



# Performance Based Contracting (PBC)

## Annex M: Navy Supply Materiel Process Model

Note: This process model document should be read in conjunction with the associated process models that depict how DND conducts and execute maintenance. The focus of this document is centered on the Performance Based Contracting perspective and Electronic Information Exchange enablement.

### EIE Project

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## 1 SUPPLY MATERIEL PROCESS DETAILS

The following process models show the supply materiel process endorsed for Performance Based Contracts used by the Navy. It unambiguously identifies the In-Service Support (ISS) Contractor's vice Canada's responsibilities in the process.

Part demand and fulfillment is the process to fulfill demands in support of Department of National Defence (DND) maintenance requirements.

### 1.1 Part Demand and Fulfillment

When a work order is released in the Canada Maintenance Management System (CMMS) or when a maintenance task or operation is added to a work order that requires ISS Contractor-owned parts, the system checks for availability of the parts at Canada storage locations that are dedicated to holding ISS Contractor-owned stock. It is expected that the CMMS will have sufficient data and functionality to identify which parts are Canada-owned vice ISS Contractor-owned. If the required parts are available, a reservation will be created, committed, and Supply will issue the parts to the work order in the Canada Supply System (CSS).

If the ISS Contractor-supplied parts are available at Canada storage locations, and issuing the part reduces Canada inventory below the established minimum<sup>1</sup> inventory threshold, a Part Demand for the quantity required to reach the established maximum inventory threshold for that part is generated in the CSS and sent to the ISS Contractor via the Electronic Data Exchange (EDE) [N1.5.3.1.1].

If the ISS Contractor supplied parts are not available at Canada storage locations, a Part Demand for the required parts is generated in the CSS and sent to the ISS Contractor via the EDE [N1.5.3.1.1].

The ISS Contractor will respond to the Part Demand by providing a near-real time Part Demand Response via the EDE. If the demanded parts are immediately available, the Part Demand Response should state the current date. If not immediately available, the Part Demand Response will provide scheduled availability with an estimated delivery date (EDD) and quantity. Any subsequent updates to the scheduled EDD will be sent from the ISS Contractor to the CSS via the EDE [N1.5.3.1.2].

The ISS Contractor will provide a Part Issue when the demanded parts are shipped to the agreed Hand-Over Point (HoP) [N1.5.3.1.3]. If the materiel being issued is serialized and requires an Equipment Master Record (EMR) within the CMMS (as indicated in the Material Master Record (MMR) master data), the ISS Contractor will also send the Equipment Master Record (EMR) data and, if applicable, the EMR's associated maintenance plan(s), measurement point data and most recent measurement data for parts issued to Canada as required. This part history data, along with the data in the Part Issue, is required to properly initialize the CMMS and CSS with the part operating hours, maintenance and repair history, and other required parameters and documentation. This data is a touch point between the supply and maintenance operations [N1.5.3.1.4].

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<sup>1</sup> Minimum and maximum inventory threshold values are agreed upon by Canada and the ISS Contractor and established outside the EDE environment.

The ISS Contractor will be responsible to notify Canada if a new MMR is required.

A Canada Supply Technician will be responsible to receive the ordered parts at the HoP and acknowledge the receipt of the parts in the CSS. The receipt of the parts in the CSS will trigger a Part Receipt notification back to the ISS Contractor, via the EIE EDE, closing the Part Demand and fulfillment cycle [N1.5.3.1.5].

Reference: [Supply Materiel – Cross Functional Model: Part Demand and Fulfillment](#)

## 1.2 Part Demand and Fulfillment – Decentral Scenario

The decentral instance of the CMMS and CSS onboard each ship will be used to track maintenance and supply activities for that ship. The decentral instance will connect to the central instance, depending on the available connectivity infrastructure and operational constraints, to send queued data. At this time, the central and de-central instances will be synchronized.

The ISS Contractor, enabled by EDE, will only interface with the central instance of the CMMS and CSS. As such, Part Demands sent to the ISS Contractor [N1.5.3.1.1] may be an aggregation of demands from various ships.

## 1.3 Part Return

As ISS Contractor-owned parts are removed from the Platform, they become due for return to the ISS Contractor within a specified period of time. The ISS Contractor-owned parts shall be returned in accordance with predefined ISS Contractor instructions [N1.5.3.1.6].

The ISS Contractor-owned Part Return is tracked by Canada until the parts reach the agreed HoP and the change of custody is acknowledged in both the CSS and the ISS Contractor system. When the returned parts are removed from the CSS inventory, a Part Return Issue is sent to the ISS Contractor via the EDE [N1.5.3.1.6]. The ISS Contractor shall acknowledge the receipt by issuing a Part Return Receipt [N1.5.3.1.7]. These data exchange transactions complete the return process.

When the ship is deployed, unserviceable items will be returned to the ISS Contractor once the ship returns to port, or on a contractually agreed return schedule.

Reference: [Supply Materiel – Cross Functional Model: Part Return](#)

## 1.4 Pack-up Kit (PUK) Processing

Canada may require additional equipment from the ISS Contractor above and beyond standard sparring in support of a given operational mission. This additional equipment may be provided via a Pack-up Kit (PUK).

