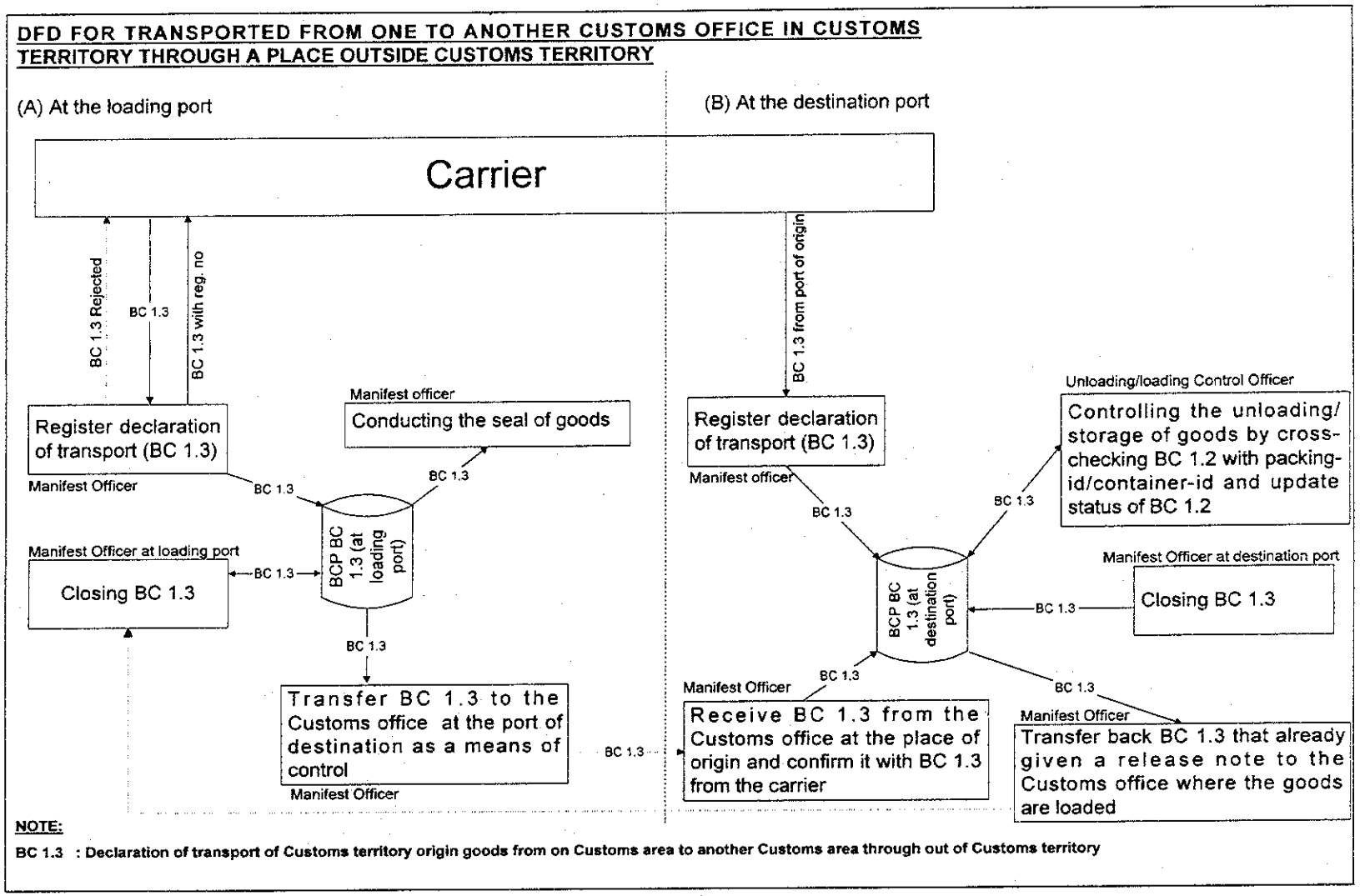

Figure 2.1.5-3: DFD for transported from one to another Customs office in Customs territory

2.1.6 Customs Transfer

Customs Transfer is the transportation of undeclared cargo under Customs control between Temporary Storage *(Tempat Penimbunan Sementara,* TPS*)*, which means a building and/or enclosed or unenclosed spaces in the Customs Area used to store goods temporarily pending their loading or release, within same jurisdiction in the Inspection Office.

For instance, in Tanjung Priok III, LCL (Lower than Container Load) cargo should be de-vanned at CFS (Container Fraight Station) also known as container Depot or DP3. Since CFS are located outside of the CY (Container Yard) in the Customs Area along side the wharf, LCL cargo requires Customs Transfer from CY to CFS. Through this procedure, each Customs in TPS tracks the cargo under their control.

The declaration for Customs Transfer is submitted by Port Authority according to importer's request or the limitation of storing term. Port Authority is an organization that is responsible to manage ports and to provide port services. Commercial ports are managed by Indonesia Port Corporations (PT. (PERSERO) PELABUHAN INDONESIA I-IV).

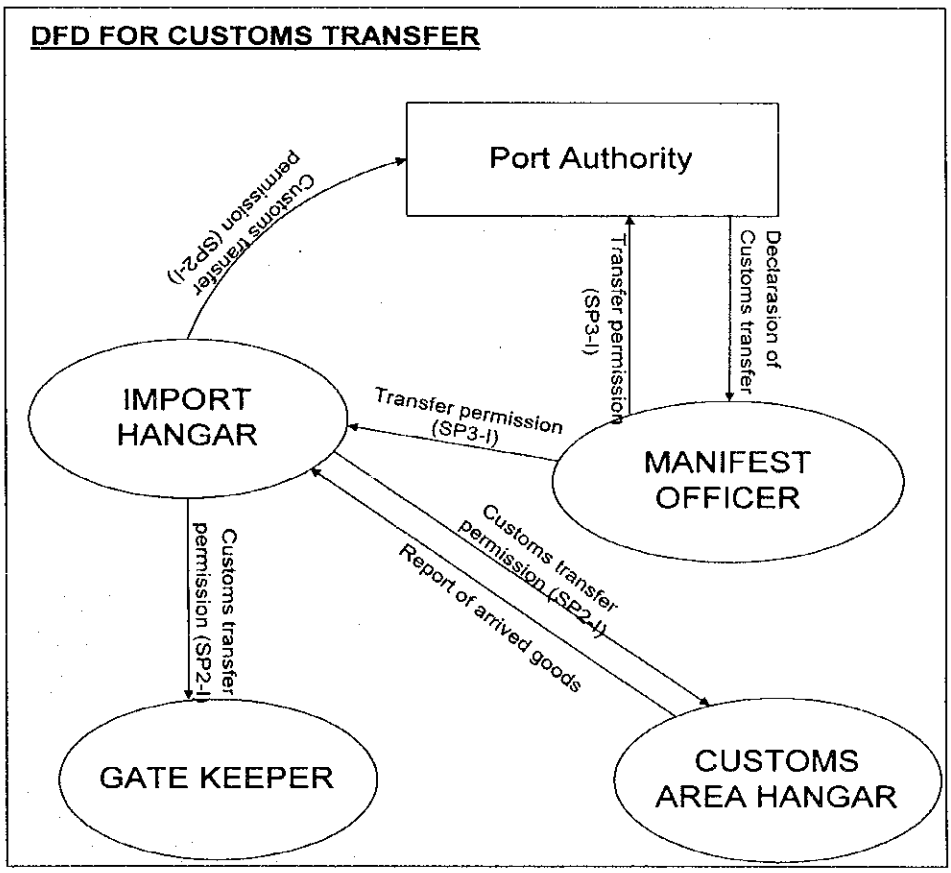

Figure 2.1.6-1: Data flow diagram for Customs transfer

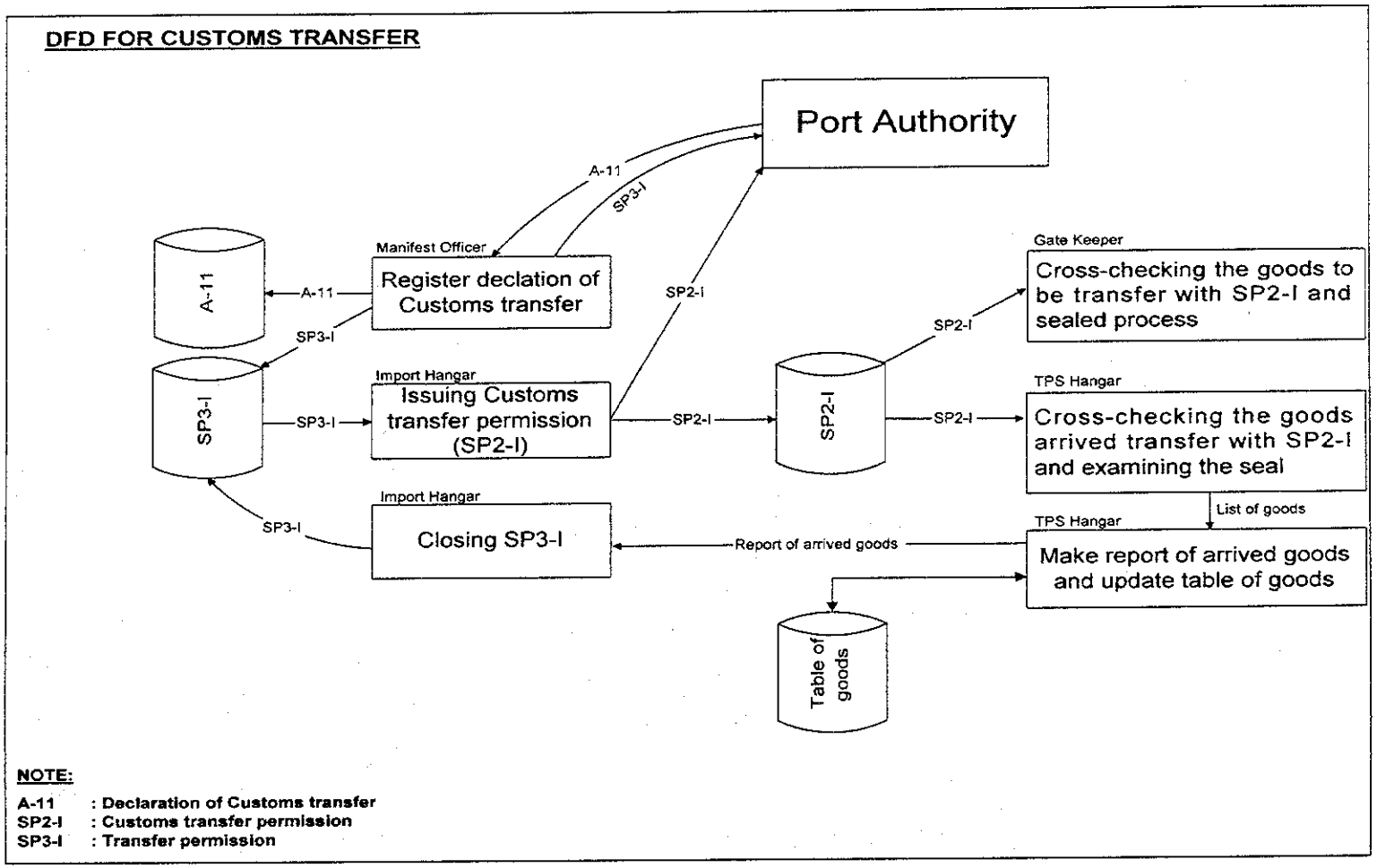

Figure 2.1.6-2: Data flow diagram for Customs transfer

2.1.7 Bonded Transport

Bonded Transport is a transport of cargo under Customs control using Customs declaration form BC 2.3.

Customs formalities of all the Bonded Transports between Bonded Storages (*Tempat Penimbuhan Berikat* / TPB, described below) or between Bonded Storage (TPB) and Temporary Storage (TPS) are basically the same. Some of those procedures are required additional procedures, for instance, re-exportation of goods from Bonded Storage requires to reconcile its BC 2.3 with former declaration of Bonded Transport.

Bonded Storage (TPB) means a building, a place or an area that meets certain requirements used to store, to process, to display, and/or to provide for sale, goods for which the import duties are deferred. Currently, there are four types of Bonded Storages (TPB), that is:

- Bonded Zone (*Kawasan Berikat* / KB)
- Bonded Warehouse (*Gudang Berikat* / GB)
- Entrepot for Exhibition Purpose (*Entrepot untuk Tujuan Pameran* / ETP)
- Duty Free Shop (*Toko Bebas Bea* / TBB)

An "Operator" (PKB, PGB, PETP, PTBB) means a company or a cooperative society in the form of legal body or a foundation that owns, operates and provides infrastructures and premises to others who are willing to do business in the Bonded Storage (TPB) and have the license to operate it.

An "Entrepreneur" (PDKB) means a company or a cooperative society that does the business in the Bonded Storage (TPB).

2.1.8 Bonded Zone (KB)

A building, a place or in an area that has certain boundary used to manufacture goods and material, blue printing, engineering, sorting, preliminary checking, final checking and packing of the imported goods and materials and domestic goods and materials which products are mostly for export.

This (new) KB was *(old)* Bonded Zone (KB) and Entrepot for Export Oriented Production (EPTE).

The procedures shown in Figure 2.1.8-1 and Figure 2.1.8-3 are the basic Bonded Transport procedures.

The procedures shown in Figure 2.1.8-6, Figure 2.1.8-7 and Figure 2.1.8-9 are the Bonded Transport procedures that have some additional processes. The first two procedures (Figure 2.1.8-6, and Figure 2.1.8-7) are related to temporary export for repairing at abroad. It is a kind of temporary exportation. Therefore, the former declaration is reconciled when the goods re-imported. The other procedures (Figure 2.1.8-9) are the re-exportation procedures. These procedures require reconciliation of the declarations with the former Bonded Transport declarations used when the goods arrive at the Bonded Zone.

The procedures shown in Figure 2.1.8-2 is the special procedures for the capital goods using production in Bonded Zone itself. The procedures are a kind of importation, which uses the Customs declaration form BC 2.0 (PIB). However, the import duty is exempted and requires the decree for facilitation.

The procedures shown in Figure 2.1.8-4 and Figure 2.1.8-5 are not on the Bonded Transport procedures. These procedures are Customs procedures applied to entry goods from domestic manifest to KB. The latter of these requires the decree for BAPEKSTA facilitation.

The procedures shown in Figure 2.1.8-8 are very different from ordinary Bonded Transport procedures. These procedures are temporary importation for repairing of machines used for production in Bonded Zone. These two procedure makes a pair of procedures, and during those procedures, the goods are ideally under the control of Customs, though the goods are stored in neither Bonded Storage nor Temporary Storage. To assure this Customs control, PKB/PDKB submits the Bank Guarantee equivalent to the Import Duty and other Taxes.

The procedure shown in Figure 2.1.8-10 is not the Bonded Transport procedure. This procedure is importation of the products for home use from Bonded Zone. This procedure is a kind of ordinary importation procedure using the Customs declaration form BC 2.0. However, a special calculation of the Import Duty is applied. The Import Duty is assessed based on the amount of materials consumed for the product and the Customs Value of the

materials. The ratio of materials consumption is notified to the Customs in advance. Other taxes are assessed based on the Customs Value of the product.

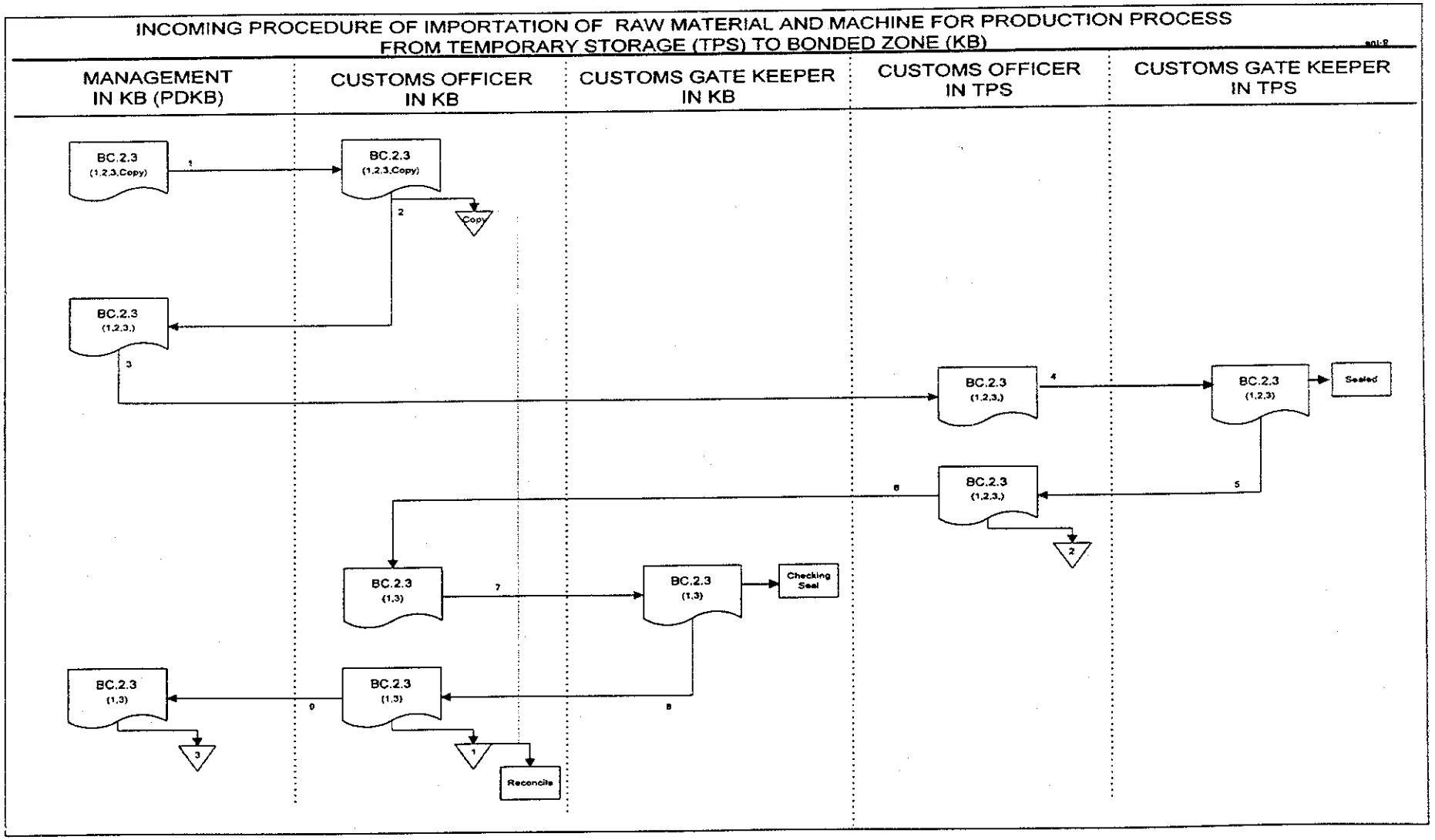

Figure 2.1.8-1: Incoming procedure of importation of raw material and machine for production process from temporary storage (TPS) to Bonded Zone (KB)

