COMMITTEE REPORT

ON
PCS 1X vs PCS 2.0

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1. Background

1.1 Committee formation:

During the meeting held on 26.05.2018 at 11:00 AM at PMO, South Block, New Delhi on "Reform 'Doing Trade' to make 'Doing Business' Easier" under the chairmanship of Principal Secretary to Prime Minister, it was directed to constitute a Committee on issues of PCS 1x vs PCS2.0 to examine the functionality of both versions, gaps (if any) among them, whether extra functionalities can be loaded on PCS 1x to upgrade it or it has to be scraped and PCS 2.0 is to be adopted.

Accordingly, a Committee was constituted vide Ministry of Shipping's order No. PD-14033/2/2018-PD.V dated 19.06.2018 comprising the following members:

1. Joint Secretary (Ports), Ministry of Shipping - Chairman
2. Joint Secretary (Logistics) - Member
3. Chairman (I/C, JNPT) - Member
4. Dr. MG Tamizl Valavan, Commissioner, Department of Customs - Member
5. CMD, CONCOR - Member
6. MD, IPA - Member Secretary
7. Representative from Civil Aviation - Member
8. Representative from DIPP - Member
9. Representative from MoRTH - Member
10. A representative from CSLA - Member
11. A representative from CFS - Member

1.2 Terms of Reference for the Committee:

The Terms of Reference (TOR) of the Committee are as below:

I. To examine the extent and scope of PCS 1x so as to ascertain whether all the relevant stakeholders have been boarded on PCS 1x
II. To examine the functionalities of PCS 1x and proposed PCS 2.0, gaps, if any, between the two versions
III. To examine whether PCS 1x can be loaded with extra functionalities or needs to be replaced with PCS 2.0 completely
IV. To prepare a roadmap with specific timeline for the development of PCS 1x and PCS 2.0

2. Observations:

2.1 Proceedings:

First Meeting:

The first meeting of the Committee was held on 25.06.2018 at Sagarmanthan Room, Ministry of Shipping, New Delhi. In the meeting, JS (P) briefed members of the Committee about the background on the formation of Committee and elaborated the

terms of reference (TOR) of the Committee issued by the Ministry. Thereafter, M/s Portall, agency selected for development of PCS1x and M/s E&Y agency for Business Process Re-engineering (BPR) of PCS 2.0 were requested to give a presentation before the Committee in the light of TOR of the Committee. M/s Portall and M/s E&Y made a detailed presentation including scope, system architecture and deliverables under PCS 1x and PCS 2.0 projects respectively.

Second Meeting:

The second meeting of the committee was held on 09.08.2018 at Sagarmanthan Room, Ministry of Shipping, New Delhi. The committee reviewed the PCS 1x project status presented by M/s Portall. Thereafter, the draft committee report which was circulated on3/08/2018 to the committee members was deliberated in detail.

2.2 Assessment

In light of terms of Reference, Committee has made following observations:

2.2.1 Stakeholders Coverage:

1. The Committee noted from the presentation made by M/s Portall that PCS 1x covers 19 maritime stakeholders who are currently on board on PCS 1.0. The Committee inquired if additional stakeholders such as Inland Waterways, stakeholders involved in coastal movement and Empty Yards etc could be integrated as and when required/ necessary. On further deliberation on stakeholder coverage under the ambit of PCS 1x, developer of PCS 1x confirmed that PCS 1x offers the capability to integrate and unite any new stakeholder from maritime trade (Major Ports, Non-major Ports, Other marine ancillary services, etc). So PCS 1x will be able to take care of all the additional stakeholder.

    Committee decided that in addition to the 19 stakeholders, following stakeholders also shall be on-boarded under the ambit of PCS 1x
I.	Inland Waterways
II.	Stakeholders involved in the coastal movement
III.	Empty Yard
IV.	Freight forwarder
V.	Ships chandler
VI.	NVOCC
VII.	DGLL
VIII.	Bunker Suppliers

2. The committee was informed by Chairman (CSLA) about the formation of FILA (Federation of Indian Logistics Association) which will have all the Trade Community Stakeholders as its members. The Committee recommended to onboard FILA for PCS 1x during process validation and data security testing so that all the maritime stakeholders are covered.

3. JS (Logistics) mentioned that in any National Single Window (NSW) all participating Government Agencies (PGAs) should be part of the proposed Customs SWIFT (Single Window Interface for Facilitation of Trade) system and if all the PGAs can be integrated with SWIFT (Single window interface for Trade) then PCS will have to integrate only with SWIFT to deal with all government (PGA) clearances. The Committee advised IPA to coordinate with developer of PCS 1x for the necessary discussion with Single Window Commissioner and Customs.

4. The representative from Ministry of Civil Aviation (MoCA), mentioned that MoCA is also in the process of designing and implementing National Air Cargo Community System (NACCS) in such way that it can be integrated with any external system and suggested that upgraded or new version of PCS should have the capability to interlink with NACCS. On this, developer of PCS 1x stated that the propose Enterprise Service Bus (ESB) for the PCS 1x would have the feature to integrate with any national or international system, so PCS 1x will be able to integrate with National Air Cargo Community System.