This section describes the process for requesting, receiving, replenishing and returning a PUK.

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### 1.4.1 PUK Demand and Fulfillment

Canada may demand a PUK based on an anticipated operational deployment. The PUK Demand will be generated in the CSS and sent via the EDE to the ISS Contractor [N1.5.3.1.1]. (A PUK will be identified in the CSS with a specific MMR, and electronically demanded using the common Part Demand interface.) Additional information about the required PUK, i.e. the deployment type and conditions, may be communicated to the ISS Contractor outside the EDE domain to determine the required content. The ISS Contractor will respond by sending a PUK Demand Response via the EDE [N1.5.3.1.2] using the common Part Demand Response interface indicating the EDD.

The PUK Issue will include a listing of the pre-determined parts and Special Tools and Test Equipment (STTE), and will be sent from the ISS Contractor to the CSS via the EDE for each PUK Demand [N1.5.3.3.3]. The physical PUK will be delivered to Canada at the HoP. If the PUK includes materiel that is serialized and requires an EMR within the CMMS (as indicated in the MMR master data), the ISS Contractor will also send the EMR data and, if applicable, the EMR's associated maintenance plan, measurement point data and most recent measurement data for the parts via the EDE [N1.5.3.1.4].

Inbound deliveries for the content of the PUK will be electronically generated in the CSS based on the PUK Issue sent by the ISS Contractor. A Supply Technician will verify that the content of the PUK received at the HoP matches the inbound deliveries. As a result of the verification and part acceptance process, goods receipts will be completed in the CSS and Parts Receipts will be sent from the CSS to the ISS Contractor via the EDE for all parts and Special Tools and Test Equipment (STTE) received [1.5.3.1.5].

Reference: [Supply Materiel – Pack-up Kit Demand and Fulfillment Process Flow](#)

### 1.4.2 PUK Replenishment

Based on the terms of the PBC, the ISS Contractor may be responsible for monitoring the stock levels of a PUK and initiating PUK replenishment in order to maintain Platform operational capability. The requirement for replenishment will vary as per the specifics of the particular platform/ship class requirements. In order to assist in monitoring the inventory levels of a PUK, the CSS will capture part consumption and send Usage, Part Request, and Inventory Reports to the ISS Contractor, via the EDE on a scheduled basis [N1.5.3.3.4] [N1.5.3.4.4] [N1.5.3.3.5]. The ISS Contractor may use this information to initiate replenishment of consumed materiel as required. If the ISS Contractor schedules replenishment to a deployed PUK, the CSS will be notified of each part issued through a PUK Issue [N1.5.3.3.3] including the EMR part history (EMR, maintenance plan, measurement point, measurement reading) where applicable [N1.5.3.1.4]. The PUK Issue [N1.5.3.3.3] will reference the original PUK Demand.

Inbound deliveries for the content of the replenishment to the PUK will be electronically generated in the CSS based on the PUK Issue sent by the ISS Contractor. A Supply Technician will verify that the content of the replenishment PUK received at the HoP matches the inbound deliveries. As a result of the verification and part acceptance process, a goods receipt will be completed in the CSS and Parts Receipts will be sent from the CSS to the ISS Contractor via the EDE for all parts and STTE received [1.5.3.1.5].

Reference: [Supply Materiel – Cross Functional Model: Pack-up Kit Replenishment](#)

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### 1.4.3 PUK Return

The contents of the PUK will be verified prior to return to the ISS Contractor. A Part Return Issue will be generated in the CSS for all parts from the PUK (remaining repairable and unused parts) as well as the STTE from the PUK and sent to the ISS Contractor via the EDE [N1.5.3.1.6]. The ISS Contractor will respond by acknowledging the receipt and sending the corresponding Part Return Receipt [N1.5.3.1.7].

Reference: [Supply Materiel – Cross Functional Model: Part Return and Receipt Process Flow](#)

## 1.5 Inventory Visibility

The CMMS / CSS will generate a series of periodic reports which are sent to the ISS Contractor via the EDE. The de-central instance of the CMMS / CSS will connect to the central instance, depending on the available connectivity infrastructure and operational constraints, to send the reporting data collected. The EDE interface to the ISS Contractor will only be with the central instance of the CMMS / CSS.

### 1.5.1 Inventory Report

On a predetermined schedule, Canada will collect inventory overview data with the most recent inventory information for each relevant storage location. The ISS Contractor can use this information to track the inventory levels of ISS Contractor-supplied spares and STTE [N1.5.3.4.4].

Reference: [Supply Materiel – Cross Functional Model: Inventory, Part Request and Usage Report](#)

### 1.5.2 Part Request Report

On a predetermined schedule, Canada will collect part request satisfaction data identifying which requirements are satisfied and not satisfied by stock on-hand for each relevant storage location. The ISS Contractor can use this information to assist in supply performance evaluation [N1.5.3.3.5].