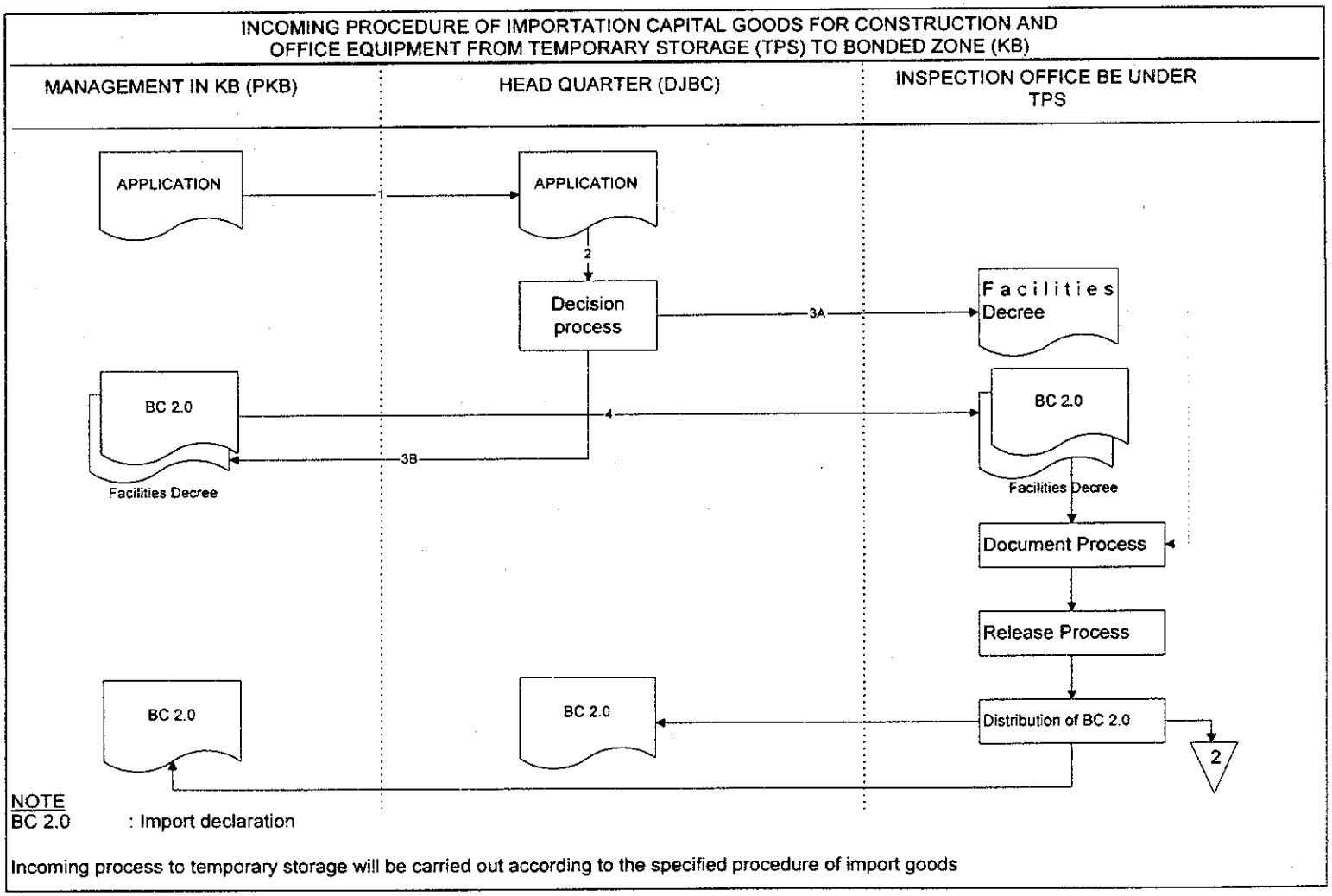

Figure 2.1.8-2: Incoming procedure of importation capital goods for construction and office equipment from Temporary Storage (TPS) to Bonded Zone (KB)

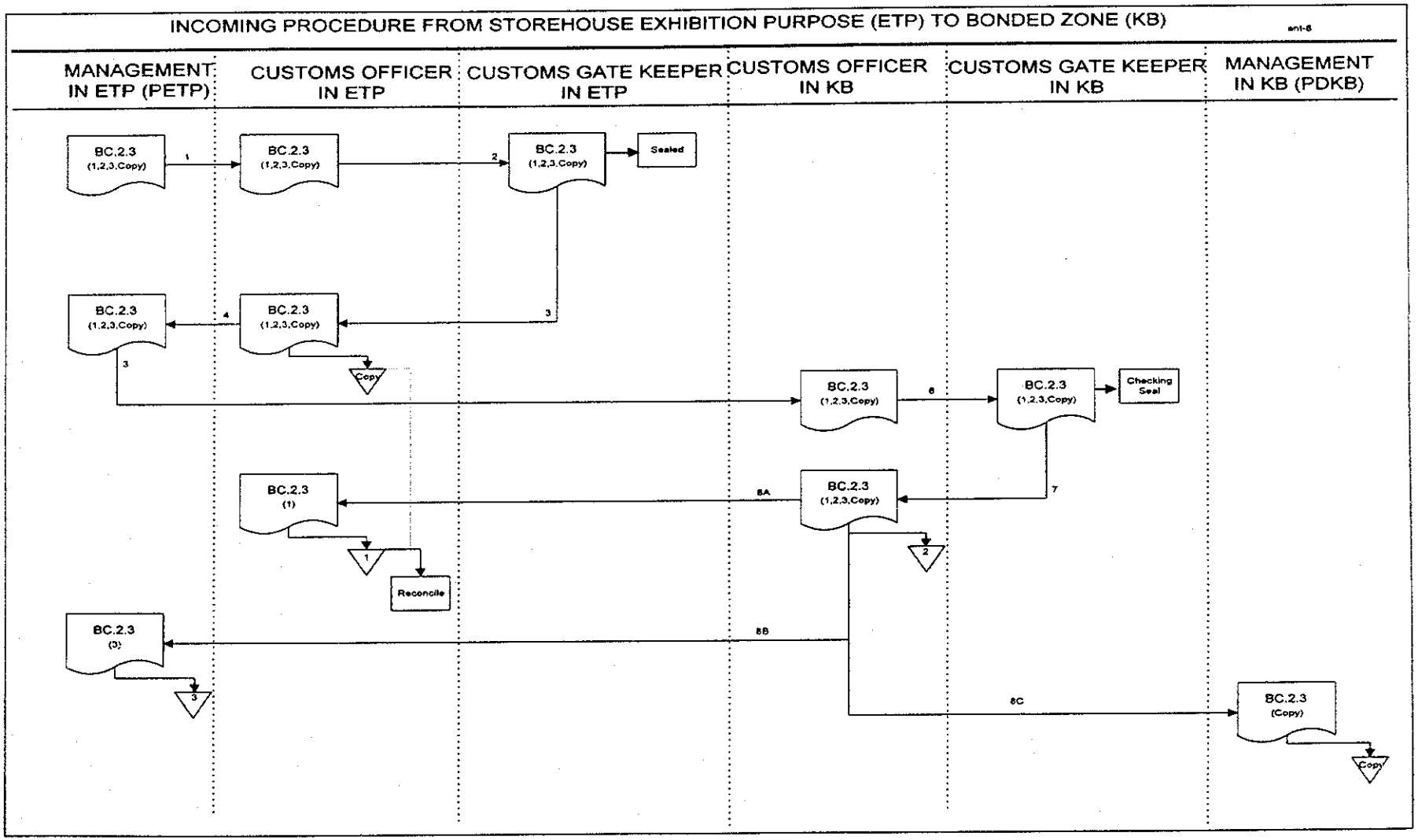

Figure 2.1.8-3: Incoming procedure from storehouse exhibition purpose (ETP) to Bonded Zone (KB)

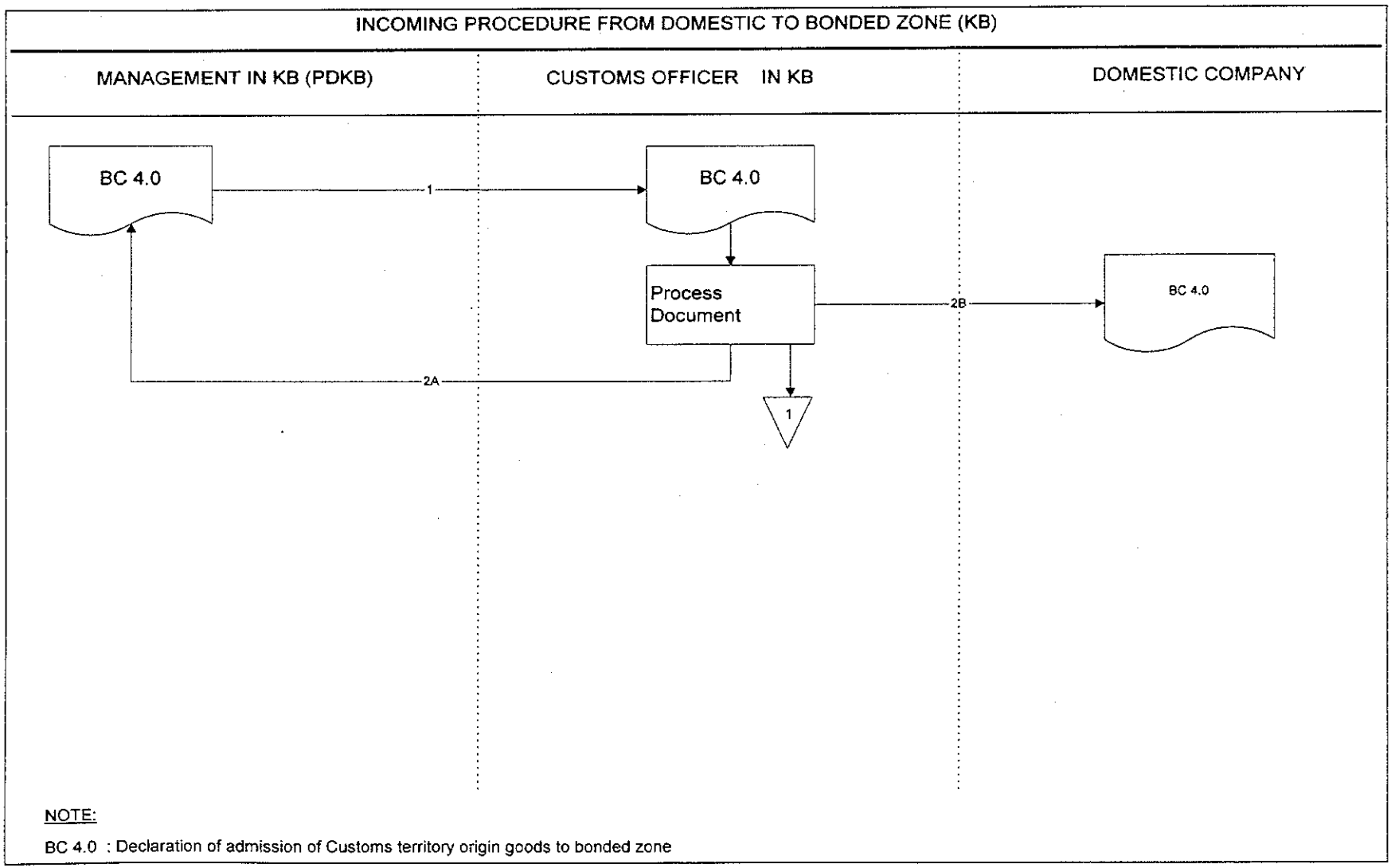

Figure 2.1.8-4: Incoming procedure from domestic to Bonded Zone (KB)

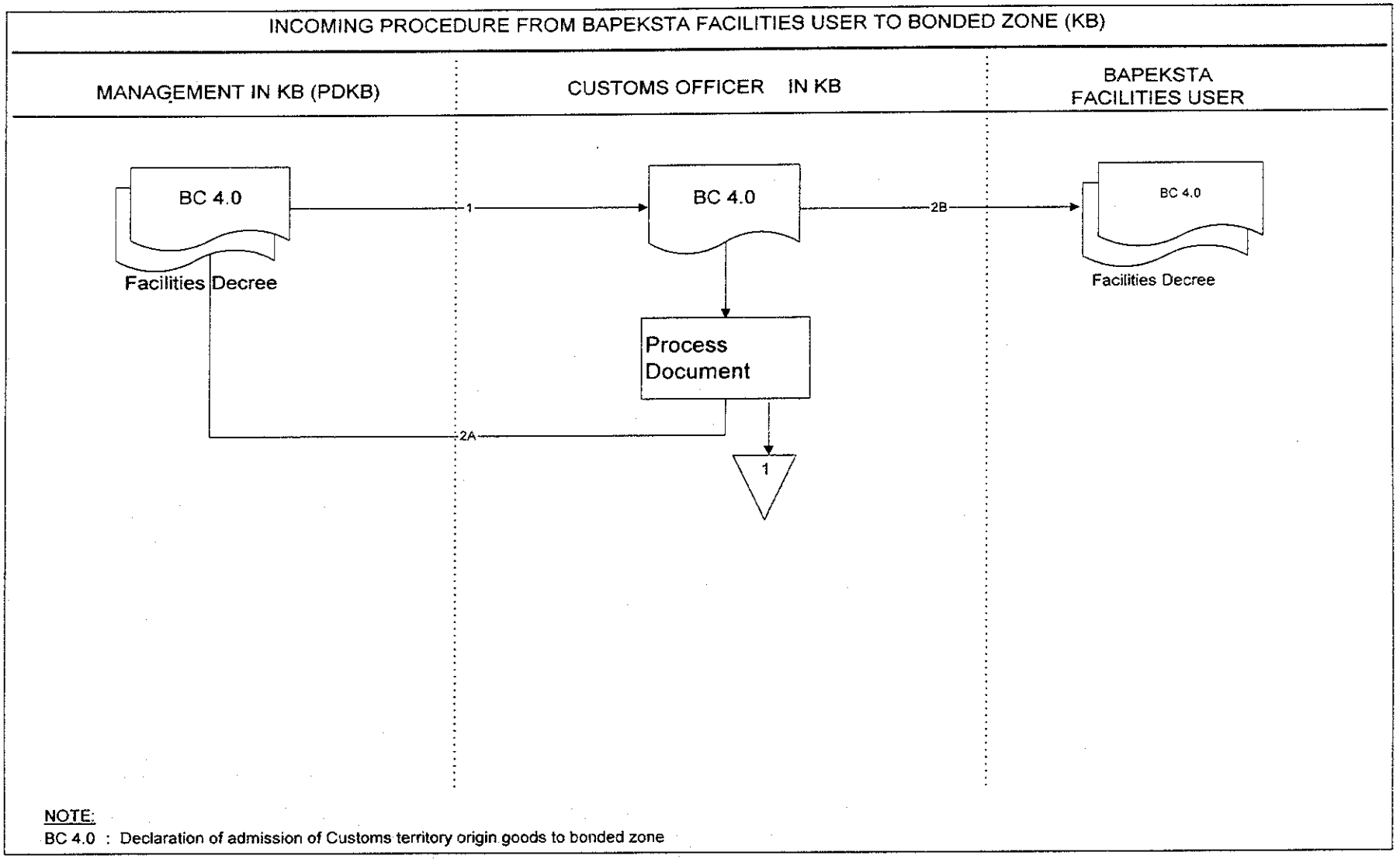

Figure 2.1.8-5: Incoming procedure from BAPEKSTA facilities user to Bonded Zone (KB)

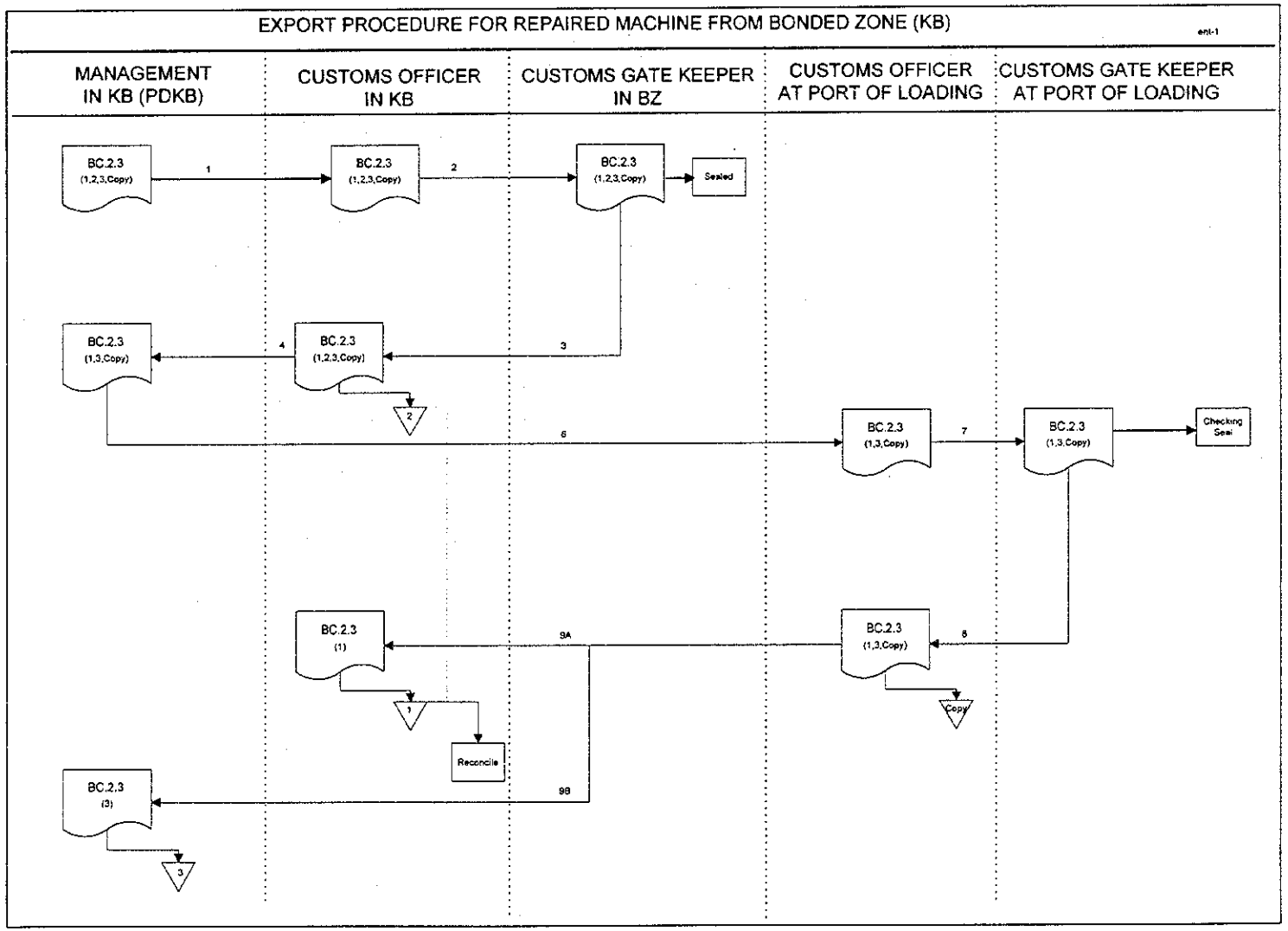

Figure 2.1.8-6: Export procedure for repair machine from Bonded Zone (KB)

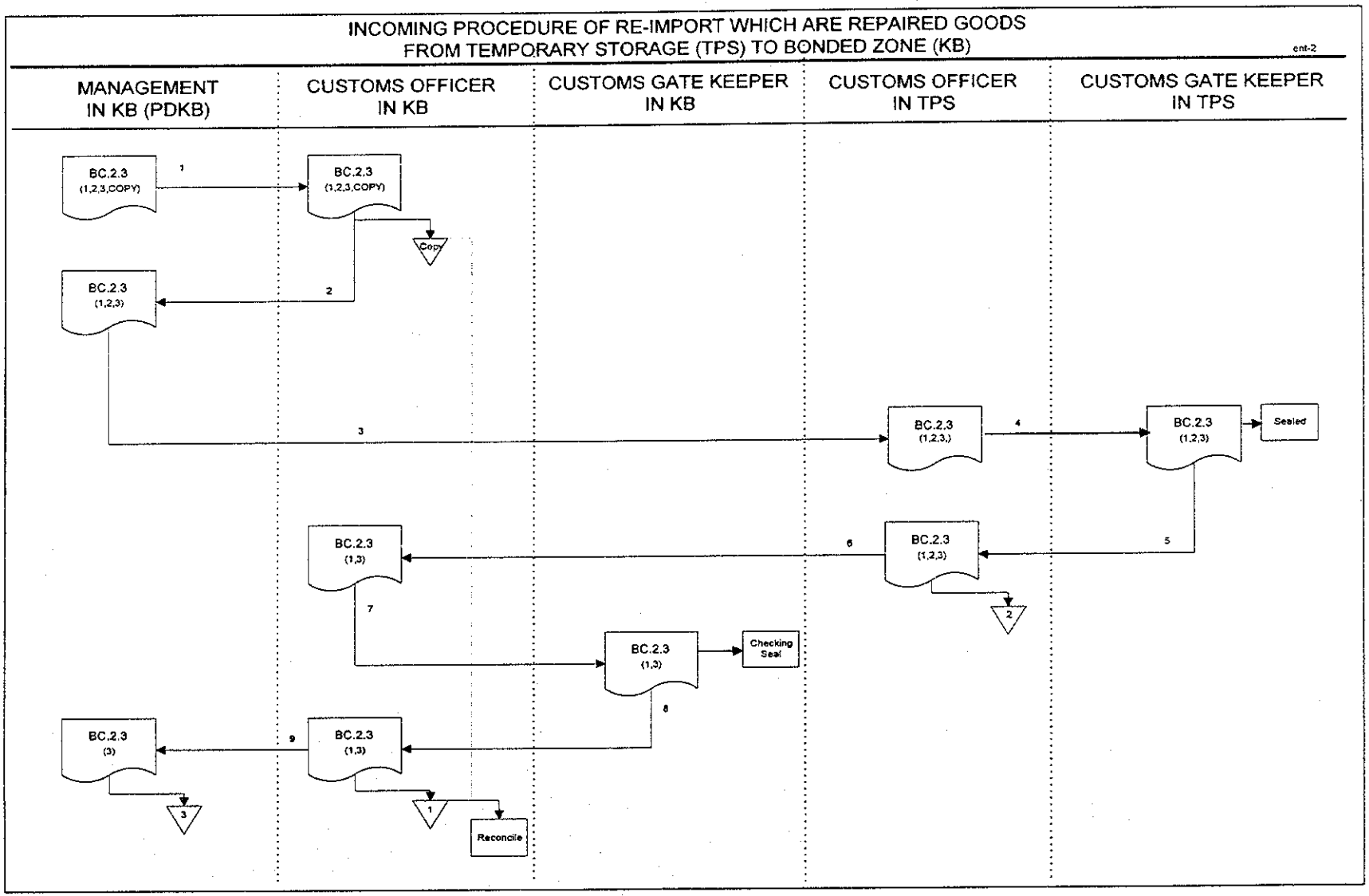

Figure 2.1.8-7: Incoming procedure of re-import which are repaired goods from temporary storage (TPS) to Bonded Zone (KB)