Reference: [Supply Materiel – Cross Functional Model: Inventory, Part Request and Usage Report](#)

### 1.5.3 Usage Report

On a predetermined schedule, Canada will collect materiel usage data identifying movement into or out of each relevant storage location, based on relevant movement types. The ISS Contractor can use this information to assist in supply performance evaluation. [N1.5.3.3.4]

Reference: [Supply Materiel – Cross Functional Model: Inventory, Part Request and Usage Report](#)

## 1.6 Inventory Replenishment

In certain situations agreed to between Canada and the ISS Contractor, the ISS Contractor may initiate a replenishment of inventory stock without a demand transaction being initiated by Canada.

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If the ISS Contractor schedules replenishment of stock, Inventory Replenishment transaction(s) and EMR history data (if applicable – see section 1.1) will be sent to the CSS via the EDE [N1.5.3.1.4] [N1.5.3.4.5].

Inbound deliveries for the replenishment will be electronically generated in the CSS based on the Inventory Replenishment transaction sent by the ISS Contractor. A Supply Technician will verify that the physical items received at the HoP matches the inbound deliveries. As a result of the verification and part acceptance process, a goods receipt will be completed in the CSS and Parts Receipts will be sent from the CSS to the ISS Contractor via the EDE for all parts and STTE received [1.5.3.4.5].

Reference: [Supply Materiel – Cross Functional Model: Inventory Replenishment](#)

## 1.7 Special Tools and Test Equipment (STTE) and Consumables Management

ISS Contractor-owned and managed STTE required to support Canada-performed maintenance activities shall be made available on an as-required basis. There are two aspects of STTE management within the CMMS / CSS that require data to be shared with the ISS Contractor: initial setup in the CMMS and CSS, and repair and return.

If applicable, ISS Contractor-owned and managed STTE, referred in this document as Managed STTE, may be returned to the ISS Contractor when the work is complete. Part Return Issues and Part Return Receipts will be generated and exchanged between the CSS and the ISS Contractor system. Initial provisioning will follow the Part Demand and Fulfillment process and return to the ISS Contractor for repair or calibration will follow Part Return and receipt process, i.e. Part Return Issue and Part Return Receipt transactions are exchanged via the EDE to complement the physical return of STTE.

### 1.7.1 Initial setup of STTE in CMMS/CSS

MMRs and EMRs (if applicable) will be created for STTE. The ISS Contractor will provide the data set for the CMMS initialization process. The EMR data set for STTE will be sent to the CSS using the agreed upon mechanism through the EDE. This mechanism will also be followed for the provisioning of new STTEs.

If an STTE is given to Canada for use, it will be demanded through a standard Part Demand message. The Part Issue [N1.5.3.1.3] shall be sent for item and a Part Receipt [N1.5.3.1.5] returned to the ISS Contractor via the EDE along with the physical receipt of the STTE.

### 1.7.2 Return of STTE

When ISS Contractor-owned STTE is due for calibration or repair, a request for return will be communicated to Canada via a mechanism outside the scope of the EDE, and the physical STTE will be delivered to the HoP for return to the ISS Contractor. As a result, the Canada supply technician will initiate a return of STTE from the CSS to the ISS Contractor. The CSS will generate and send a Part Return Issue to the ISS Contractor via the EDE to accompany the physical return of the STTE [N1.5.3.1.6]. The Part Return Receipt is then sent from the ISS Contractor to the CSS via the EDE confirming the receipt of the STTE [N1.5.3.1.7].

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### **1.7.3 Consumables Management (To be confirmed between Canada and ISS Contractor)**

Consumable spares are equipment, parts or components that are required to support the vessel, but are generally consumed or disposed of through use or during the conduct of maintenance activities. The ISS Contractor is responsible to ensure adequate inventory levels of consumable materials. The ISS Contractor-owned consumables include non-batched, non-serialized, low value parts used in high quantity, which are not subject to special disposal requirements.

Some ISS Contractor-owned consumables may have to have an MMR within the CSS. Some ISS Contractor-owned consumables, as identified during the sparing analysis, will not be demanded nor consumed via work orders. These ISS Contractor-owned consumables will not be identified on the consumption reports. Canada will demand the ISS Contractor-owned consumables via a Part Demand.

Some ISS Contractor-owned consumables that are International Traffic in Arms Regulations (ITAR)-significant may be required to be returned to the ISS Contractor.

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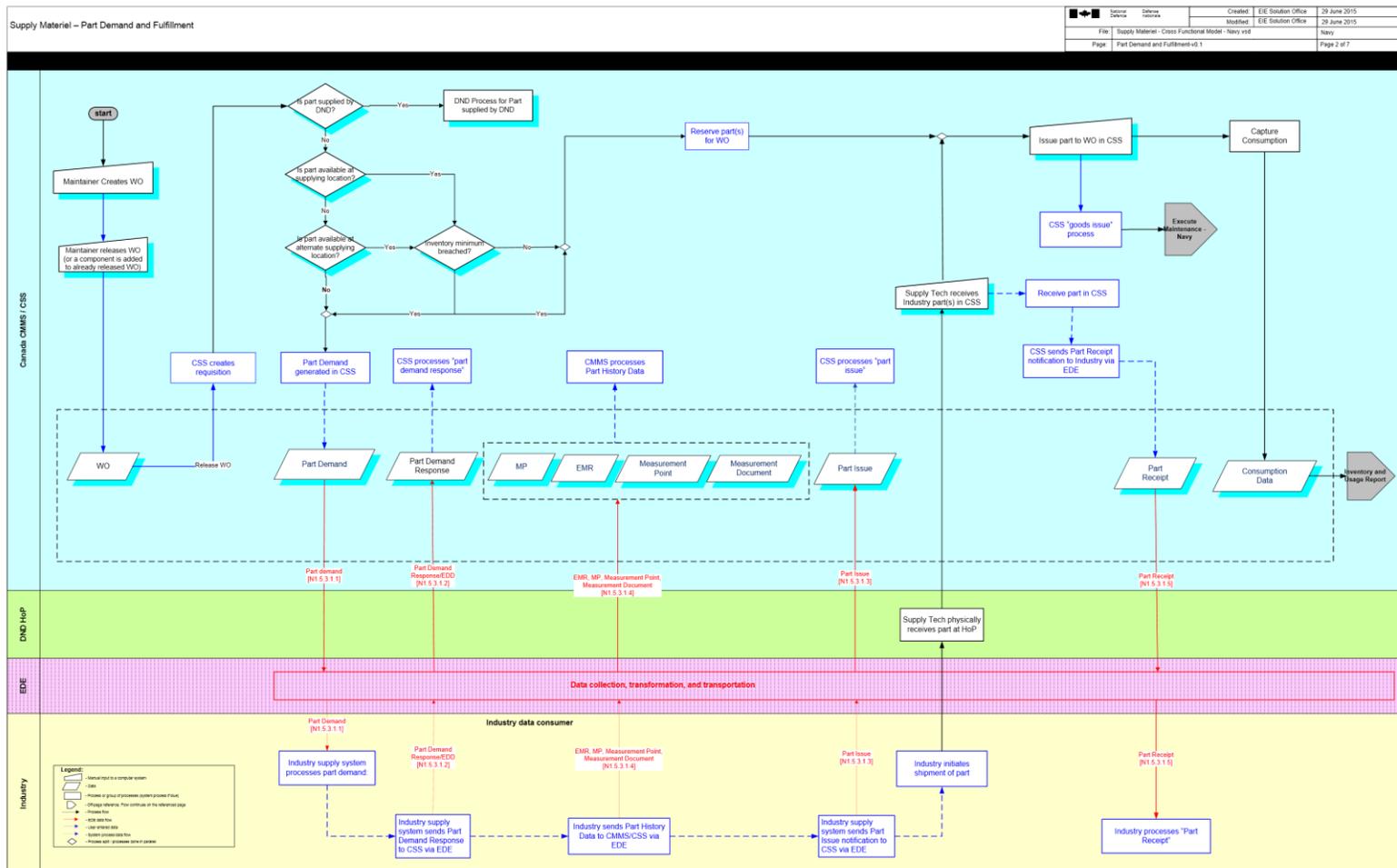
## 2 EDE TRANSACTIONS

| EDE Transaction   | Source         | Destination    |
|---|----------------|----------------|
| <b>Spares Management Transactions</b>                         |                |                |
| Part Demand   | Canada         | ISS Contractor |
| Part Demand Response / EDD                                    | ISS Contractor | Canada         |
| Part Issue  | ISS Contractor | Canada         |
| Part Receipt  | Canada         | ISS Contractor |
| Part Return Issue   | Canada         | ISS Contractor |
| Part Return Receipt   | ISS Contractor | Canada         |
| PUK Issue (for pack-up kit)                                   | ISS Contractor | Canada         |
| Inventory Replenishment                                       | ISS Contractor | Canada         |
| <b>CMMS/CSS Data Initiation and Part History Transactions</b> |                |                |
| EMR (Equipment Master Record)                                 | ISS Contractor | Canada         |
| MP (Maintenance Plan)   | ISS Contractor | Canada         |
| EMR Measurement Point   | ISS Contractor | Canada         |
| EMR Measurement Reading                                       | ISS Contractor | Canada         |
| <b>CMMS Reporting Transactions</b>                            |                |                |
| Usage Report  | Canada         | ISS Contractor |
| Inventory Report  | Canada         | ISS Contractor |
| Part Request Report   | Canada         | ISS Contractor |