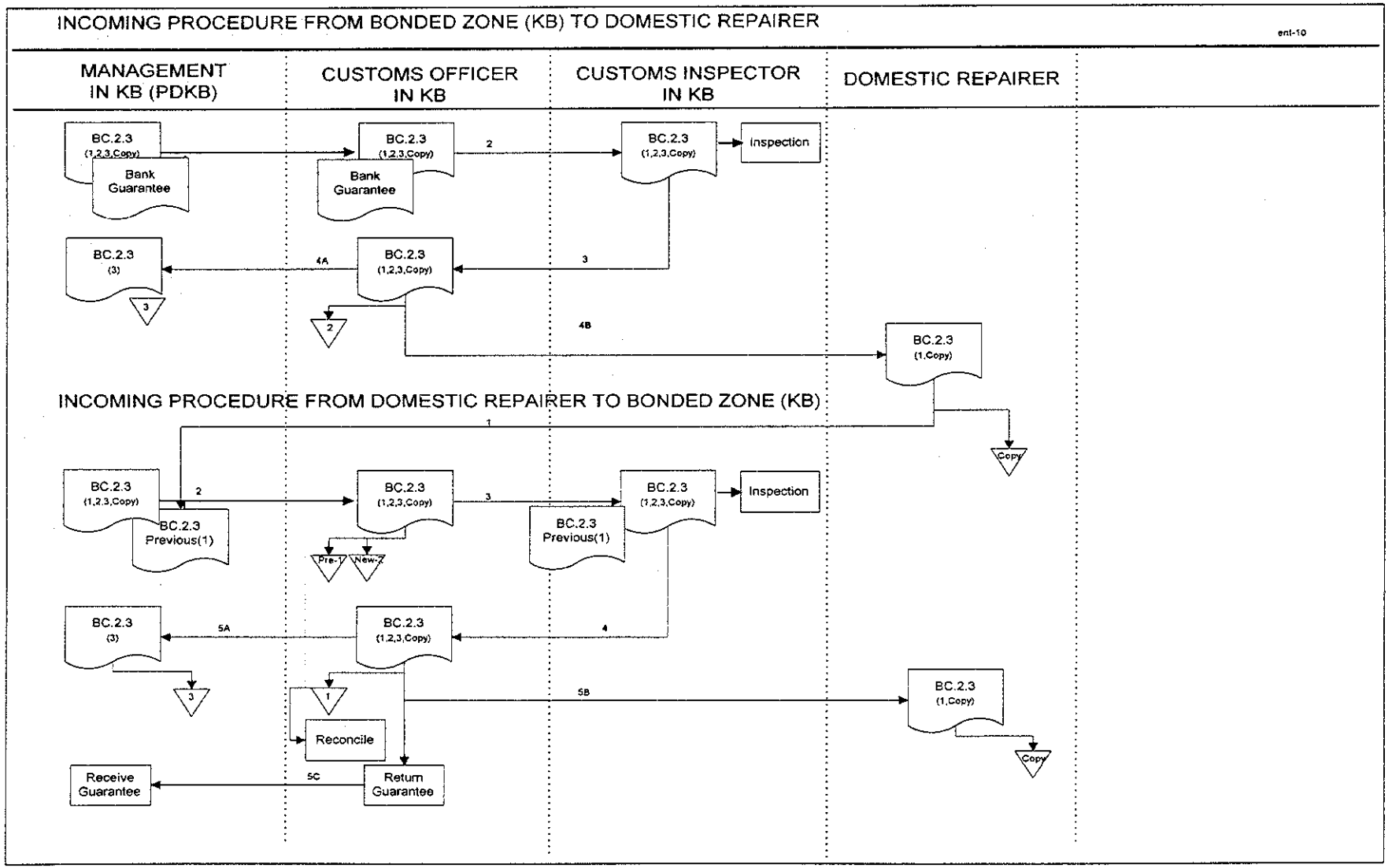

Figure 2.1.8-8: Incoming procedure from Bonded Zone (KB) to domestic repairer

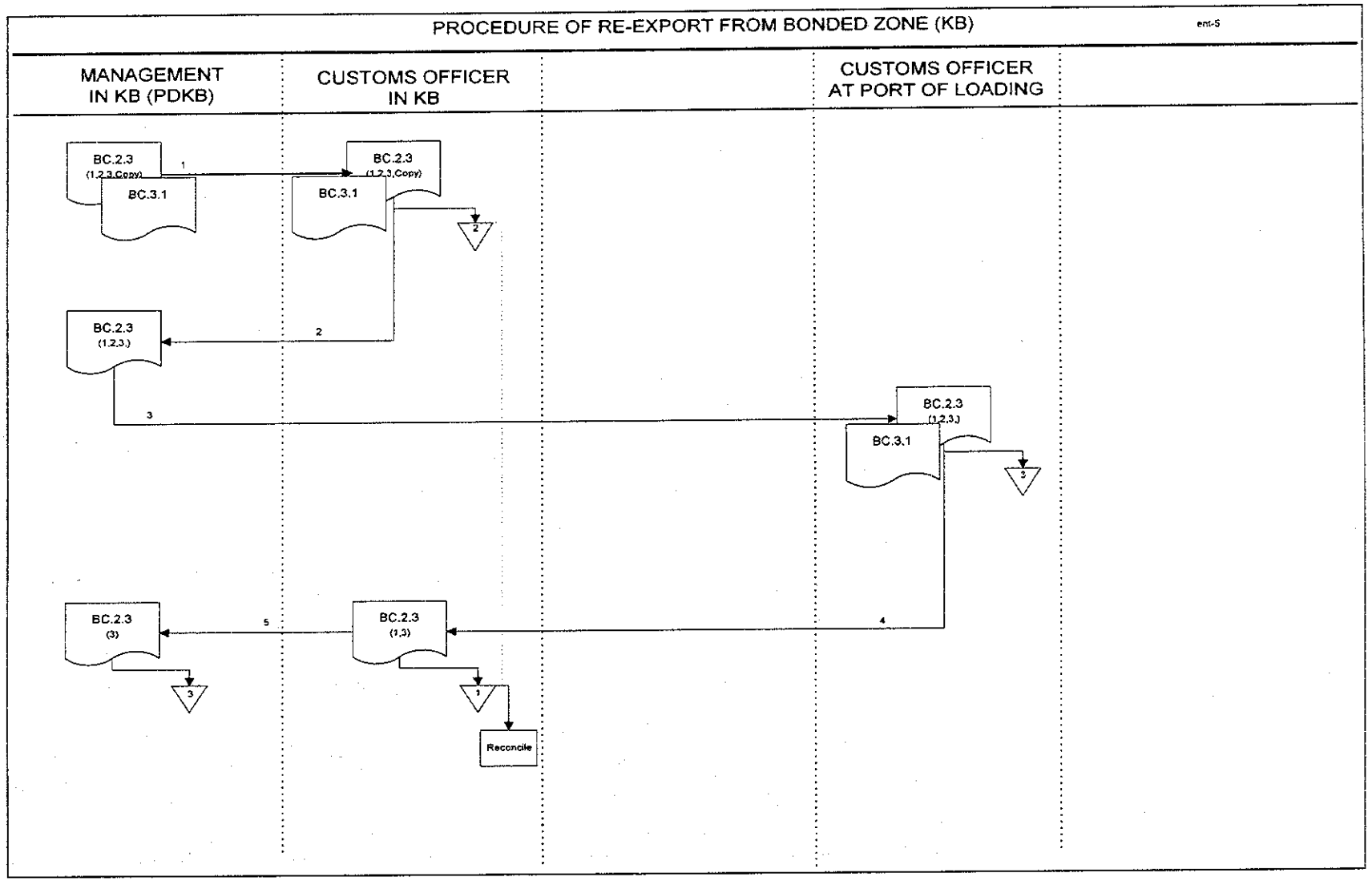

Figure 2.1.8-9: Procedure of re-export from Bonded Zone (KB)

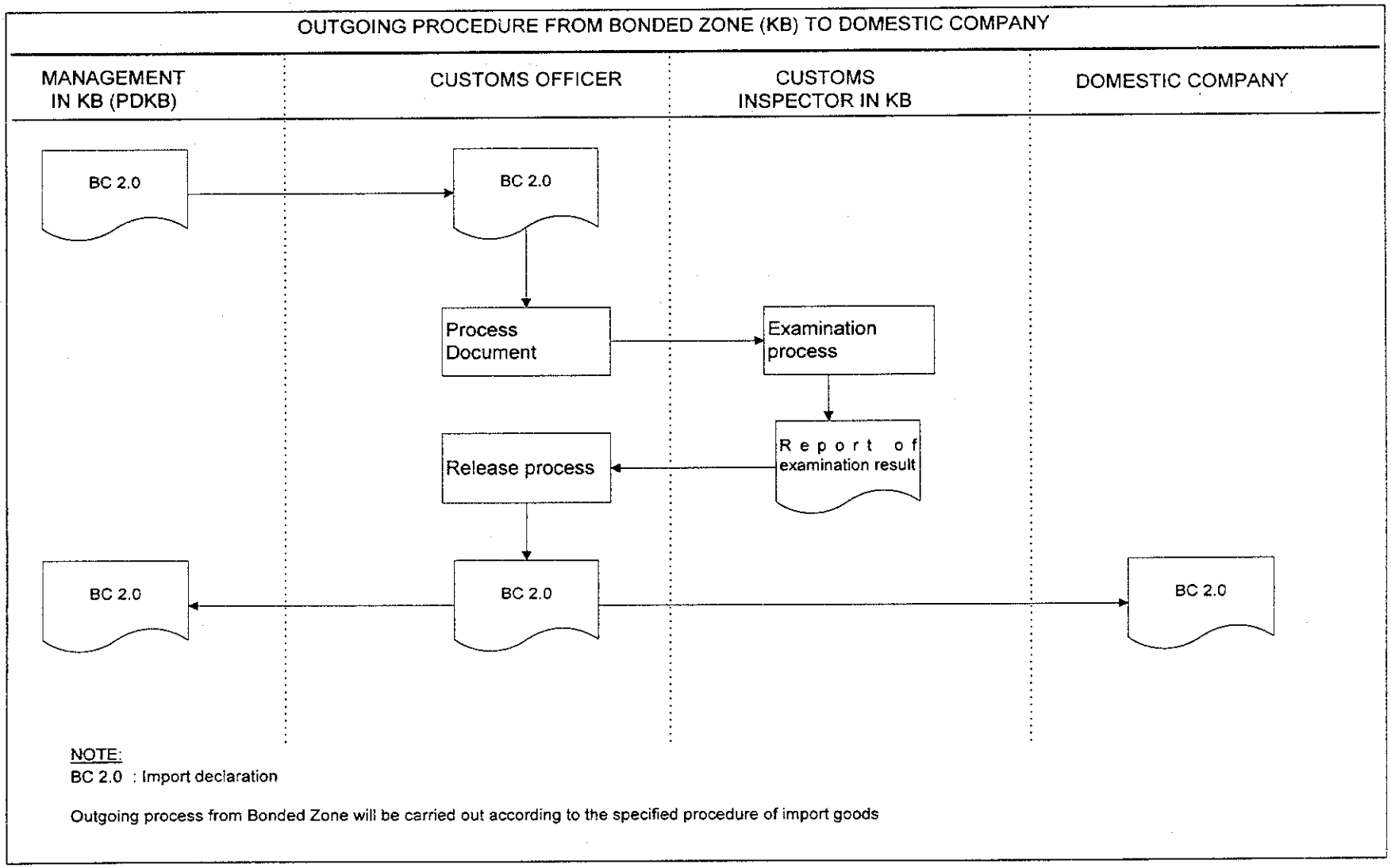

Figure 2.1.8-10: Outgoing procedure from Bonded Zone (KB) to domestic company

2.1.9 Bonded Warehouse (GB)

A building or a place that has certain boundary used to do warehousing, packing, sorting, marking / labeling, cutting or other activities for functioning as a distribution center of imported goods either for home consumption or for re-export without processing.

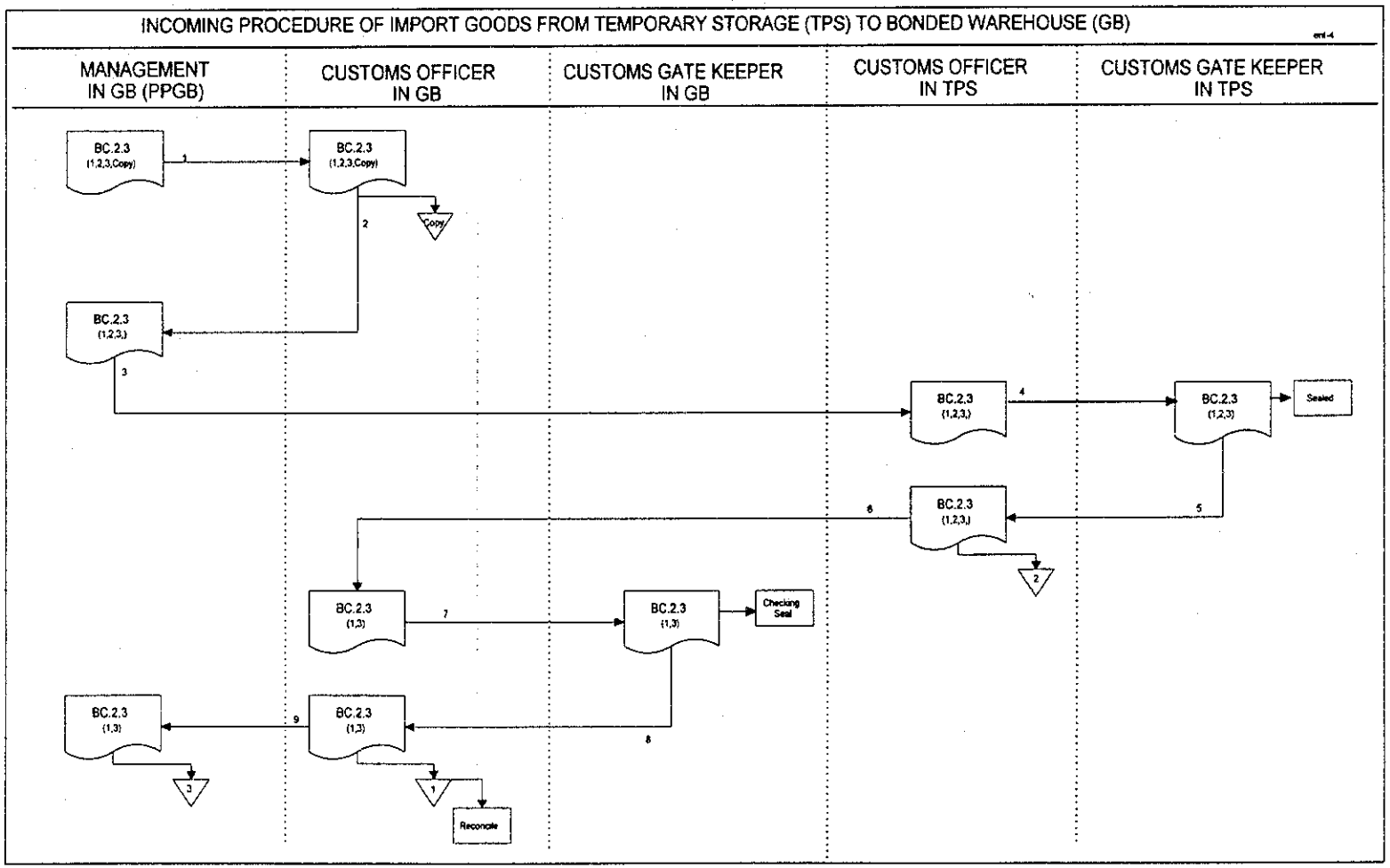

Figure 2.1.9-1: Incoming procedure of import goods from temporary storage (TPS) to Bonded Warehouse (GB)

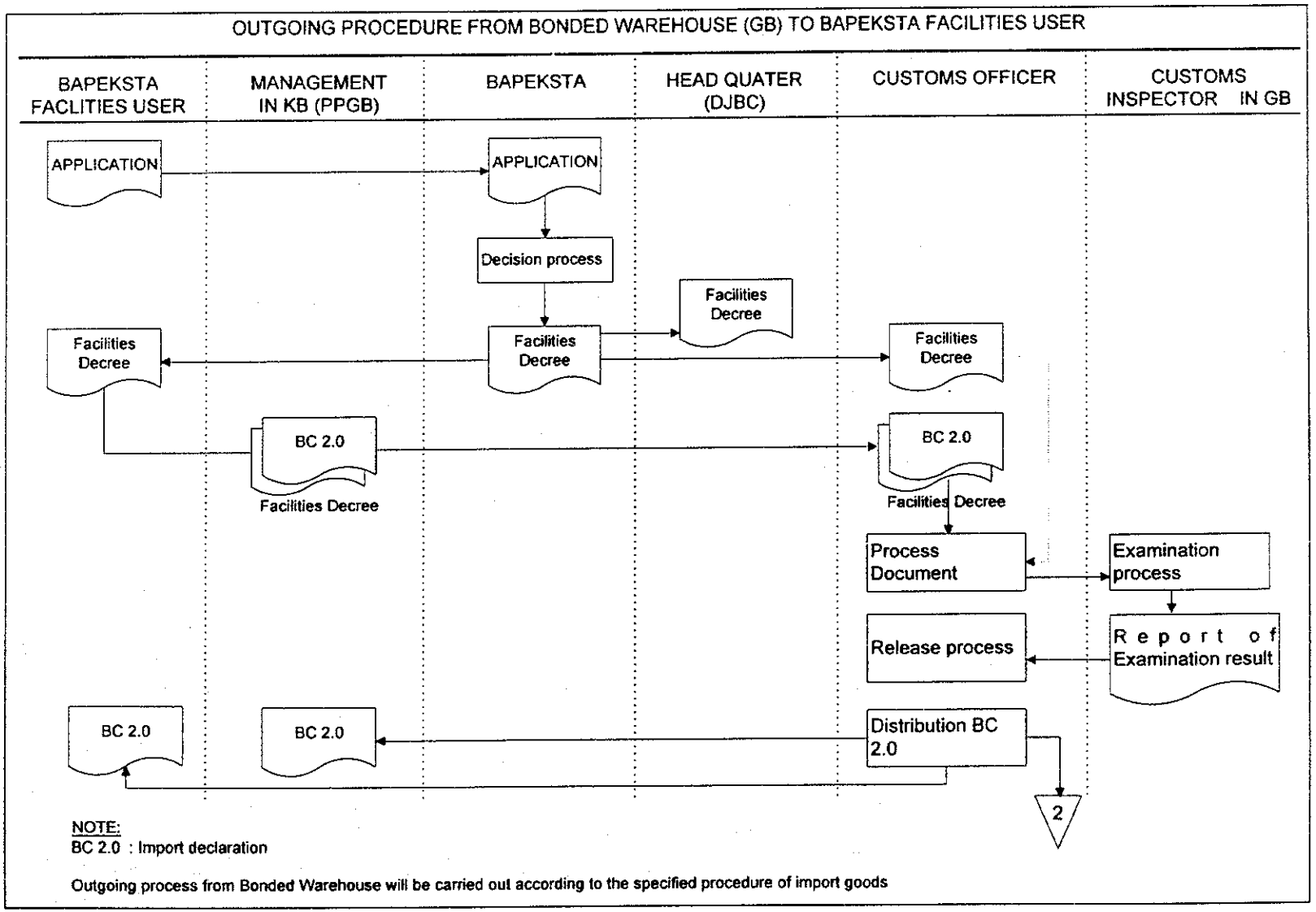

Figure 2.1.9-2: Outgoing procedure from Bonded Warehouse to BAPEKSTA facilities user

2.1.10 ETP (Stock House for Exhibition Purpose)

A building or an area that has certain boundary used to holding and international exhibition of imported industrial goods or domestic industrial goods.