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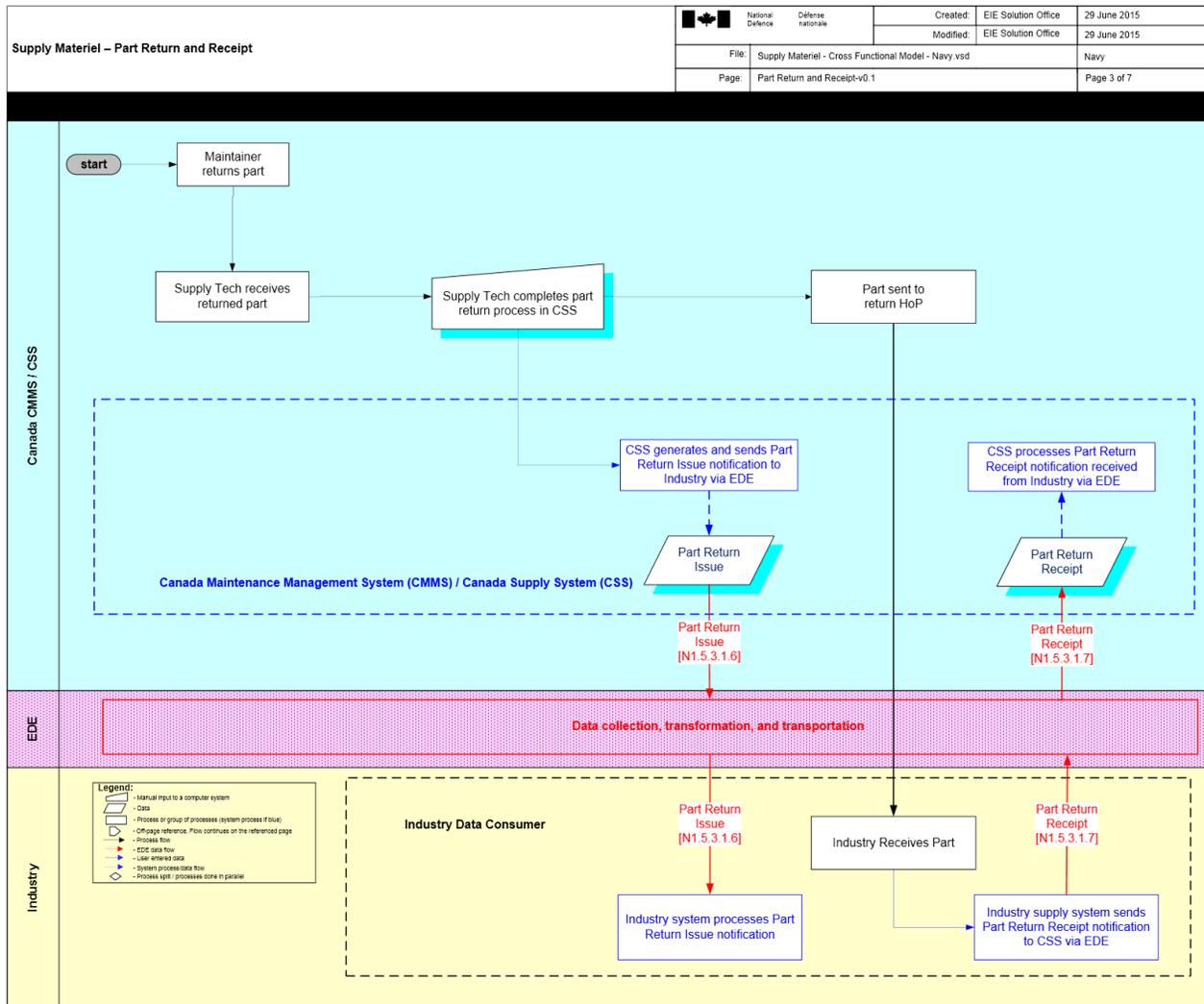
### 3 SUPPLY MATERIEL CROSS-FUNCTIONAL PROCESS FLOWS

#### 3.1 Supply Materiel – Part Demand and Fulfillment Process flow



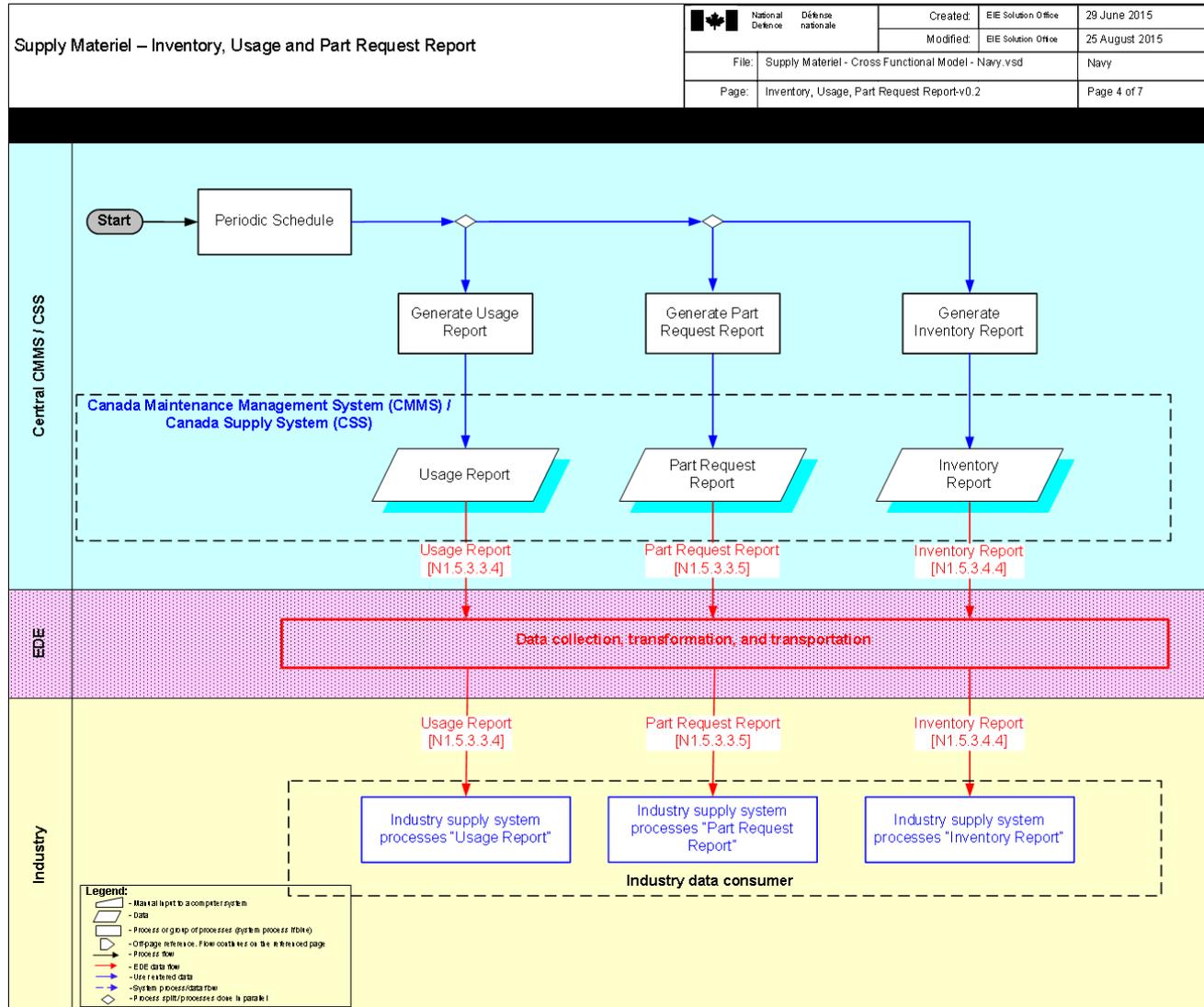
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**3.2 Supply Materiel – Part Return and Receipt Process Flow**



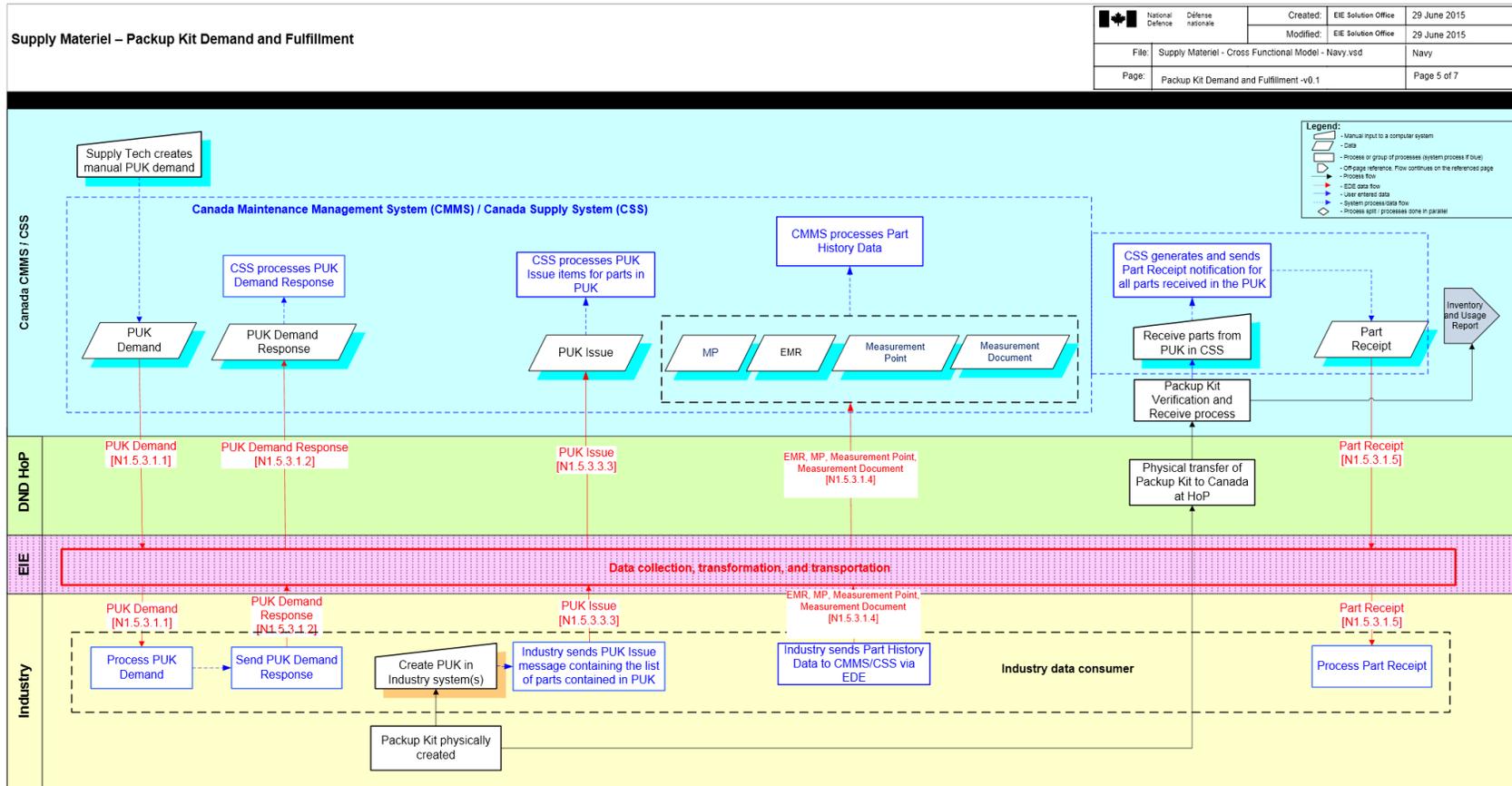
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### 3.3 Supply Materiel – Inventory, Usage and Part Request Reports Process Flow