The procedures shown in Figure 2.1.10-1 and Figure 2.1.10-2 are the basic Bonded Transport procedures.

The procedures shown in Figure 2.1.10-3 is the Bonded Transport procedures that have some additional processes. This procedures are the re-exportation procedures. These procedures require reconciliation of the declaration with the former Bonded Transport declaration used when the goods arrives at the ETP.

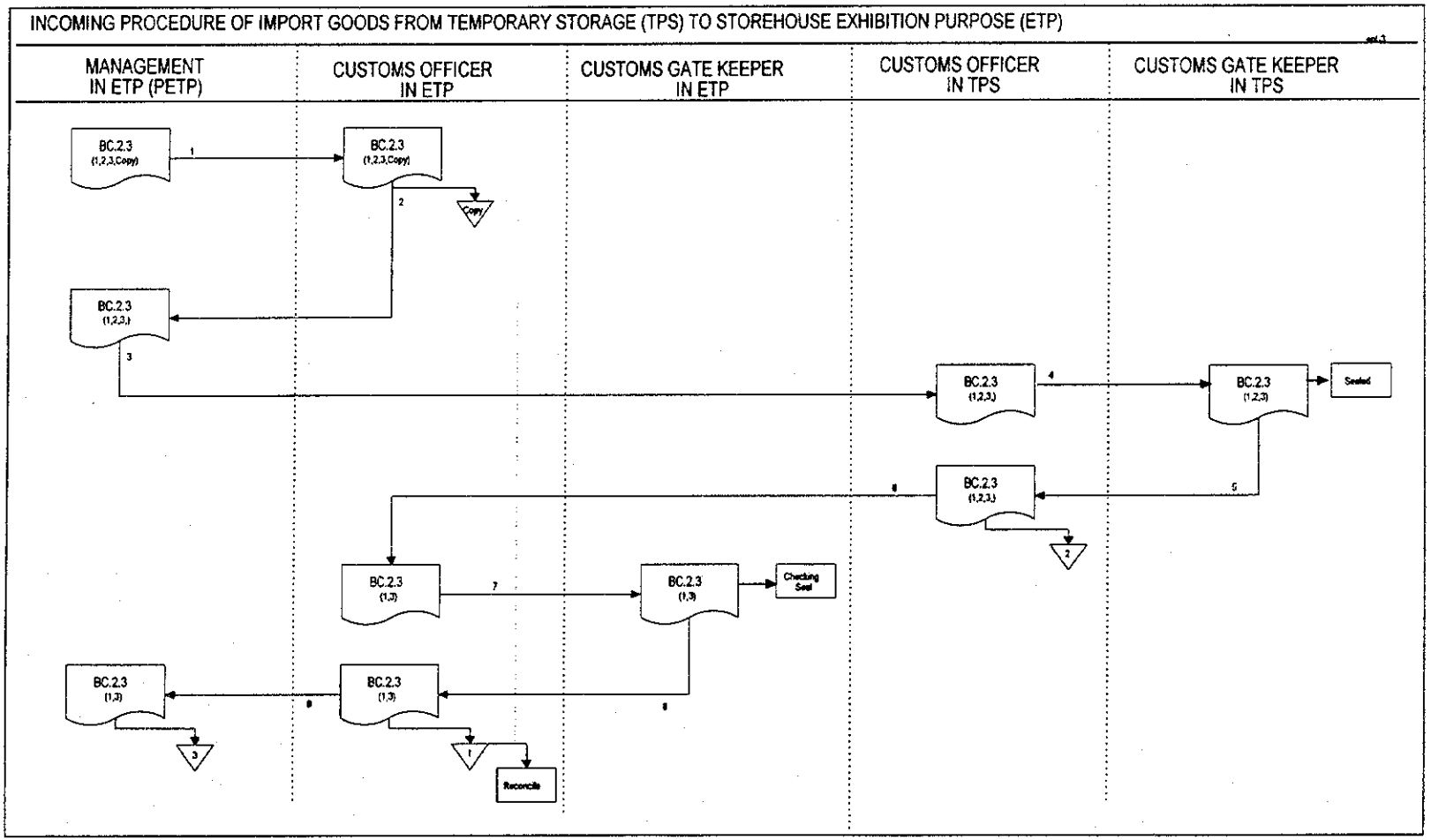

Figure 2.1.10-1: Incoming procedure of import goods from TPS to ETP

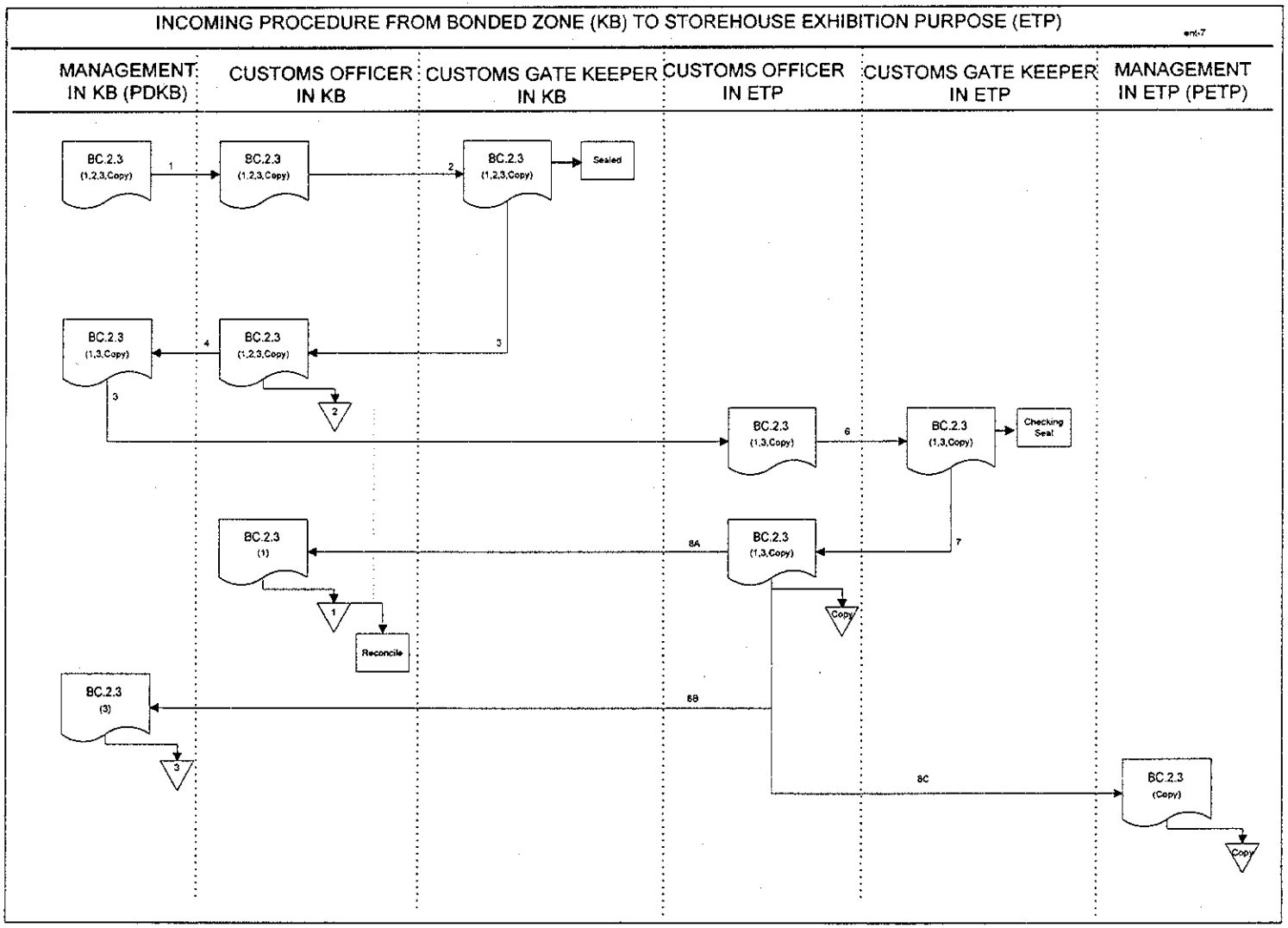

Figure 2.1.10-2: Incoming procedure from Bonded Zone (KB) to ETP

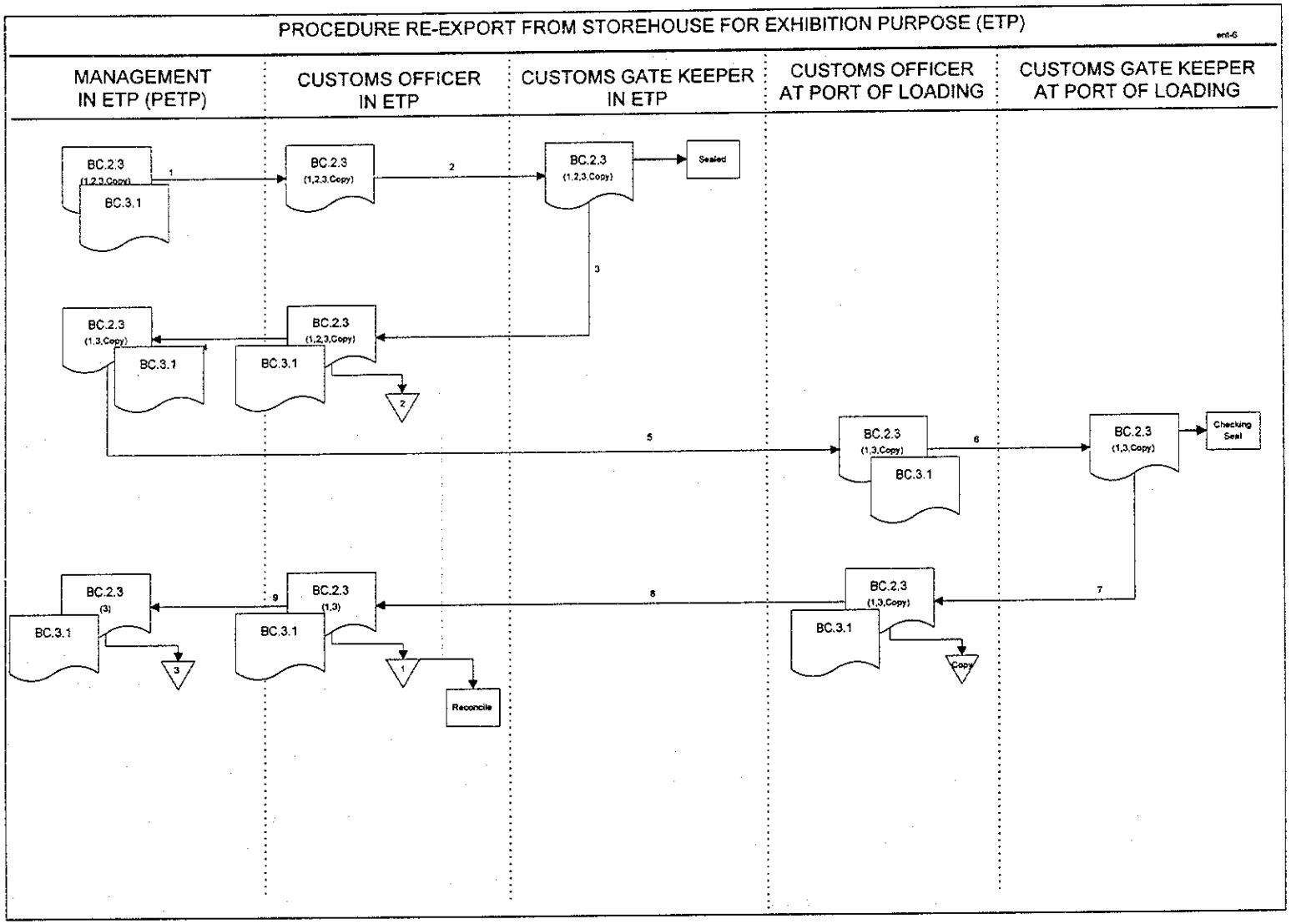

Figure 2.1.10-3: Procedure re-export from storehouse for exhibition purpose (ETP)

2.1.11 TBB (Duty Free Shop)

A building that has certain boundaries used to sell imported goods or domestic goods to a person who has the right to buy goods up to certain value with exemption of import duty, excise and tax.

The procedures shown in Figure 2.1.11-1, Figure 2.1.11-2 and Figure 2.1.11-3 are the basic Bonded Transport procedures.
The procedures shown in Figure 2.1.10-4 are the Bonded Transport procedures that have some additional processes. These procedures require reconciliation of the declaration with the former Bonded Transport declaration used when the goods arrives at the Duty Free Shop.

The procedures for retail described in Figure 2.1.11-5 are rather different from other procedures. These procedures are not based on declarations, because the customers of Duty Free Shops are persons and it is not practical to require persons to submit declarations for each of their purchase. Therefore, they shall only show the passport and boarding pass/duty free card, and Duty Free Shops check them and report them to Customs. Customs verifies them with reconciling the invoices for sales with the monthly inventory report.

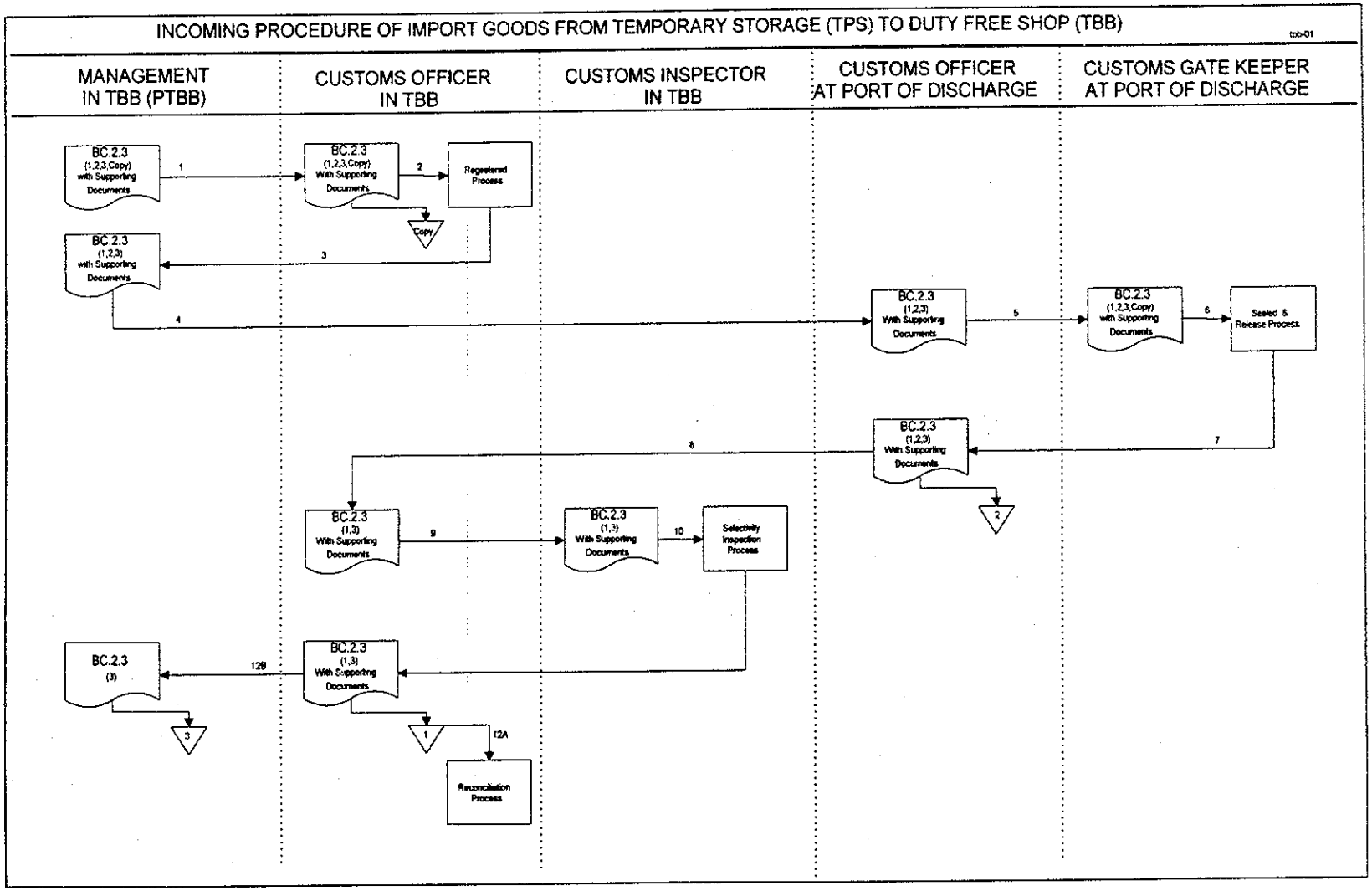

Figure 2.1.11-1: Incoming procedure of import goods from TPS to duty Free Shop (TBB)

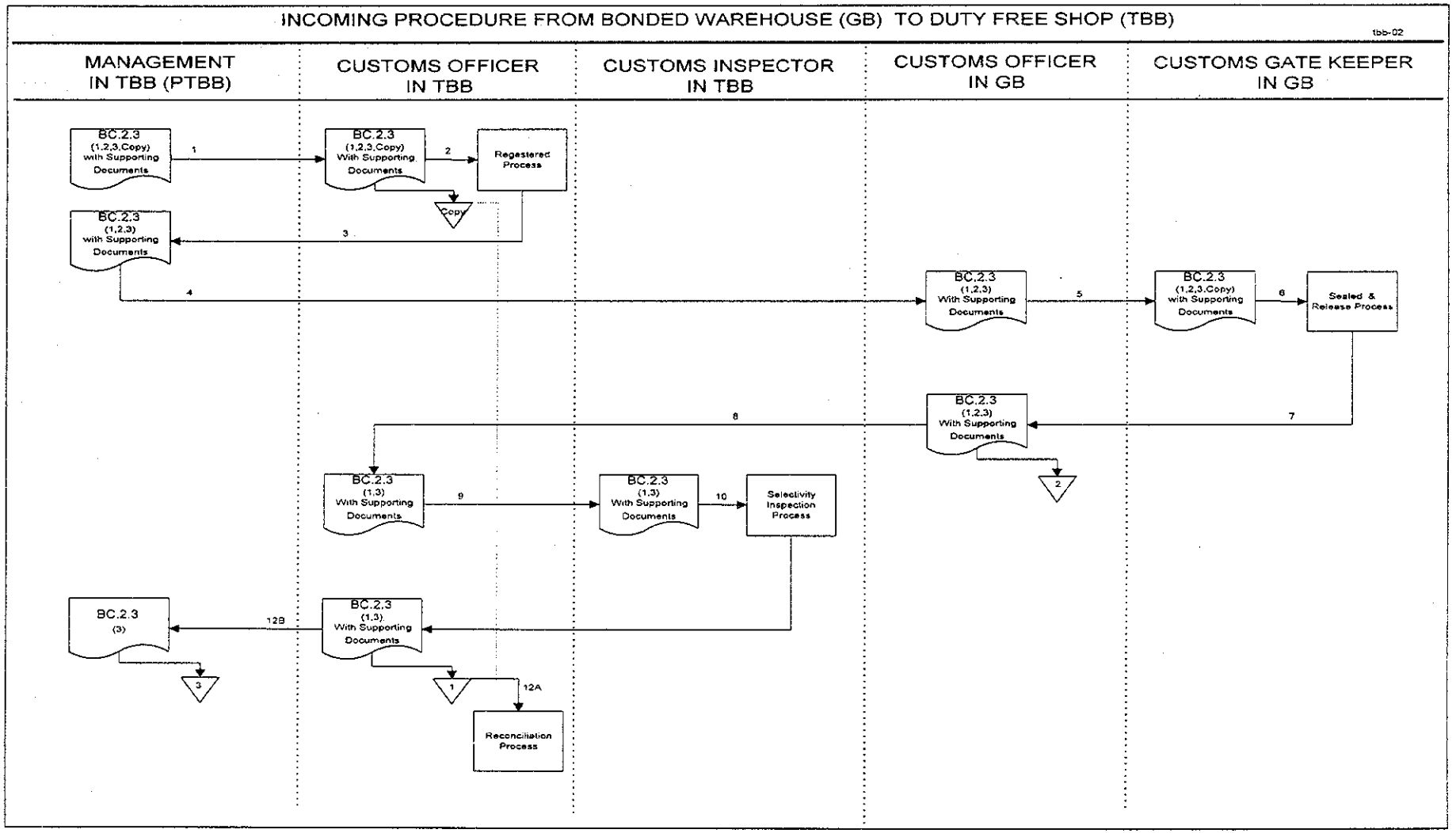

Figure 2.1.11-2: Incoming procedure from Bonded Warehouse (GB) to duty free shop (TBB)