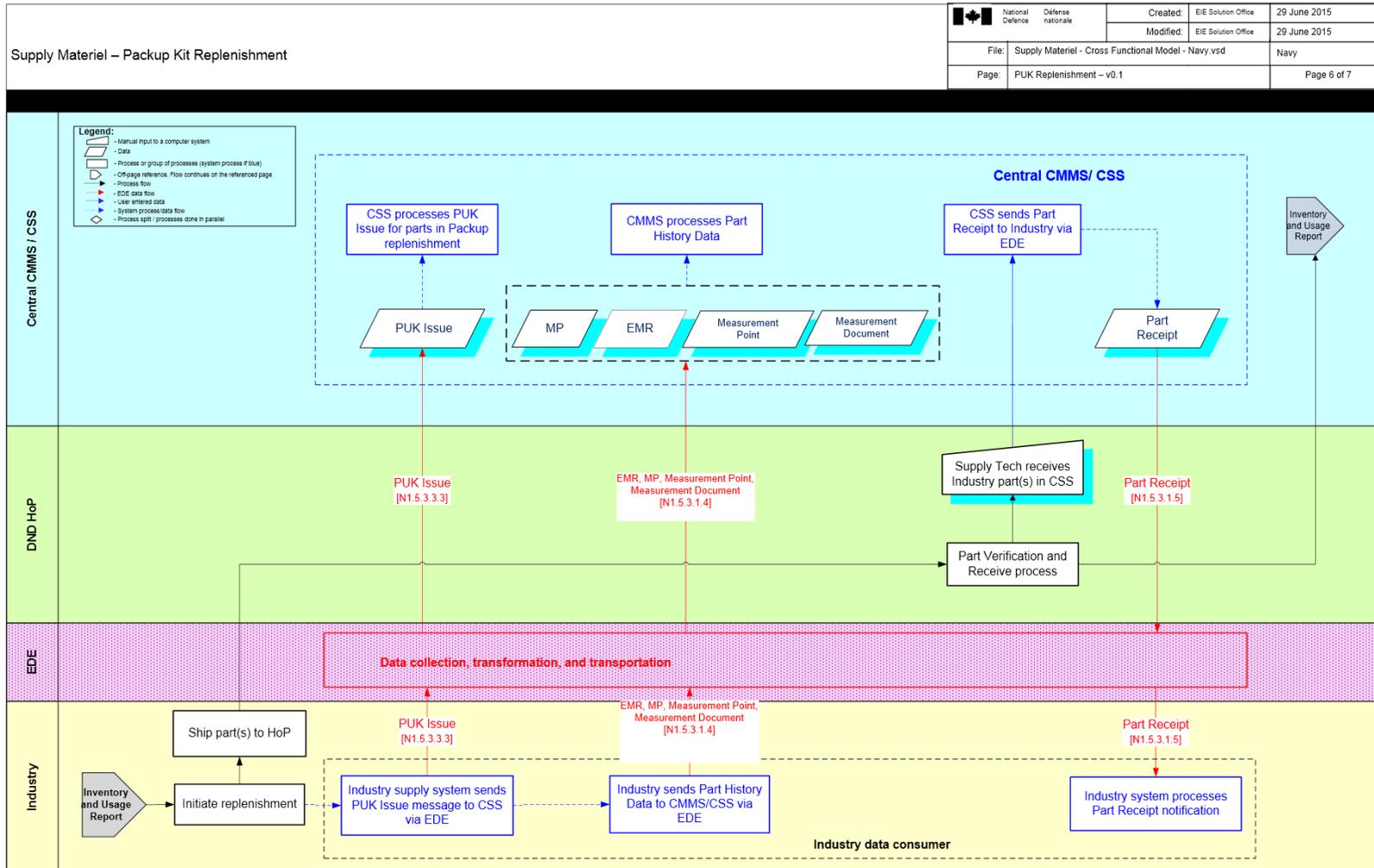
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### 3.4 Supply Materiel – PUK Demand and Fulfillment Process Flow



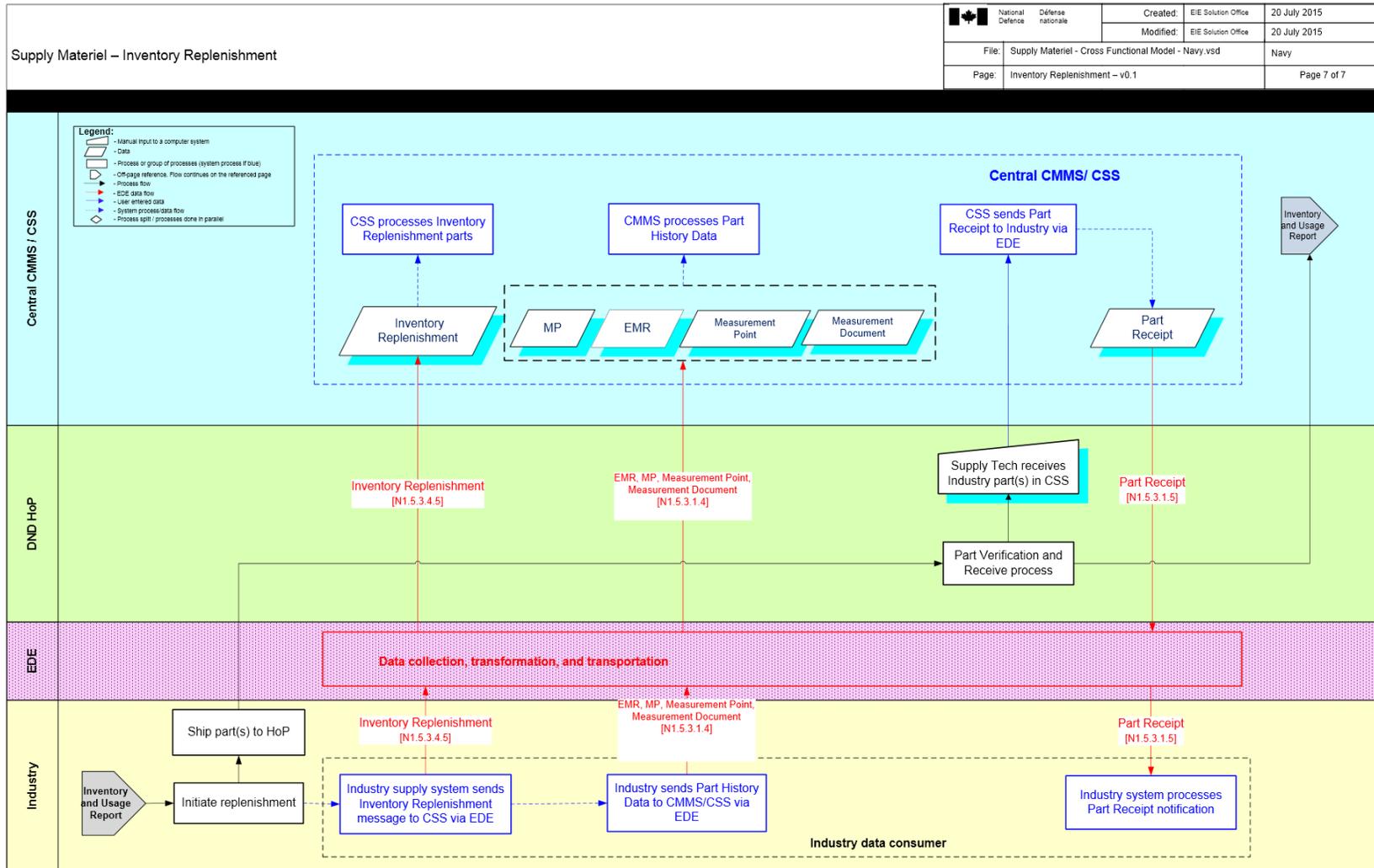
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### 3.5 Supply Materiel - PUK Replenishment Process Flow



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### 3.6 Supply Materiel - Inventory Replenishment Process Flow



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## 4 TOUCH POINT REFERENCE TABLE

Reference numbers below are used for touch points in the Functional Decomposition, Business Process Catalogue and Business Use Case documents.

| Reference # | ISS Contractor / Canada Touch-point                            |
|-------------|--|
| N1.5.3.1.1  | Part Demand  |
| N1.5.3.1.2  | Part Demand Response / EDD                                     |
| N1.5.3.1.3  | Part Issue   |
| N1.5.3.1.4  | Part History (EMR, MP, Measurement Point, Measurement Reading) |
| N1.5.3.1.5  | Part Receipt   |
| N1.5.3.1.6  | Part Return Issue  |
| N1.5.3.1.7  | Part Return Receipt  |
| N1.5.3.3.3  | PUK Issue  |
| N1.5.3.3.4  | Usage Report   |
| N1.5.3.3.5  | Part Request Report  |
| N1.5.3.4.4  | Inventory Report   |
| N1.5.3.4.5  | Inventory Replenishment  |

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## 5 DOCUMENT HISTORY

| Revision Number | Description           | Date             |
|-----------------|-----------------------|------------------|
| 1.0             | Final release for RFP | 8 September 2015 |
|                 |                       |                  |
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