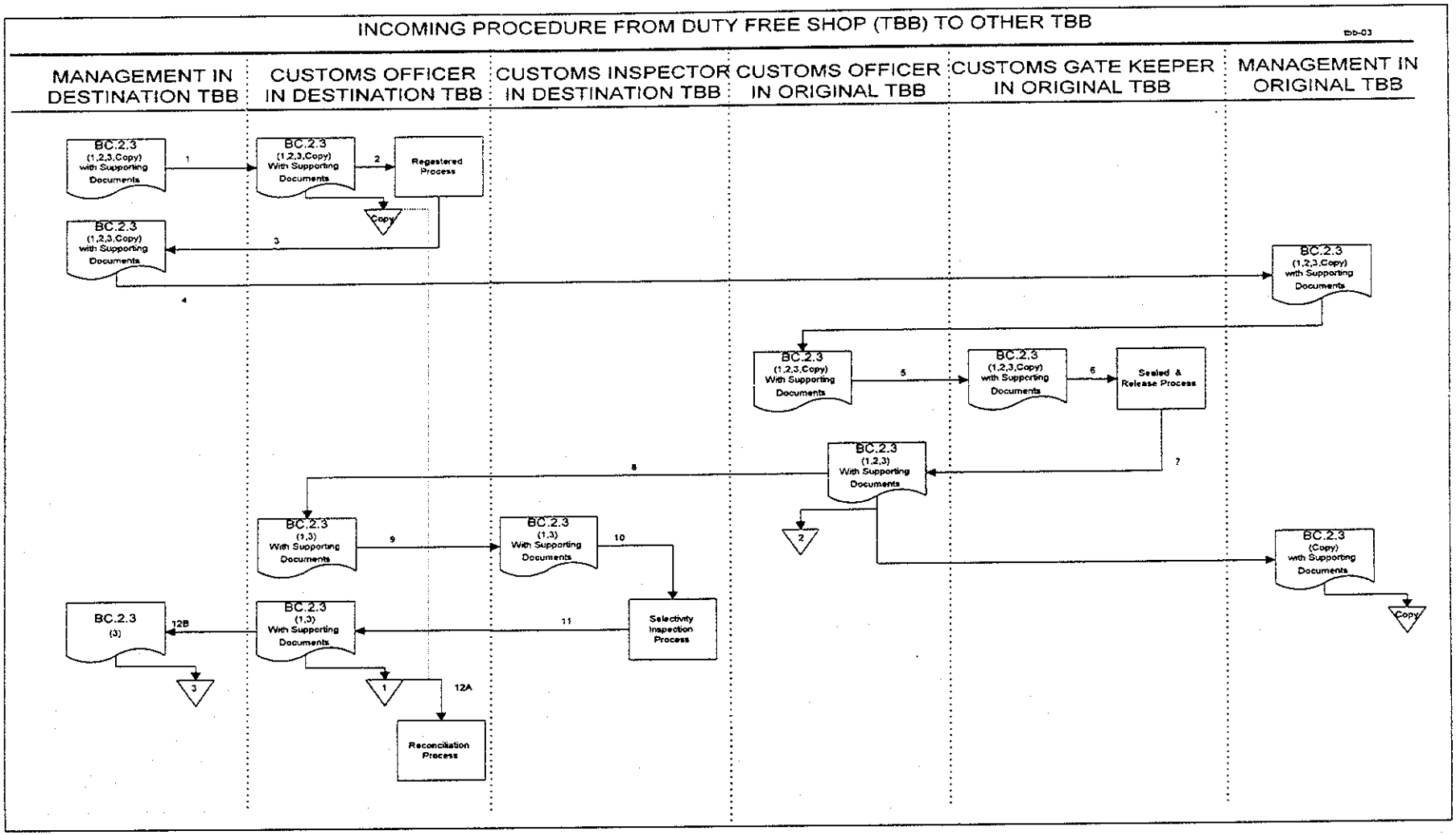

Figure 2.1.11-3: Incoming procedure from duty free shop (TBB) to other TBB

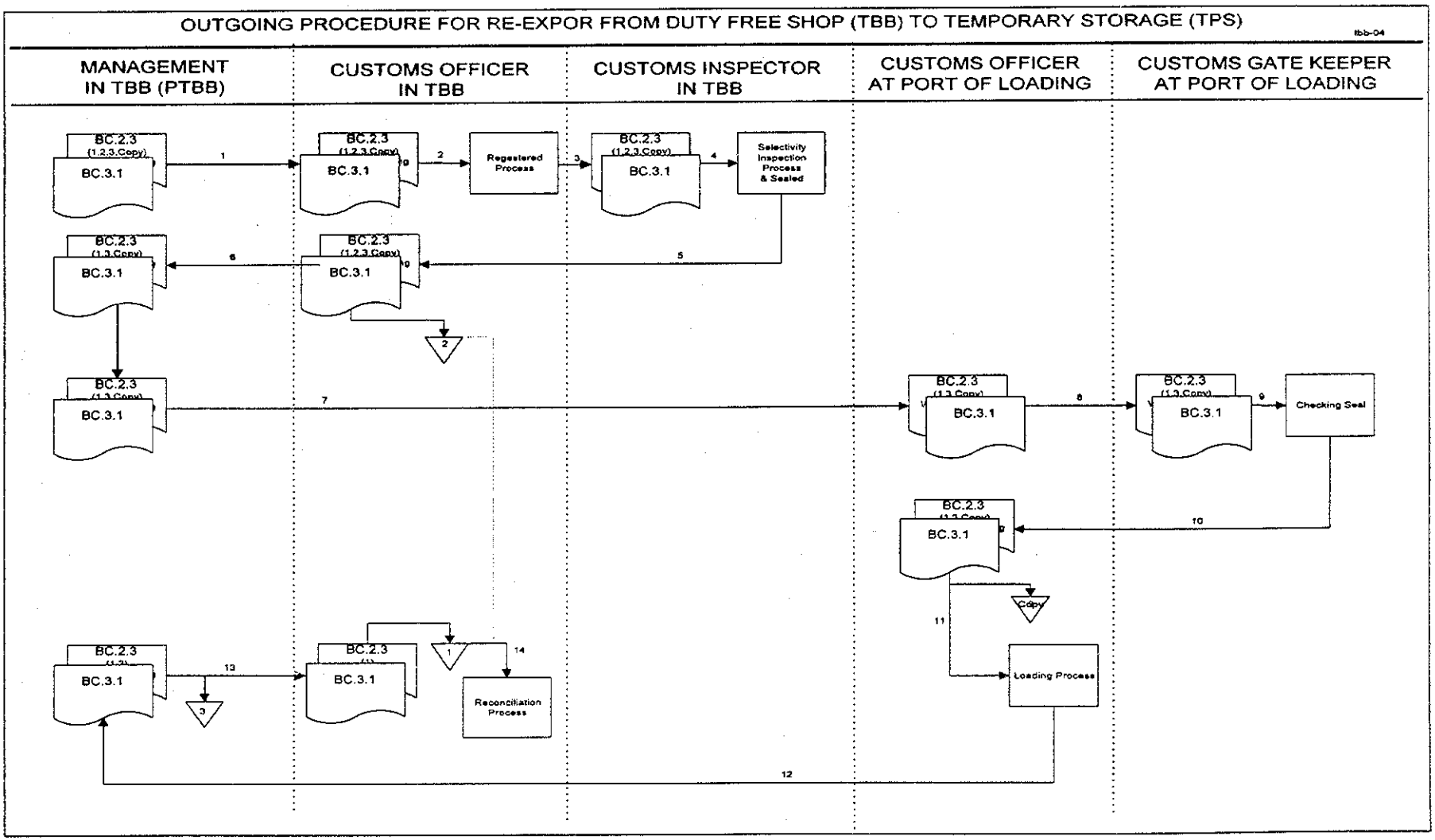

Figure 2.1.11-4: Outgoing procedure for re-export from duty free shop (TBB) to temporary storage (TPS)

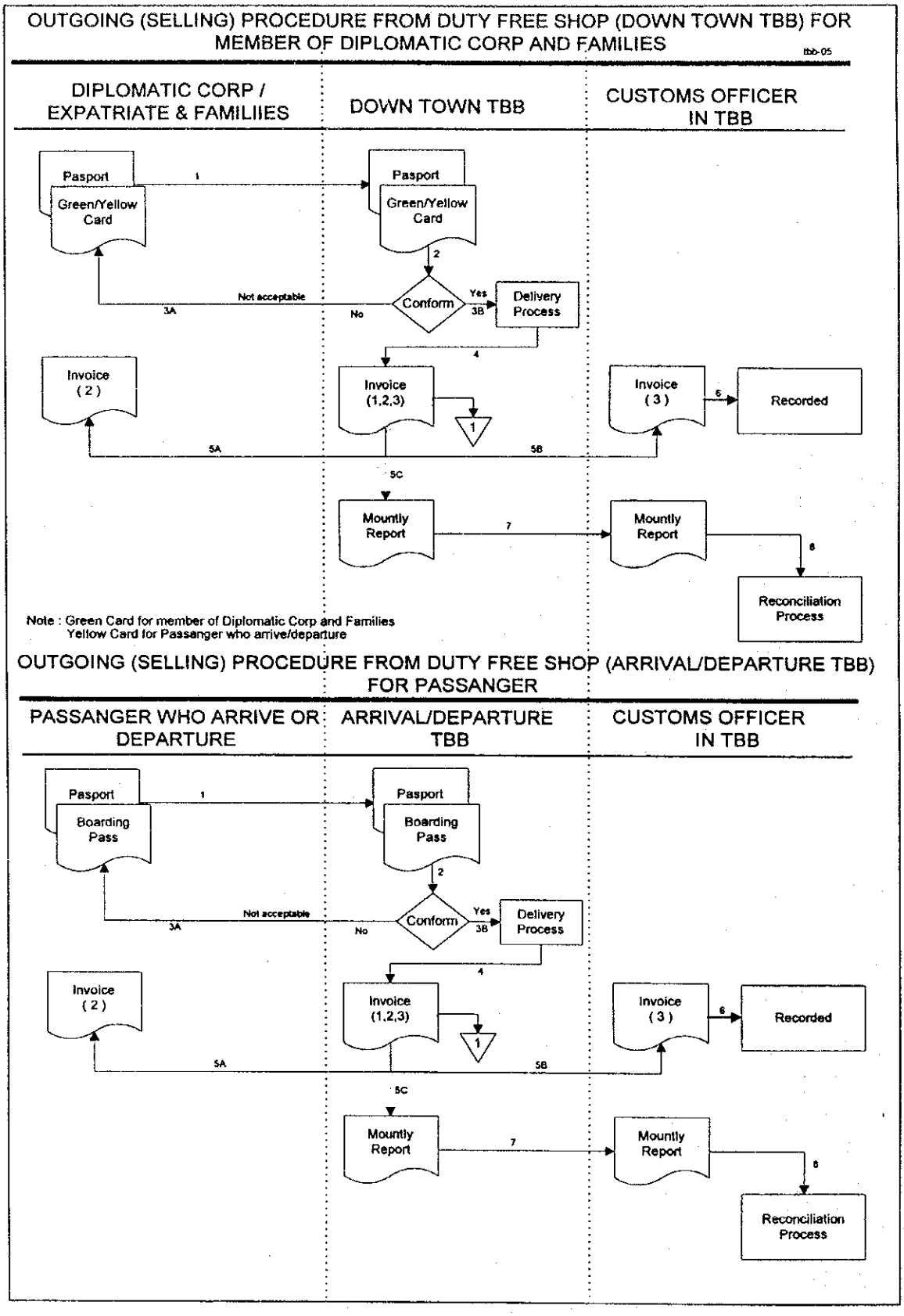

Figure 2.1.11-5: Outgoing procedure from duty free shop

2.2 Requirement of Current System

In This section, requirement of current system is described.

1) Requirement summary

The JICA Study Team conducted the many hearings from DJBC and trade-related companies. The Summary is described in this part; there are two point of views in requirement. One is a viewpoint of facilitation and the other is a viewpoint of technical skill.

- A viewpoint of trade facilitation

  CFRS currently covers import customs clearance procedures and export procedures will be covered on April 1998. On the other hand, there are many procedures related on to ship/airplane arrival/departure, procedures related to bonded storage and procedures related to duty payments. These procedures are necessary to be computerized for trade facilitation. Making a total integrated system covered above-mentioned procedure accords with the customs policy in Indonesia and also with AFTA2003.

- A viewpoint of technical skill

  The software for CFRS was developed in 1989. The software has been independently updated several times in conformity with revised laws and regulations or with the requirements from trade-related companies and customs. Therefore, the structure of the software is complicated and it is difficult to modify this software anymore because of its complexity and its low reliability: CFRS is frequently hung recently.

2) Requirement from customs

The JICA Study Team conducted the hearings in head office and Tanjung Priok. Followings are major points of the hearings.

- System itself

  The new system must be effective for facilitation of trade and prevention controller of the contraband. It must be high reliable and simplified system.

- General declaration (Manifest)

  General declaration (Manifest) is submitted to customs by paper. It is better to send it customs by EDI.

- EDI

  Current EDI system was developed in limited time, therefor its reliability is not enough. More reliable system is necessary.

- Bonded transportation

  Bonded transportation procedures should be computerized in order to accelerate import and export goods used at bonded storage.

3) Requirement from trade-related companies

The JICA Study Team conducted the hearings from 21 trade-related companies. Followings are major points of the hearings. Please refer to the result of the detail information.

- Computerization in export procedure using EDI

  100% of the companies are going to use the export EDI system soon after it is available.
- Computerization in bonded transportation procedures using EDI

  75% of the companies are going to use the bonded transportation EDI system soon after it is available.
- Computerization

  Customs computerization is good, because we can get quicker service. (2 companies)
- Response

  We appreciate a little fast response from customs. (5 companies)
- Manifest, AWB etc.

  We need the system that covers submitting of manifest, invoice, and airway bill. (2 companies)

Many parties, such as, importer, customs broker, bank, carrier, port authorities, customs, are engaged to import and export procedures, therefor only the computerization with in customs is not an effective for the facilitation of trade. Due to the trade facilitation, connection among all related parties must be computerized. Current import EDI system only covers importer, customs, customs brokers, and bank. And current import EDI system sometimes gives no response even though importer send PIB message.

CHAPTER 3 Image of CSS in 2003

3.1 Objectives of System Improvement

Customs plays an important role in the trade liberalization era. As the description on previous chapter the integrated system is required to trade facilitation in Indonesia. The integrated system must cover not only customs clearance but also all the other procedures related customs clearance. To assist in the efficient performance of all-international trade and customs functions and activities, the system should be improved to provide consistent, simple and transparent procedures.

The objectives are as follows.

- Facilitator and Controller
  - Smooth and simple procedure
  - Proper revenue collection
  - Potential contraband finding
  - Fraudulent customs declaration finding
- Inspection office activity monitor
- Highly reliable and simplified system

The functions to be computerized are as follows.

- Arrival of ship/airline control
- Customs area, warehouse, bonded zone and Bonded transfer control
- Import declaration
- Export declaration
- Departure of ship/airline control

The image of procedure through CSS is described in Figure 3.1-1 "Import procedures on CSS," and Figure 3.1-2 "Export procedures on CSS." The system covers all customs procedures from arrival of airplane/ships to release of goods in import, and it is same as in export. The submission of documents is processed by EDI through EDI provider. The electrical message should comply with UN-EDIFACT (United Nations standard for EDI message).

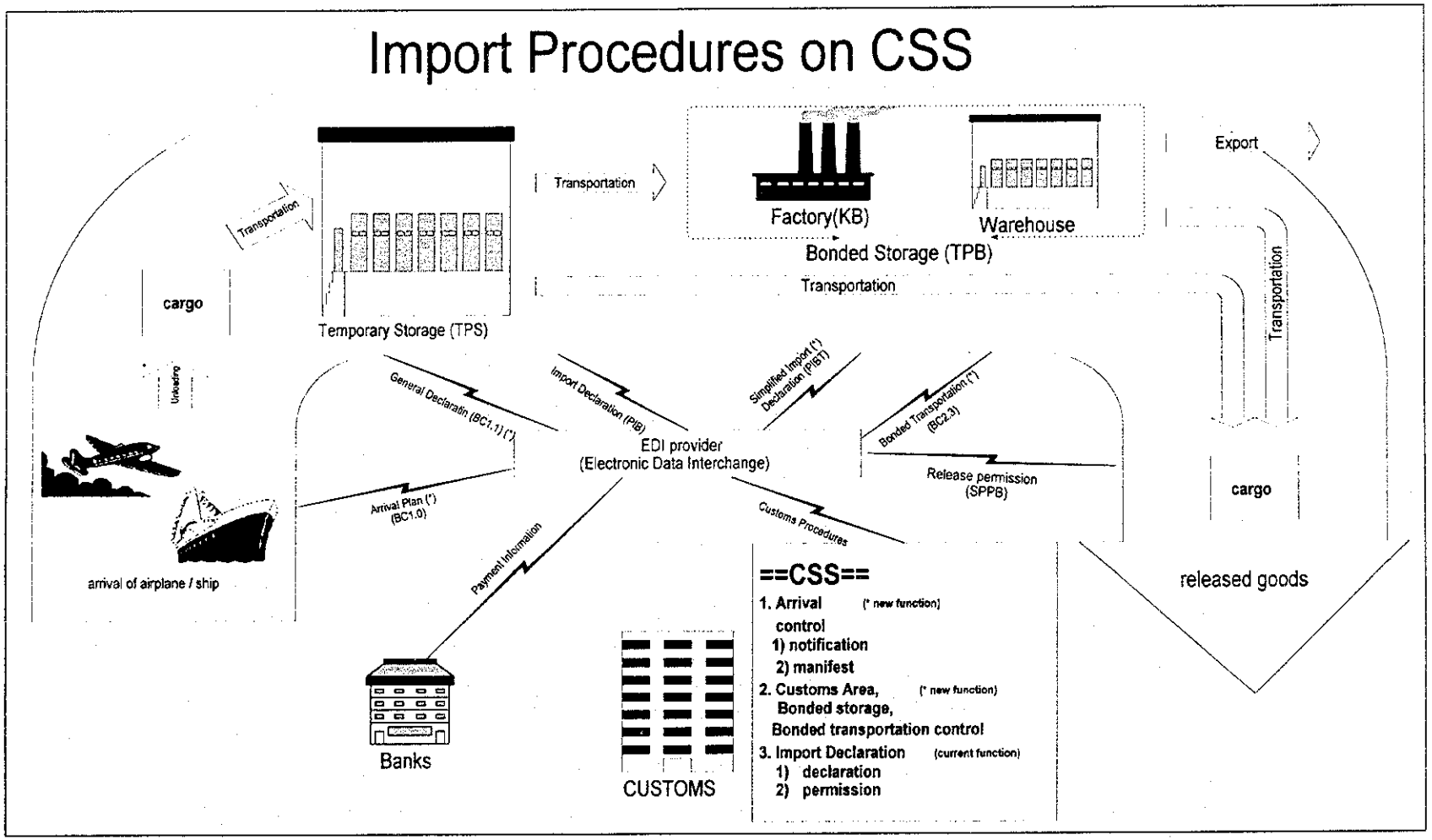

Figure 3.1-1: Import Procedure on CSS

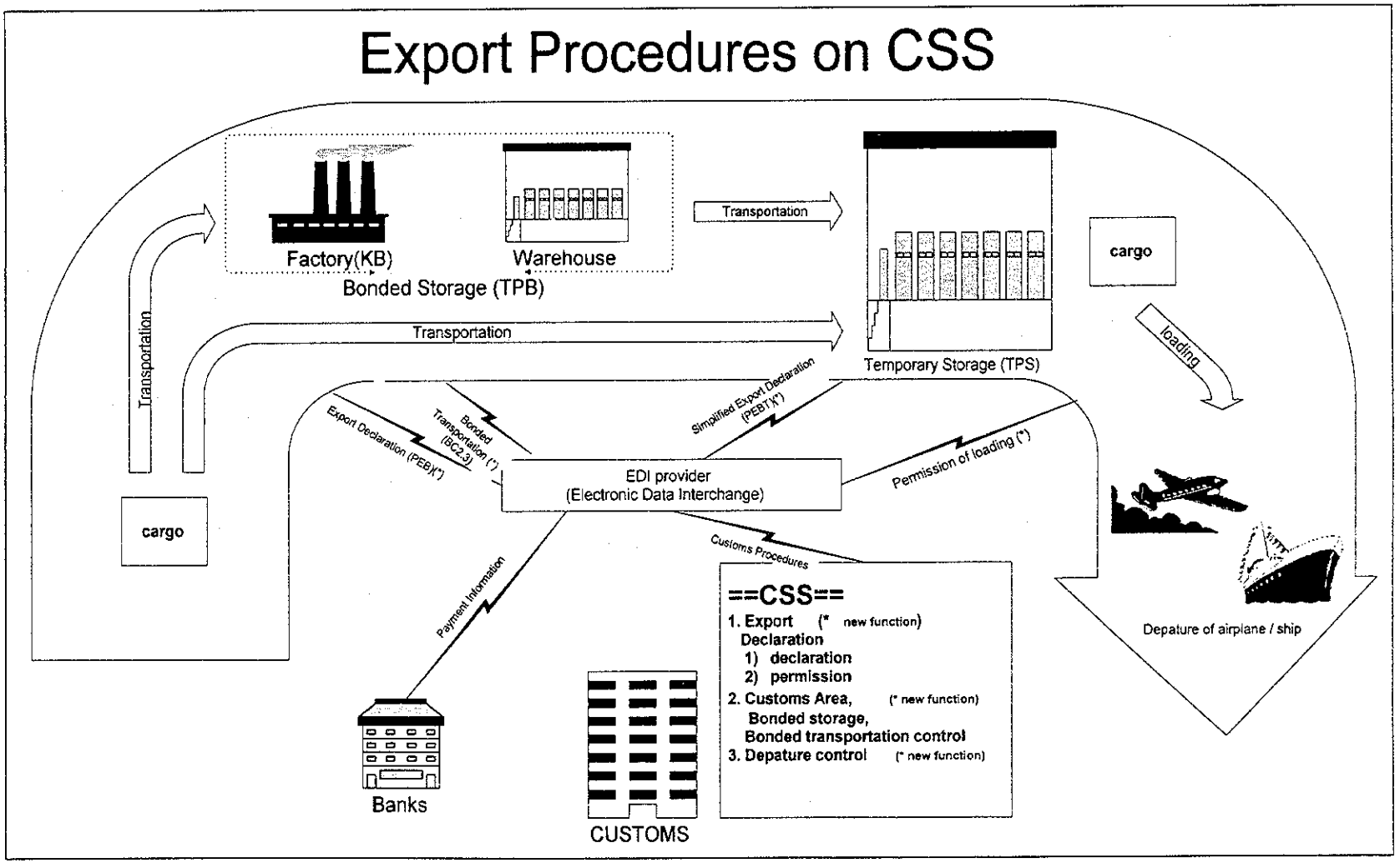

Figure 3.1-2: Export Procedures on CSS

3.2 Procedures to be Computerized

3.2.1 Job Process to be Computerized

The JICA Study Team proposed customs clearance procedures that are suitable for the idea of CSS as a result of the hearing from DJBC. The jobs cover almost all customs procedures. Figure 3.2.1-1 shows the "overview of the procedure after computerization." The thick arrows mean suitable job to be computerized. The numbers (for example, KB-11) are the numbers in Table 3.2.2-1 "list of jobs to be computerized."

The procedures after computerization are approximately the same as the procedures before computerization in this basic investigation phase, because of the limitation of investigation and research time. The procedures after computerization, therefore, need further investigation by the viewpoint of the system simplification and further consideration in legal viewpoint.

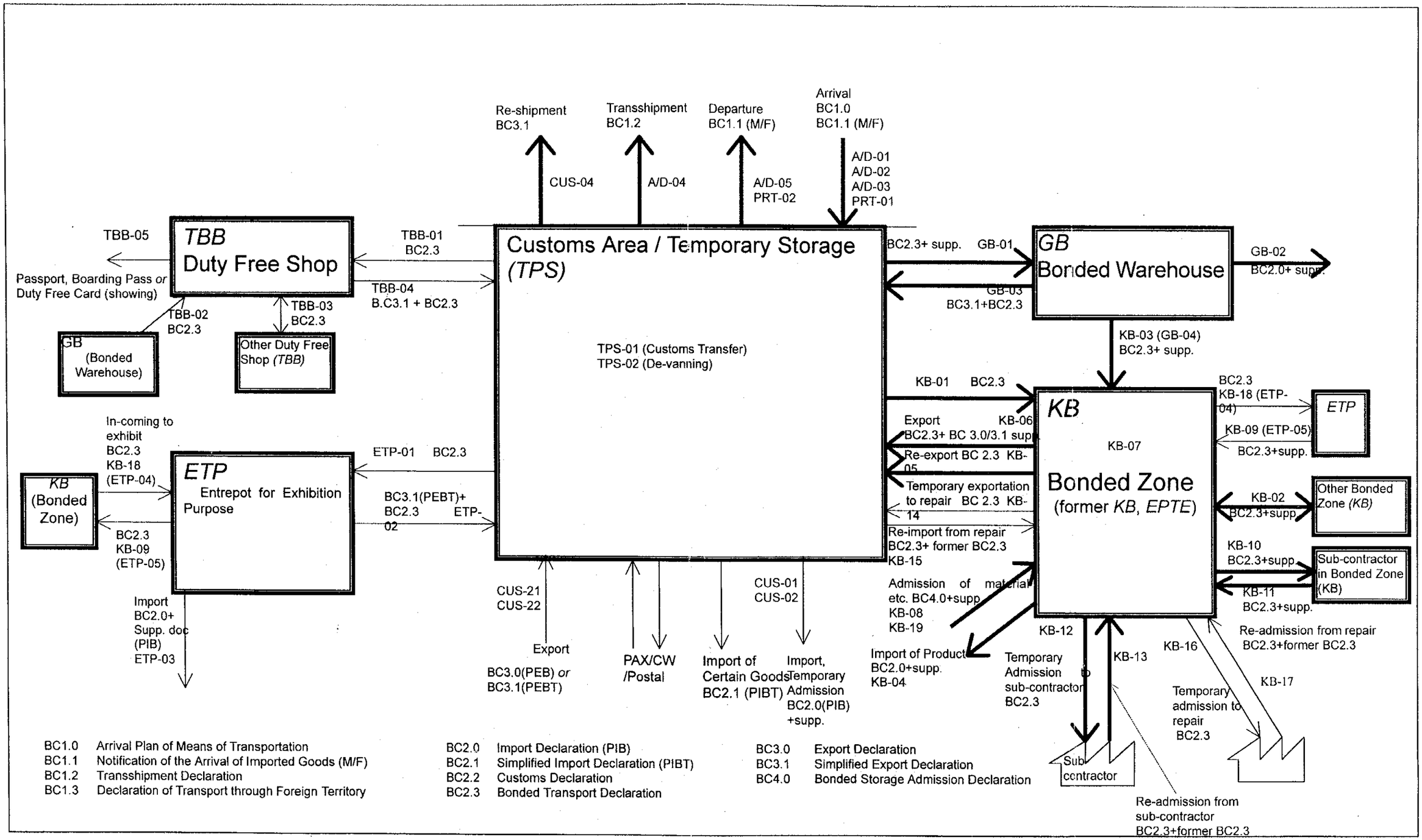

Figure 3.2.1-1: Overview of the Procedure after Computerization

3.2.2 List of Jobs

In this part, the list of jobs is described. There are eight categories in the proposed jobs. Table 3.2.2-1 shows the "List of jobs to be computerized." The rows with "low transaction" in remarks mean lower priority for computerization than other jobs, because there are not so many transactions that related to such jobs.

- Arrival / Departure of means of transport (A/D)
- Customs area (PRT)
- Temporary storage (TPS)
- Customs clearance (CUS)
- Bonded zone (KB)
- Bonded warehouse (GB)
- Entrepot for exhibition purpose (ETP)
- Duty free shop (TBB)

Table: 3.2.2-1: List of jobs to be computerized (1/12)

No.	Job Group / Job	Data	Description	Remarks
A/D	Arrival / Departure of Means of Transport			
A/D-01	Arrival Plan of Means of Transport	BC1.0 (Notification of Arrival Plan of Means of Transport)	Carrier shall submit "the Arrival Plan of Means of Transport" if the means of transport arrives irregularly.	—
A/D-02	Schedule of the Arrival Plan of Means of Transport	Schedule of Arrival Plan of Means of Transport	Carrier shall submit "the Schedule of Arrival Plan of Means of Transport" if the means of transport arrives regularly.	—
A/D-03	Notification on Arrival of Imported Goods (General Declaration)	BC 1.1 (M/F)	Carrier shall submit "the Notification of Arrival of Import Goods" when the means of transport arrives.	—
A/D-04	Transshipment	BC 1.2	Carrier shall declare the goods which shall transit or transshipped whether their destination is other domestic port or foreign port.	—
A/D-05	Departure	BC1.1 (M/F) (Declaration on the Departure of Means of Transport)	Carrier shall submit the outward manifest after the departure of the means of transport.	—
A/D-5X	Arrival / Departure Batch Jobs			
A/D-51	Daily report of processed document, value, quantity	—	Daily report of processed document, value and quantity of incoming/outgoing goods, number of means of transport	—
A/D-52	Monthly report of processed document, value, quantity	—	Monthly report of processed document, value and quantity of incoming/outgoing goods, number of means of transport	—
A/D-53	Dump Manifest data (daily)	—	Dump Manifest data to magnetic media	—
PRT	Customs Area			
PRT-01	Discharge	—	Port Authority shall notify the discharged goods.	
PRT-04	Loading	—		included in Export Procedure

Table: 3.2.2-1: List of jobs to be computerized (2/12)

No.	Job Group / Job	Data	Description	Remarks
PRT-51	Daily report of inventory	—	Daily report of inventory	—
PRT-52	Daily report of document, value, quantity	—	Daily report of processed document, value and quantity of in-coming/out-going goods	—
PRT-53	Monthly report of document, value, quantity	—	Monthly report of processed document, value and quantity of in-coming/out-going goods	—
PRT-54	Check for the expiration of goods	—	Check the goods which exceed the expiration period.	—
TPS	Temporary Storage (TPS)			
TPS-01	Admission from Customs Area	SP2-I	Customs Transfer from Customs Area at port to depot	—
TPS-02	Devanning	—	Strip containers	—
TPS-51	Daily report of devanning	—	Daily report of devanned goods	—
TPS-52	Daily report of inventory	—	Daily report of inventory	—
TPS-53	Daily report of document, value, quantity	—	Daily report of processed document, value and quantity of incoming/outgoing goods	—
TPS-54	Monthly report of document, value, quantity	—	Monthly report of processed document, value and quantity of incoming/outgoing goods	—
TPS-55	Check for the expiration of goods	—	Check the goods which exceed the expiration period.	—
CUS	Import Clearance			—
CUS-01	Import Declaration (PIB)	BC 2.0 (PIB)	Import clearance for general goods, including temporary admission	—
CUS-02	Periodical PIB	BC 2.0 (PIB)	Importer can declare once in a certain period.	Not yet implemented
CUS-03	Simplified Import Declaration (PIBT)	BC 2.1 (PIBT)	Import clearance for certain goods which are subject to official assessment; Removal goods, Goods brought by passenger, Consigned goods, Sea and air transportation, others (DJBC)	—
CUS-04	Re-shipment	BC 3.1	Re-exportation of imported goods: mistakenly sent off; not in agreement with the order; subject to a change of regulations; other reasons	—

Table: 3.2.2-1: List of jobs to be computerized (3/12)

No.	Job Group / Job	Data	Description	Remarks
CUS-2X	Export Clearance			
CUS-21	Export Declaration (PEB)	BC 3.0 (PEB)/BC 3.1 (PEBT), Consolidation Document (in case of LCL), CTPS, LPS-E (in case of the company uses reduction/ exemption of tax handling)	Export clearance, including surveyor inspection and loading.	—
CUS-22	Periodical Lodgement of PEB(T)	BC 3.0 (PEB)	Exporter can declare once in a certain period. Exporter shall submit supporting documents at each export.	—
CUS-5X	Batch Jobs for Import Clearance			
CUS-51	Daily report for Hanggar	—	Daily report	—
CUS-52	Daily Report from Hanggar to Inspection Office (KaKIBC)	—	Daily report from Hanggar to Inspection Office	—
CUS-53	Monthly report from Inspection Office to Regional Office	—	Monthly report from Inspection Office to Regional Office	—
CUS-54	Monthly report from Inspection Office to Head Office	—	Monthly report from Inspection Office to Head Office	—
CUS-55	Quarterly Report of processed documents, values, quantities	—	Quarterly report of processed documents, values and quantity of import goods	—
CUS-56	Semiannual Report of processed documents, values, quantities	—	Semiannual report of processed documents, values and quantity of import goods	—
CUS-57	Annual Report of processed documents, values, quantities	—	Annual report of processed documents, values and quantity of import goods	—
CUS-58	Monthly statistic report to Bank Indonesia	—	Monthly statistic report for Bank Indonesia	—

Table: 3.2.2-1: List of jobs to be computerized (4/12)

No.	Job Group / Job	Data	Description	Remarks
CUS-59	Monthly statistic report to Central Statistic Bureau (BPS)	—	Monthly statistic report for Central Statistic Bureau (BPS)	—
CUS-60	Dump PIB Data (daily)	—	Dump PIB data to magnetic media (simply output all the PIB data)	—
CUS-61	Update Importer Profile	—	Update Importer Profiles from magnetic media (magnetic media should be prepared otherwise.)	—
CUS-62	Update Commodity Profile	—	Update Commodity Profiles from magnetic media (magnetic media should be prepared otherwise.)	—
CUS-63	Update other Profiles	—	Update Other Profiles interactively	—
CUS-7X	Batch Jobs for Export Clearance			
CUS-71	Daily Report for each Hanggar	—	Daily report	—
CUS-72	Daily Report from Hanggar to Inspection Office (KaKIBC)	—	Daily report from Hanggar to Inspection Office	—
CUS-73	Monthly Report from Inspection Office (KIBC) to Regional Office	—	Monthly report from Inspection Office to Regional Office	—
CUS-74	Monthly report from Inspection Office to Head Office	—	Monthly report from Inspection Office to Head Office	—
CUS-75	Quarterly Report of processed documents, values, quantities	—	Quarterly report of processed documents, values and quantity of export goods	—
CUS-76	Semiannual Report of processed documents, values, quantities	—	Semiannual report of processed documents, values and quantity of export goods	—
CUS-77	Annual Report of processed documents, values, quantities	—	Annual report of processed documents, values and quantities of export goods	—
CUS-78	Monthly statistic report to Bank Indonesia	—	Monthly statistic report for Bank Indonesia	—
CUS-79	Monthly statistic report to Central Statistic Bureau (BPS)	—	Monthly statistic report for Central Statistic Bureau (BPS)	—
CUS-80	Monthly report to BAPEKSTA	—	Monthly report of export goods for BAPEKSTA	—

Table: 3.2.2-1: List of jobs to be computerized (5/12)

No.	Job Group / Job	Data	Description	Remarks
CUS-81	Dump PEB Data (daily)	—	Dump PEB data to magnetic media. (Simply output all the PEB data)	—
CUS-82	Update Exporter Profile	—	Update Exporter Profiles from magnetic media (magnetic media should be prepared otherwise.)	—
CUS-83	Update other Profiles	—	Update Other Profiles interactively	—
KB	Bonded Zone (KB)			
KB-1	In-coming procedure of Import Goods from Temporary Storage (TPS) to Bonded Zone (KB)	BC 2.3, supplemenatary documents	Bonded Transport from Temporary Storage (TPS) to Bonded Zone (KB)	—
KB-2	In-coming procedure from one Bonded Zone (KB) to another Bonded Zone (KB)	BC 2.3	Bonded Transport between Bonded Zones (KB)	—
KB-3	In-coming procedure from Bonded Warehouse (GB) to Bonded Zone (KB)	BC 2.3	Bonded Transport from Bonded Warehouse (GB) to Bonded Zone (KB)	—
KB-4	Import of Products (Out-going procedure from Bonded Zone (KB) to Domestic (DPIL))	BC 2.0, attached document (B/L or AWB, I/V, P/L)	Import at Bonded Zone (KB), same as ordinary import at Inspection Office.	—
KB-5	Re-export (of material / capital goods)	BC 2.3, BC 3.1 (PEBT), prior BC 2.3	Re-export of import goods. Almost the same as ordinary re-export at Inspection Office, except for requirement for Bonded Transport.	—
KB-6	Export (of Products)	BC2.3, BC 3.0/3.1, attached document	Export is almost the same as ordinary export at Inspection Office, except for requirement for Bonded Transport.	—
KB-7	Out-going procedure from Management (PDKB) to another Management (PDKB) within one Bonded Zone (KB)	BC 2.3	Bonded Transport between Entrepreneures. Currently, no KB has two or more Customs Offices, but, in juri, there might be many Customs Offices.	—

Table: 3.2.2-1: List of jobs to be computerized (6/12)

No.	Job Group / Job	Data	Description	Remarks
KB-8	In-coming procedure from BAPEKSTA user to Bonded Zone (KB)	BC 4.0	Entry from domestic to Bonded Zone (KB). The goods are treated as exported as for the BAPEKSTA facilitation.	—
KB-9	In-coming procedure from Entrepot for Exhibition Purpose (ETP) to Bonded Zone (KB)	BC 2.3	Bonded Transport from Entrepot for Exhibition Purpose (ETP) to Bonded Zone (KB)	(Low Transaction)
KB-10	Out-going procedure from one Bonded Zone (KB) to another Bonded Zone (KB) as its Subcontractor	BC 2.3	Bonded Transport from Bonded Zone (KB) to Bonded Zone (KB) for subcontracting	—
KB-11	In-coming procedure from Bonded Zone (KB) as a Subcontractor to original Bonded Zone (KB)	BC 2.3	Bonded Transport from Bonded Zone (KB) to Bonded Zone (KB) from subcontracting	—
KB-12	Out-going procedure from Bonded Zone (KB) to Domestic Subcontractor	BC 2.3	Temporary admission for subcontracting. Some security is necessary.	—
KB-13	In-coming procedure from Domestic Subcontractor to Bonded Zone (KB)	BC 2.3	Re-entry to Bonded Zone (KB) after subcontracting. Some check of conversion rate is necessary. The security is handled.	—
KB-14	Temporary export for repairing	BC 2.3, BC 3.1 (PEBT)	Temporary exportation for repairing. Almost all the same with ordinary temporary exportation except for requirement for Bonded Transportation	(Low Transaction)
KB-15	Re-import after repairing	BC 2.3, prior BC 2.3	Re-importation after repairing. Almost all the same with ordinary Bonded Transport from Temporary Storage (TPS) except for some documents related to prior exportation.	(Low Transaction)
KB-16	Temporary Admission for Repairing	BC 2.3	Temporary admission for repairing. Some security is necessary.	(Low Transaction)

Table: 3.2.2-1: List of jobs to be computerized (7/12)

No.	Job Group / Job	Data	Description	Remarks
KB-17	In-coming from domestic (DPIL) after Repairing	BC.2.3, prior BC 2.3	Re-entry to Bonded Zone (KB) after repairing. The security is handled.	(Low Transaction)
KB-18	Out-going procedure from Bonded Zone (KB) to Entrepot for Exhibition Purpose (ETP)	BC 2.3	Bonded Transport from Bonded Zone (KB) to Entrepot for Exhibition Purpose (ETP)	(Low Transaction)
KB-19	In-coming procedure from Domestic (DPIL) to Bonded Zone (KB)	BC 4.0, supplementary documents	Entry from domestic to Bonded Zone (KB).	—
KB-5X	Batch Jobs of Bonded Zone (KB)			
KB-51	Check for the expiration of temporary exportation for repairing	—	Check the goods which excessed the expiration period for temporary exportation for repairing	(Low Transaction)
KB-52	Check for the expiration of temporary admission for reparing	—	Check the goods which excessed the expiration period for temporary admission for repairing	(Low Transaction)
KB-53	Check for the expiration of subcontraction in Bonded Zone (KB)	—	Check the goods which excessed the expiration period for subcontracting in Bonded Zone	—
KB-54	Check for the expiration of subcontraction in other Bonded Zone (KB)	—	Check the goods which excessed the expiration period for subcontracting in Bonded Zone	—
KB-55	Check for the expiration of subcontraction in Domestic (DPIL)	—	Check the goods which excessed the expiration period for subcontracting in domestic	—
KB-56	Monthly Inventry Report of Raw material in Bonded Zone (KB)	—	Monthly inventry report of raw material for reconcilliation with that from PKB	—
KB-57	Monthly Inventory Report of Work in progress in Bonded Zone (KB)	—	Monthly inventry report of raw material for reconcilliation with that from PKB	—
KB-58	Monthly Inventry Report of Product in Bonded Zone (KB)	—	Monthly inventry report of finished product for reconciliation with that from PKB	—
KB-59	Quarterly Inventry Report of Raw material in Bonded Zone (KB)	—	Quarterly inventry report of raw material for reconcilliation with that PKB	—

Table: 3.2.2-1: List of jobs to be computerized (8/12)

No.	Job Group / Job	Data	Description	Remarks
KB-60	Quarterly Inventory Report of Work in progress in Bonded Zone (KB)	—	Quarterly inventry report of work in progress for reconcilliation with that PKB	—
KB-61	Quarterly Inventry Report of Product in Bonded Zone (KB)	—	Quarterly inventry report of produce for reconcilliation with that PKB	—
KB-62	Monthly report of processed document, value, quantities	—	Monthly report of processed document, value and quantity of incoming/outgoing goods	—
KB-63	Quarterly Report of processed documents, values, quantities	—	Quarterly report of processed document, value and quantity of incoming/outgoing goods	—
KB-64	Semiannual Report of processed documents, values, quantities	—	Semiannual report of processed document, value and quantity of incoming/outgoing goods	—
KB-65	Annual Report of processed documents, values, quantities	—	Annual report of processed document, value and quantity of incoming/outgoing goods	—
KB-66	Monthly statistic report to Bank Indonesia	—	Monthly statistic report for Bank Indonesia	—
KB-67	Monthly statistic report to Central Statistic Bureau (BPS)	—	Monthly statistic report for Central Statistic Bureau (BPS)	—
KB-68	Monthly report to BAPEKSTA	—	Monthly report for BAPEKSTA about exported goods from each BAPEKSTA user	—
GB	Bonded Warehouse (Procedural Job)			
GB-01	In-coming procedure from Temporary Storage (TPS) to Bonded Warehouse (GB)	BC 2.3	Bonded Transport from Temporary Storage (TPS) from Bonded Warehouse (GB)	—
GB-02	Out-going procedure from Bonded Warehouse (GB) to Domestic (DPIL) as import	BC2.0 (PIB), attached document	Import through Bonded Warehouse (GB). Same as ordinary import at Inspection Office.	—
GB-03	Re-export	BC3.1 (PEBT), BC2.3 of Carry-in	Re-export of import goods. Almost the same as ordinary re-export at Inspection Office, except for requirement for Bonded Transport.	—

Table: 3.2.2-1: List of jobs to be computerized (9/12)

No.	Job Group / Job	Data	Description	Remarks
GB-04	Out-going procedure from Bonded Warehouse (GB) to Bonded Zone (KB)	Described in Bonded Zone (KB) part		
GB-5X	Batch Jobs of Bonded Warehouse (GB)			
GB-51	Monthly Inventory Report of Bonded Warehouse (GB)	—	Monthly inventry report of goods for reconcilliation with that PKB	—
GB-52	Quarterly Inventory Report of Bonded Warehouse (GB)	—	Quarterly inventry report of goods for reconciliation with that of PGB	—
GB-52	List of the goods which excessed certain limitation	—	Check the goods which excessed the expiration period.	—
GB-53	Monthly Report of processed documents, values, quantities	—	Monthly report of processed document, value and quantity of incoming/outgoing goods	—
GB-54	Quarterly Report of processed documents, values, quantities	—	Quarterly report of processed document, value and quantity of incoming/outgoing goods	—
GB-55	Semiannual Report of processed documents, values, quantities	—	Semiannual report of processed document, value and quantity of incoming/outgoing goods	—
GB-56	Annual Report of processed documents, values, quantities	—	Annual report of processed document, value and quantity of incoming/outgoing goods	—
GB-57	Monthly statistic report to Bank Indonesia	—	Monthly statistic report for Bank Indonesia	—
GB-58	Monthly statistic report to Central Statistic Bureau (BPS)	—	Monthly statistic report for Central Statistic Bureau (BPS)	—
ETP	Entrepot for Exhibition Purpose			
ETP-1	In-coming procedure of Import Goods from Temporary Storage (TPS) to Entrepot for Exhibition Purpose (ETP)	BC2.3	Bonded Transport from Temporary Storage (TPS) from Bonded Warehouse (GB)	(Low Transaction)

Table: 3.2.2-1: List of jobs to be computerized (10/12)

No.	Job Group / Job	Data	Description	Remarks
ETP-2	Re-export after exhibition (Out-going procedure from Entrepot for Exhibition Purpose (ETP) to Temporary Storage (TPS))	BC 2.3, BC3.1 (PEBT), prior BC2.3	Re-export of import goods. Almost the same as ordinary re-export at Inspection Office, except for requirement for Bonded Transport.	(Low Transaction)
ETP-3	In-coming procedure from Domestic (DPIL) to Entrepot for Exhibition Purpose (ETP)	—	Temporary entry to Entrepot for Exhibition Purpose (ETP) for exibhition.	(Low Transaction)
ETP-4	Out-going procedure from Entrepot for Exhibition Purpose (ETP) to Domestic (DPIL) after Exhibition	—	Release after temporary entry for exhibition. These goods are not dutiable, so check is necessary	(Low Transaction)
ETP-5	Import from Entrepot for Exhibition Purpose (ETP)	BC2.0 (PIB), attached document	Almost the same as ordinary import at Inspection Office.	(Low Transaction)
ETP-6	In-coming procedure from Bonded Zone (KB) to Entrepot for Exhibition Purpose (ETP)	Described in Bonded Zone (KB) part		
ETP-7	Out-going procedure from Entrepot for Exhibition Purpose (ETP) to Bonded Zone (KB)	Described in Bonded Zone (KB) part		
ETP-5X	Batch Jobs for Entrepot for Exhibition Purpose (ETP)			
ETP-51	Monthly Inventory Report of Entrepot for Exhibition Purpose (ETP)	—	Monthly inventry report of goods	(Low Transaction)
ETP-52	Quarterly Inventory Report of Entrepot for Exhibition Purpose (ETP)	—	Quarterly inventry report of goods for reconcilliation with that of PETP	—
ETP-53	Check for the expiration of certain limitation for goods	—	Check the goods which excessed the expiration period.	(Low Transaction)
ETP-54	Monthly Report of processed documents, values, quantities	—	Monthly report of processed document, value and quantity of incoming/outgoing goods	—

Table: 3.2.2-1: List of jobs to be computerized (11/12)

No.	Job Group / Job	Data	Description	Remarks
ETP-55	Quarterly Report of processed documents, values, quantities	—	Quarterly report of processed document, value and quantity of incoming/outgoing goods	—
ETP-56	Semiannual Report of processed documents, values, quantities	—	Semiannual report of processed document, value and quantity of incoming/outgoing goods	—
ETP-57	Annual Report of processed documents, values, quantities	—	Annual report of processed document, value and quantity of incoming/outgoing goods	(Low Transaction)
ETP-58	Monthly statistic report to Bank Indonesia	—	Monthly statistic report for Bank Indonesia	(Low Transaction)
ETP-59	Monthly statistic report to Central Statistic Bureau (BPS)	—	Monthly statistic report for Central Statistic Bureau (BPS)	(Low Transaction)
TBB	Duty Free Shop (TBB)			
TBB-1	In-coming procedure from Temporary Storage (TPS) to Duty Free Shop (TBB)	BC2.3	Bonded Transport from Temporary Storage (TPS) from Duty Free Shop (TBB)	(Low Transaction)
TBB-2	Out-going procedure from Duty Free Shop	—	Duty Free Shop shall periodically declare all of the goods sold.	(Low Transaction)
TBB-5X	Batch Jobs for Duty Free Shop (TBB)			
TBB-51	Monthly Inventory Report of Duty Free Shop	—	Monthly inventry report of goods	(Low Transaction)
TBB-52	Quarterly Inventory Report of Duty Free Shop	—	Quarterly inventry report of goods for reconciliation with that of PTBB	(Low Transaction)
TBB-53	Check for the expiration of certain limitation for goods	—	Check the goods which excessed the expiration period.	(Low Transaction)
TBB-54	Monthly Report of processed documents, values, quantities	—	Monthly report of processed document, value and quantity of incoming/outgoing goods	(Low Transaction)
TBB-55	Quarterly Report of processed documents, values, quantities	—	Quarterly report of processed document, value and quantity of incoming/outgoing goods	(Low Transaction)

Table: 3.2.2-1: List of jobs to be computerized (12/12)

No.	Job Group / Job	Data	Description	Remarks
TBB-56	Semiannual Report of processed documents, values, quantities	—	Semiannual report of processed document, value and quantity of incoming/outgoing goods	(Low Transaction)
TBB-57	Annual Report of processed documents, values, quantities	—	Annual report of processed document, value and quantity of incoming/outgoing goods	(Low Transaction)
TBB-58	Monthly statistic report to Bank Indonesia	—	Monthly statistic report for Bank Indonesia	(Low Transaction)
TBB-59	Monthly statistic report to Central Statistic Bureau (BPS)	—	Monthly statistic report for Central Statistic Bureau (BPS)	(Low Transaction)
TBB-60	Monthly report to BAPEKSTA	—	Monthly report for BAPEKSTA about export goods from each BAPEKSTA user	(Low Transaction)
UM	User Module			
UM-01	Import/Export declaration module	—	Module for Import/Export declaration	—
UM-02	Bonded Transfer module	—	Module for Bonded Transfer	—
UM-03	Payment information (Bank) module	—	Module for payment information from Bank to Customs	—

3.3 Estimated Workload

The future workload of customs services is an important factor in designing the CSS. It is difficult to define what type of server should be used or the data transferring speed needed for the CSS in Inspection Office respectively without correct assumption of the future workload.

Workload of CSS might be estimated considering the number of transaction and the time required for its process. Customs clearance procedures to be processed by CSS are Import Clearance, Export Clearance, Bonded Transport and Arrival/Departure Control. The current CFRS is only covers the Import Clearance. According to the study at Tanjung Priok Inspection Office III, it became clear that the number of PIB is nearly to the number of PEB/PEBT. It is also nearly equal to the number of manifest plus the number of Customs and Bonded Transport. It is also found that the time-required process for PEB/PEBT, however, is quite short, almost one fourth compare to that of PIB. Therefore, the JICA Study Team assumes that the current CFRS Import Clearance workload is equal to both Bonded Transport and Arrival/Departure Control workload and the Export Clearance workload is around 25% of the Import Clearance workload. According to this assumption, the CSS workload was estimated that it was 2.25 times that of the CFRS workload. This workload also increases year by year in accordance to the economic growth. In the part of economic study, in this Progress Report, being forecasted on average Indonesian economic growth rate of 4.9 % per-year between 1998 to 2003.

So by the year of 2003 the CSS workload becomes $[2.25 \times (1+0.049)^5]$ or 2.86 times of current CFRS workload. The detail estimated workload is shown in Table 3.3-1 below.

Table 3.3-1: Estimated Workload of CSS Based on Workload of CFRS Data (1/3)

Regional	No	Inspection Office	CFRS Workload on The First Semester of 1996/1997	Estimated Workload of CSS In The First Semester of 2003
KANWIL I Medan	1	Banda Aceh	185	529
	2	Meulaboh	—	—
	3	Tapak Tuan	—	—
	4	Lhok Seumawe	756	2,161
	5	Kuala Langsa	101	289
	6	Belawan	32,829	93,825
	7	Polonia Meda	7,791	22,267
	8	Pangkalan Susu	263	752
	9	P. Siantar	58	166
	10	Teluk Nibung	2,669	7,628
	11	Kuala Tanjung	128	366
	12	Sibolga	96	274
	13	Teluk Bayur	2,143	6,125
KANWIL II Tanjung Balai Karimun	1	Tg. Balai Karimun	4,539	12,972
	2	Sb. Padang	742	2,121
	3	Selat Panjang	176	503
	4	Batam	19,621	56,077
	5	Sekupang	5,249	15,077
	6	Kijang	1,367	3,907
	7	Dabo Singkep	481	1,375
	8	Tanjung Pinang	1,450	4,144
	9	Tanjung Uban	513	1,466
	10	Dumai	2,594	7,414
	11	S.S. Indrapura	753	2,152
	12	Rengat	19	54
	13	Kuala Enok	184	526
	14	Bagan Siapi Api	232	663
	15	Bengkalis	93	266
	16	Pekan Baru	4,123	11,783
KANWIL III Palembang	1	Palembang	427	1,220
	2	Bengkulu	28	80
	3	Pangkal Batam	345	986
	4	Muntok	213	609
	5	Tanjung Pandan	141	403
	6	Jambi	3,233	9,240
	7	Panjang	8,450	24,150

Table 3.3-1: Estimated Workload of CSS Based on Workload of CFRS Data (2/3)

Regional	No	Inspection Office	CFRS Workload on The First Semester of 1996/1997	Estimated Workload of CSS In The First Semester of 2003
KANWIL IV Jakarta	1	Tanjung Priok I	50,683	144,851
	2	Tanjung Priok II	99,588	284,621
	3	Tanjung Priok III	195,089	557,561
	4	Kemayoran	16,495	47,142
	5	Halim P. Kusuma	626	1,789
	6	KTR. Pos Pasar Baru	26,525	75,808
KANWIL V Bandung	1	Soekarno Hatta I	6,994	19,989
	2	Soekarno Hatta II	88,635	253,318
	3	Bogor	5,480	15,662
	4	Merak	3,044	8,700
	5	Bandung	26,088	74,559
	6	Tasik Malaya	—	—
	7	Cirebon	186	532
KANWIL VI Semarang	1	Tanjung Mas	27,590	78,852
	2	Pekalongan	—	—
	3	Kudus	91	260
	4	Cilacap	209	597
	5	Surakarta	3,339	9,543
	6	Yogyakarta	387	1,106
	7	Magelang	2	6
	8	Purwokerto	—	—
	9	Kebumen	—	—
	10	Tegal	467	1,335
KANWIL VII Surabaya	1	Tanjung Perak	87,299	249,499
	2	Kalianget	87	249
	3	Gresik	250	714
	4	Bojonegoro	13	37
	5	Juanda	14,899	42,581
	6	K. Pos Surabaya	36,432	104,122
	7	Malang	—	—
	8	Blitar	—	—
	9	Kediri	1,360	3,887
	10	Tulung Agung	—	—
	11	Madiun	—	—
	12	Panarukan	186	532
	13	Probolinggo	213	609
	14	Pasuruan	372	1,063
	15	Meneng	26	74

Table 3.3-1: Estimated Workload of CSS Based on Workload of CFRS Data (3/3)

Regional	No	Inspection Office	CFRS Workload on The First Semester of 1996/1997	Estimated Workload of CSS In The First Semester of 2003
KANWIL VIII Denpasar	1	Ngurah Rai	14,766	42,201
	2	C. Bawang	—	—
	3	Benoa	1,223	3,495
	4	Lembar	2	6
	5	Bima	9	26
	6	Tenau Kupang	21	60
	7	Waingapu	2	6
	8	Maumere	80	229
	9	Dili	95	272
KANWIL IX Pontianak	1	Pontianak	3,437	9,823
	2	Entikong	35	100
	3	Teluk Air	533	1,523
	4	Ketapang	64	183
	5	Sintete	327	935
	6	Sambas	31	89
	7	Sampit	533	1,523
	8	Pangkalan Bun	152	434
	9	Pulau Pisanu	141	403
KANWIL X Balikpapan	1	Banjarmasin	4,063	11,612
	2	Kotabaru	328	937
	3	Balikpapan	1,627	4,650
	4	Tanjung Santan	150	429
	5	Samarinda	4,345	12,418
	6	Bontang	2,444	6,985
	7	Tarakan	456	1,303
	8	Nunukan	18	51

3.4 System Configuration

This part describes the CSS System Configuration Diagram, Hardware, and Software Package for the CSS. The JICA Study Team would like to propose that CSS be developed on Client/Server (hereinafter referred to as C/S) configuration for the following technical reasons. However, the real system configuration for CSS must be defined on basic design and detail design phase.

1) Development Tools for C/S configuration are supported well by many software vendors, therefore, it is easy to find technical supports when applications are developed on C/S configuration.
2) With C/S configuration, the load of the server can be reduced to provide good response.
3) It is forecast that production of dumb terminals will be on decreasing trend. Therefore, it might be difficult to have technical support on dumb terminal troubleshooting in the near future.
4) It is predicted that PC will be used as a terminal by emulating dumb terminal function that makes dumb terminal configuration and that C/S configuration will be the same in cost performance.
5) If a PC is used as a terminal, it is possible to connect the PC terminal to several applications, such as CIS, CFRS (CSS), and other application systems in the future.

3.4.1 System Configuration Diagram

System configuration of the CSS is not so different from the system configuration of the CFRS but users of the CSS will increase significantly.

Figure 3.4.1-1 shows the system configuration of the CSS: how Inspection Offices are connected to their EDI provider. In addition, Figure 3.4.1-2 shows interconnection between Inspection Office and its EDI provider as well as LAN in the Inspection Office site.

There are two methods of connection between the Inspection Office and the EDI Provider,

- Through terrestrial-line (in this case leased-line service)
- Through satellite-VSAT.

The JICA Study Team would like to propose the terrestrial-line as the first choice because it costs less then the VSAT. Inspection Offices, which are covered by terrestrial lines, are better to use this type of telecommunication system to connect to their EDI provider.
An Inspection Office that is connected to CSS will have a server. Terminals of CSS in the Inspection Office will connect to the CSS server through Local Area Network (LAN).

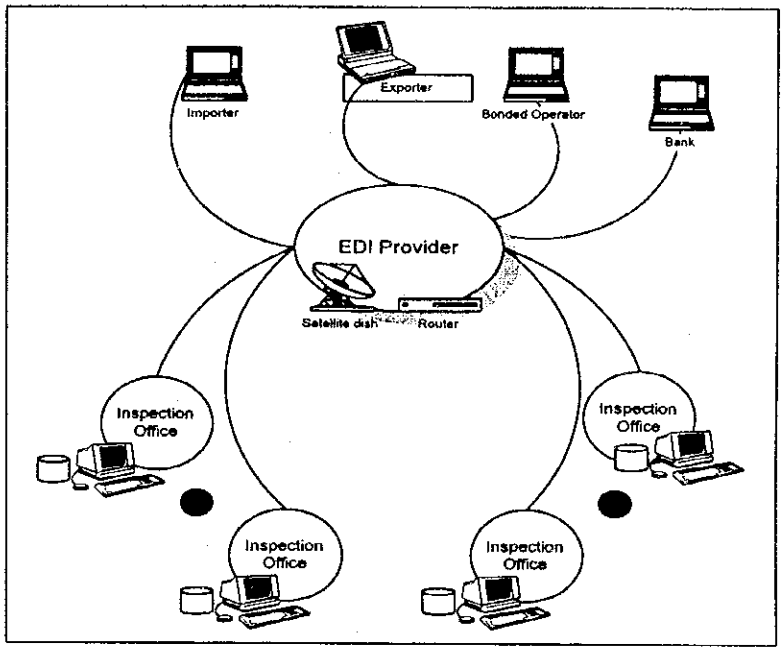

Figure 3.4.1-1: System Configuration of CSS (a)

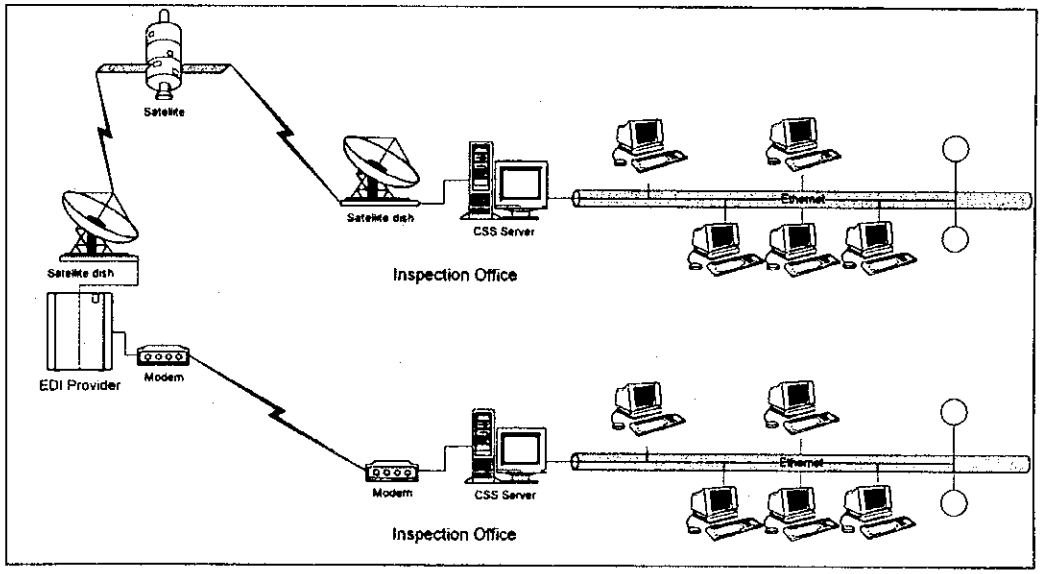

Figure 3.4.1-2: System Configuration of CSS (b)

In the first stage, it is supposed that only the major Inspection Offices will be serviced by the CSS. There are several major Inspection Offices, which are appropriate to implement the CSS firstly, considering the cost and benefit. Table 3.4.1-1 shows the name of those Inspection Offices. This table also describes how Inspection Offices connect to EDI provider.

Table 3.4.1-1: Several Major of Inspections Offices Connected to CSS

No	Inspection Office	KANWIL Name	Connection to EDI Provider	
			VSAT	Leased-line
	Belawan	KANWIL I Medan	64 kbps	—
	Tanjung Priok I	KANWIL IV Jakarta	—	256 kbps
	Tanjung Priok II	KANWIL IV Jakarta	—	256 kbps
	Tanjung Priok III	KANWIL IV Jakarta	—	256 kbps
	Soekarno Hatta I	KANWIL V Bandung	—	256 kbps
	Soekarno Hatta II	KANWIL V Bandung	—	256 kbps
	Bandung	KANWIL V Bandung	64 kbps	—
	Tanjung Mas	KANWIL VI Semarang	64 kbps	—
	Tanjung Perak	KANWIL VII Surabaya	—	256 kbps

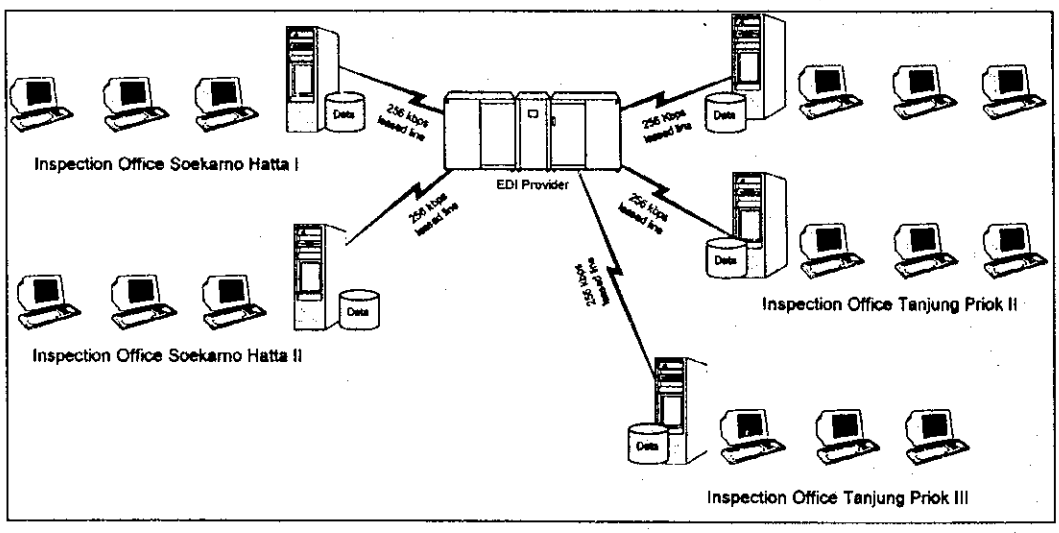

Figure 3.4.1-3: CSS System Configuration for Tanjung Priok and Soekarno Hatta (a)

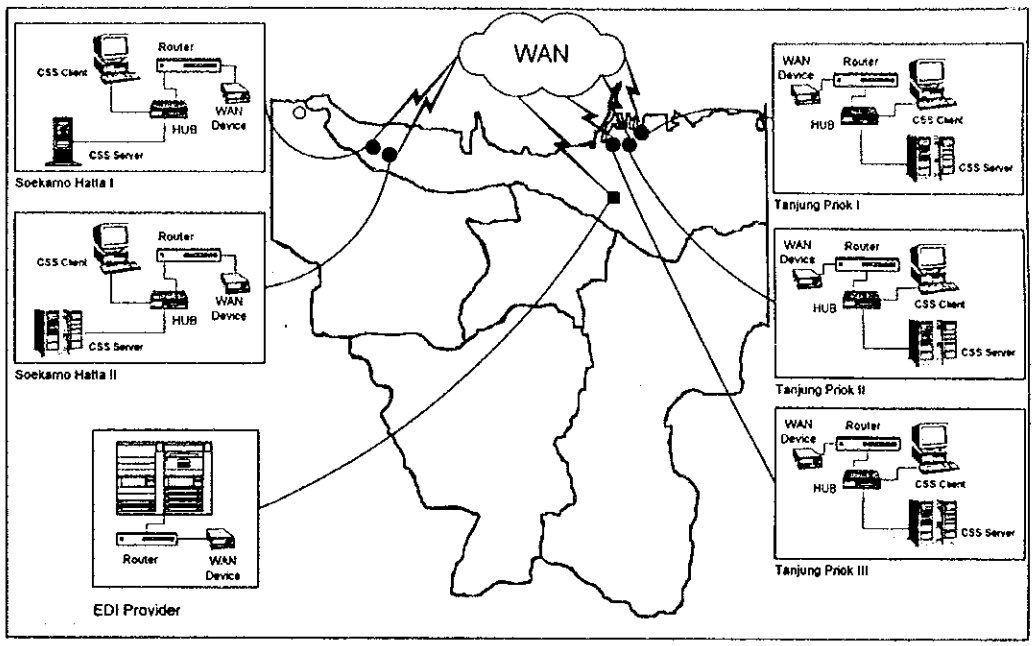

Figure 3.4.1-4: CSS System Configuration for Tanjung Priok and Soekarno Hatta (b)

It is assumed that CSS servers are connected to EDI provider locally. Inspection Office Tanjung Priok I to III and Inspection Office Soekarno Hatta I and II are under different Regional Office jurisdiction, they are located around Jakarta. Therefore, CSS of those Inspection Offices should be connected to EDI provider in Jakarta, as shown in Figure 3.4.1-3 and Figure 3.4.1-4.

Currently, transferring data between Inspection Offices at Tanjung Priok I to III and EDI provider are done through satellite telecommunication system-VSAT. If it is compared with terrestrial-lines which have the same conditions, VSAT is still quite expensive on the monthly fees. Therefore, the JICA Study Team proposes to choose the terrestrial-line for connection between Inspection Office at Tanjung Priok I to III and the EDI provider. To anticipate the load of data traffic on the telecommunication system and consider to the telecommunication services cost performance, it is proposed that at least 64 kbps of speed should be employed when uses VSAT and 256 kbps when use leased-line service. VSAT will be put to use for Inspection Offices such as Inspection Office Belawan, Bandung and Tanjung Mas, which are not provided terrestrial-lines service. Soekarno Hatta I and II will be connected by using terrestrial-line to the EDI provider.

Expansion of CSS to other major Inspection Offices should be thoroughly considered after the survey of the cost performance of CSS.

3.4.2 Hardware of CSS

This part is describing the number of PC clients for respective Inspection Office where the CSS will be implemented, how to define the server for that Inspection Office, and at the last part will show a list of hardware.

To define what type of server and client is available for CSS, the JICA Study Team should calculate in advance the workload of CSS from the real condition of the existing CFRS. Figure 3.4.1- shows CFRS workload of each Inspection Office during the first semester of 1995/1996 and 1996/1997. As shown in this figure, Inspection Office Tanjung Priok III is the Inspection Office with the heaviest workload. The next one is the Inspection Office Tanjung Priok II, followed by Inspection Office Soekarno Hatta II, Tanjung Perak and Tanjung Priok I.

The JICA Study Team is assuming that Tanjung Priok III is currently in optimum condition in providing customs services using CFRS. According to this assumption, workload ratio of each Inspection Office against Tanjung Priok Inspection Office III is used as a parameter to define the server type and number of clients for each Inspection Office.

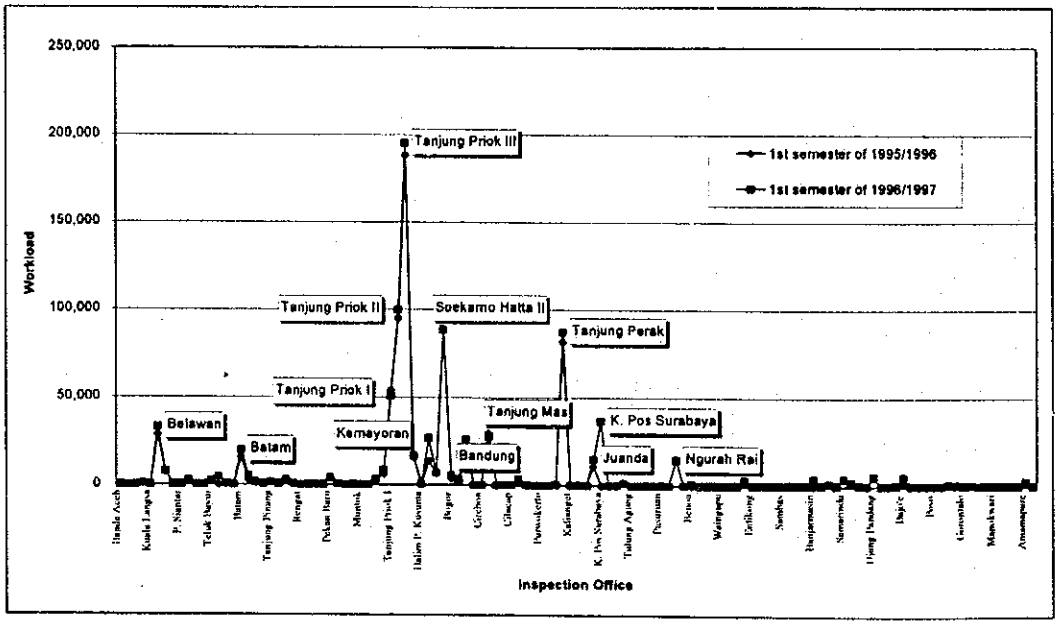

Figure 3.4.2-1: CFRS Workload of Each Inspection Office

And to define the type of server for each Inspection Office, it is used a chart as shown in Figure 3.4.2-2. As shown in Figure 3.4.2-2, Inspection Office with workload ratio less then 10% will use a small type (S) of the CSS server. Inspection Office with workload ratio between 10% and 40% will use a medium type (M) of CSS server. And Inspection Office with workload ratio more then 40% will use a large type (L) of CSS server. Specification of each server is involving in Table 3.4.2-2.

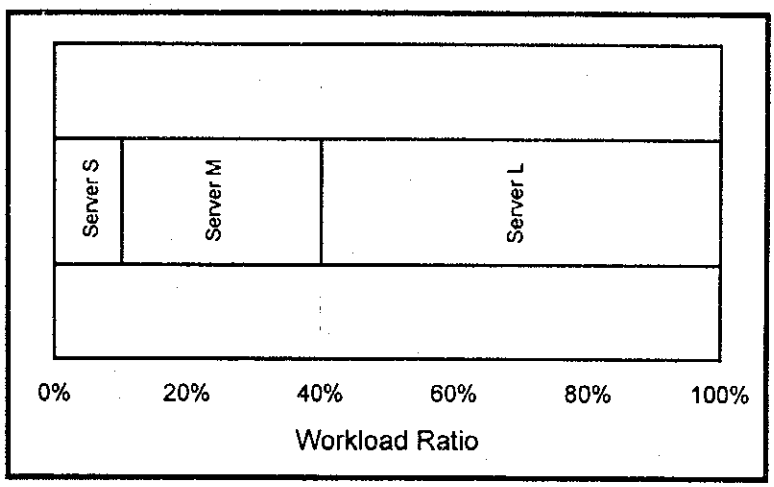

Figure 3.4.2-2: Percentage of CFRS Workload and Type of Server

Nevertheless, to calculate the number of CSS client for each Inspection Office it is used following equation,

$$N = \begin{Bmatrix} \text{Min\_Num} & \text{IF} & Wr <= \text{Std\_Wr} \\ \text{Roundup } (Wr \times Ntp \times Wt) & \text{IF} & Wr > \text{Std\_Wr} \end{Bmatrix}$$

N : Number of CSS client for an Inspection Office

Min_Num : Minimum number of CSS client

Wr : Workload ratio of the Inspection Office

Std_Wr : Standard workload of Inspection Office that will be computerized

Ntp : Existing Number of CFRS client of Inspection Office Tanjung Priok III

Wt : CFRS workload increasing rate. The value coming from cross product between "Indonesia economic growth" to "increasing rate of customs services to be computerized."

As mentioned by the above equation, the number of the CSS client for each Inspection Office should be in proportion to their workload ratio.

Table 3.4.2-1 shows which server type should be installed at each Inspection Office/Regional Office and show the number of CSS client in each office. It found that required number of PC is 367 units including PC for design stage. In this case the value of each parameter is:

- Min_Num is 3. An Inspection Office needs at least 3 clients of CSS to provide customs services, one for import and export, one for customs gate and one for bonded storage.
- Std_Wr is 3%. Standard Workload ratio of Inspection Office for CSS implementation.
- Ntp is 40. This is an optimal number of clients for current CFRS workload of Inspection Office Tanjung Priok III.
- Wt is 2.87. Forecasted average number of economic growth of Indonesia (1998~2003) is 5% per-year. And the increasing rate of computerized customs services is 2.25. It is 1 for import services, 0.25 for export services and 1 from manifest and bonded storage services.

Table 3.4.2-1: CSS Server Type and Number of CSS Client for each Inspection Office

Office		Type of Server		Number of PC/Clients
KANWIL	Inspection Office			
KANWIL I Medan	Belawan	M		20
KANWIL IV Jakarta	Tanjung Priok I	M		30
	Tanjung Priok II	L		59
	Tanjung Priok III	L		115
KANWIL V Bandung	Soekarno Hatta I	S		5
	Soekarno Hatta II	L		53
	Bandung	M		16
KANWIL VI Semarang	Tanjung Mas	M		17
KANWIL VII Surabaya	Tanjung Perak	L		52
Design Stage		Server in Tanjung Priok I will be used during design stage		50
TOTAL		S	1	417
		M	4	
		L	4	

Table 3.4.2-2 shows a list of hardware for the CSS and its specification. To assure the performance, reliability, scalability, compatibility, expandability as well as security, the JICA Study Team suppose to employ a machine that has a good reputation and specification as shown in Table 3.4.2-2.

It is supposed that it is necessary to employ a Dual system server (L type server) for some Inspection Office such as Tanjung Priok I, II, III as well as Soekarno Hatta II. And to anticipate the increasing data should be prepared a huge size of storage memory for each type of server. To protect the hardware and data from ongoing threat of power disturbance it is proposed to employ UPS for each server.

Table 3.4.2-2: List of CSS Hardware (1/4)

No	Item	Specification
1	L type of CSS Server (Dual system)	(One is active, one is backup) • Number of CPUs: 4 CPU • Clock Speed: 336 MHz or more • Memory : 1 GB or more • Interface: 100 Mbps Ethernet • SCSI: ▫ 20 MB/sec fast/wide SCSI-2, ▫ 40 MB/sec differential fast/wide SCSI-2 • Other: ▫ 20" Color monitor, ▫ CD ROM, ▫ Keyboard, ▫ Mouse, ▫ 8 mm Tape device. • Array Disk: ▫ Dual active controller ▫ Controller Base RAID 0,1,0+1,3,5 ▫ I/O throughput : (dual80MB/sec) or more ▫ 200 GB or more (RAID 0+1, RAID 5) • Tape Library: ▫ Multi-DLT Tape Drive ▫ 6MB/sec, More Compress 12MB/sec ▫ DB Backup 100 GB or more ▫ Fast/wide SCSI-2 interface ▫ Random access • UPS : ▫ Capacity 8 kVA or more ▫ Input voltage 220/240V ▫ Output voltage 100~240V

Table 3.4.2-2: List of CSS Hardware (2/4)

No	Items	Specification
2	M type of CSS Server (Single System)	▪ Number of CPUs: 1 CPU ▪ Clock Speed: 336 MHz or more ▪ Memory: 1 GB or more ▪ Interface: 100 Mbps Ethernet ▪ SCSI: ▫ 20 MB/sec fast/wide SCSI-2, ▫ 40 MB/sec differential fast/wide SCSI-2 • Other : ▫ 20" Color monitor, ▫ CD ROM, ▫ Keyboard, ▫ Mouse, ▫ 8 mm Tape device. • Array Disk : ▫ Dual active controller ▫ Controller Base RAID 0,1,0+1,3,5 ▫ I/O throughput: 40MB/sec or more ▫ 200 GB or more (RAID 0+1, RAID 5) • Tape Library : ▫ Multi-DLT Tape Drive ▫ 6MB/sec, More Compress 12MB/sec ▫ DB Backup 100 GB or more ▫ Fast/wide SCSI-2 interface ▫ Random access • UPS : ▫ Capacity 5 kVA or more ▫ Input voltage 220/240V ▫ Output voltage 100~240V

Table 3.4.2-2: List of CSS Hardware (3/4)

No	Items	Specification
3	S type of CSS Server (Single System)	• Number of CPUs: 1 CPU • Clock Speed: 336 MHz • Memory: 512 MB or more • Interface: 100 Mbps Ethernet • SCSI: ▫ 20 MB/sec fast/wide SCSI-2, ▫ 40 MB/sec differential fast/wide SCSI-2 • Other : ▫ 20" Color monitor, ▫ CD ROM, ▫ Keyboard, ▫ Mouse, ▫ 8 mm Tape device. • Array Disk : ▫ Dual active controller ▫ Controller Base RAID 0,1,0+1,3,5 ▫ I/O throughput: 40MB/sec or more ▫ 100 GB or more (RAID 0+1, RAID 5) • Tape Library : ▫ Multi-DLT Tape Drive ▫ 6MB/sec, More Compress 12MB/sec ▫ DB Backup 100 GB or more ▫ Fast/wide SCSI-2 interface • UPS : ▫ Capacity 3 kVA or more ▫ Input voltage 220/240V ▫ Output voltage 100~240V
4	Client	• Desktop PC ▫ Processor : 200 MHz Intel Pentium MMX or more ▫ Memory : 64 MB or more ▫ Storage : 4 GB Hard Disk Drive ▫ FDD : 1.4 MB FDD ▫ Network : 100 Base TX Ethernet Card ▫ OS : Windows 95 (Pre Loaded) • Other : ▫ 17" Color Monitor, ▫ Keyboard, ▫ Mouse
5	Printer	• Laser Printer ▫ Speed : 10 ppm (A4) or more ▫ Paper size : A4/Letter/Legal

Table 3.4.2-2: List of CSS Hardware (4/4)

No	Items	Specification
6	Router	• Port : ▫ 1 Port 10 BaseT ▫ 4 port ISDN BRI or more
7	Hub	Port number : 8 Ports 10 BaseT
8	Switching Hub	• Port number : ▫ 24 Port 10 BaseT ▫ 2 Port 100 BaseT

3.4.3 Software Package

This part describes about what kind of software package will be used to develop and to run the CSS application. The software package consist 4 categories, which are :

- Basic Software or Operating System,
- Database,
- Operational Control Software, and
- Development Tools.

The JICA Study Team considers that the CSS application should be run under a platform with good performance and good reliability. UNIX operating system is a suitable basic software for that condition. Therefore, the JICA Study Team supposes to propose to use UNIX operating system for all type of CSS server. On client site, it is recommended using Microsoft Windows 95 operating system with some function that will make it easy to treat. Due to the fact that L Server should serve a large number of clients, the JICA Study Team proposes to employ operational control software to make it easier service its clients. Because CSS is quite a big system, and the server machine should serve a rather large number of clients in some Inspection Offices, it is proposed to use a database that can manage huge amount of data, and is easy to deal with. In addition, the database should have a high compatibility with any kinds of development tools. To develop a high-performance of CSS application it is needed development tools with characteristic such as:

- Easily transition into new technology frontiers,
- Fast in creating windows-based application,
- Enhanced database access.

Table 3.4.3-1: Software Package List (1/2)

Type of Server	Category	Software Package Name
L Server	Basic Software	UNIX Operating System
	Database	Oracle 8 SQL * Net
	Operational Control Software	Operation Control Tool
		Trouble Control Tool
		Network Control Tool
		Power Control Tool

Table 3.4.3-1: Software Package List (2/2)

Type of Server	Category	Software Package Name
M Server	Basic Software	UNIX Operating System
	Database	Oracle 8 SQL * Net
	Operational Control Software	Operation Control Tool Trouble Control Tool
		Network Control Tool
		Power Control Tool
S Server	Basic Software	UNIX Operating System
	Database	Oracle 8 SQL * Net
	Operational Control Software	Operation Control Tool
		Trouble Control Tool
		Network Control Tool
		Power Control Tool
PC Client	Basic Software	Windows 95
	Development Tool	Oracle Designer/2000
		Oracle Developer/2000
		Visual Basic 5.0 Enterprise
	Operational Control Software	Client License