2.2.2 PCS 1x vs PCS 2.0

The Committee compared and deliberated the PCS 1x scope and functionalities with the proposed PCS 2.0 functionalities. The Committee also reviewed the points highlighted by the Logistics Division (Department of Commerce). The detailed recommendation for each point is listed as below:
(On enablement and Facilitation from Government)

1. **Legal framework under which PCS usage is mandated:**

   Committee noted that PCS 1x provides the ability to interface, interact and transact with any defined stakeholder in a B2B mode as well as B2G mode. Mandating usage via a legal framework will ensure highly improved scores in Ease of Doing Business, Trade Across Borders and Logistics Performance Index. This needs to be coordinated among Ministry of Shipping, Finance, Commerce and Industry, Road Transport and Highways, Rail, Law and Information Technology.

   Hence Committee recommended that a legal framework needs to be explored under various laws governing maritime trade stakeholders so that they can be mandated to carryout transactions through PCS

2. **Real-time integration (messages and transactions) of all relevant Govt. agencies, such as Customs (ICEGATE), PGAs, SWIFT, e-SANCHIT, MoEF&CC, DG Shipping etc. Some of these may be facilitated using improved UI/ UX within existing framework**

   Customs is the crux of all EXIM trade transactions. Presently, Customs works in an asynchronous mode and performs operations on a batch mode. This often results in delays in providing clearances back to trade entities. Furthermore, modifications in filings too are inconsistent. The errors can be reduced in filing by

offering intuitive UIs and providing direct consumption of messages/ data; to/ from the PCS.

Committee noted that PCS 1x has the inherent ability for synchronous messaging using API integration. The said functionality with the stakeholder will be available upon after developing, upgrading or modifying their software applications. During the meeting with Member (Customs) on 19th July 2018, it was informed that the Customs has already initiated the process of upgrading ICEGATE for real-time data exchange via API based architecture. Further, it was decided to have a pilot project at Vizag Port to test the API based transaction between PCS and ICEGATE.

3. **Real time Integration with Govt. agencies, Such as AADHAR, Udyog AADHAR (MSME Registration), e-VAHAN, e- SARATHI, DGFT (Importer Exporter Certificate registration details), GSTN etc. for Customer/ Stakeholder registration and authentication**

Committee recommended to work with Single Window team to integrate all PGAs with SWIFT and integrate only SWIFT with PCS 1x. With the implementation of SWIFT and its integration with the PCS 1x, a true single window will be achieved.

PCS 1x will be equipped with functionality to unite various Government Agencies on a single platform, either directly as a stakeholder OR through the proposed SWIFT system.

4. **All stakeholders including ports should be mandated to exchange data/ transactions on the PCS platform on a real time basis.**

Committee noted that the PCS 1x platform is scalable and flexible and offers multiple models of integrations including standalone dashboards.

Committee recommended that a legal framework needs to be explored to mandate all the trade maritime transactions through PCS 1x. The PCS 1x platform has the right framework to use real-time API integration. Committee further recommended to make/adopt necessary technological changes at all ports& other stakeholders to enable real time information exchange with PCS.

5. **PCS should be the point of commencement of transaction and closure of the transaction**

Committee noted that PCS 1x has inherent ability to assume ownership of the filings (assurance of carriage/ delivery and security) that are procedurally required for the commencement/ closure of transaction (IGM, EGM et).PCS 1x also provides an architecture that ensures high availability and flexibility to provide ease of integration with Customs in a manner is acceptable to them subject to a conducive legal atmosphere.

Committee recommended to onboard all maritime stakeholders such as major, non-major ports, CFS & ICDs etc., on PCS 1x, so that end-to-end trade

transaction can happen on PCS 1x itself since PCS 1x is core messaging platform. The open architecture of PCS 1x provides the capacity and flexibility to offer various functionality and services to trade through the latch on.

During the meeting with member Customs on 19th July 2018, it was deliberated and proposed that instead of ICEGATE transacting with multiple stakeholders, PCS 1x becomes a nodal platform to deal with all the maritime stakeholders for the exchange of messages with ICEGATE.

6. **Different activities enforced by Government such as E-VGM, E-SEAL, E-WAYBILL, EPAYMENT, E-INVOICING services should be provided/ attached as latch on with PCS**

The committeeobserved that PCS 1x offers the ability to latch on various modules such as e-seal, e-VGM, simplified payments, Customs clearance, warehousing etc. Any solution that PCS 1x does not provide but is being provided by the different system can be brought into play in it by latching. PCS 1x provides flexibility on a different scale. However, if in the process of latching, significant customization of PCS 1x is required which will affect the function of PCS 1x itself or if the developer is not in a position to provide seamless latch on, then based on the advice of IPA, the solution will be developed as part of PCS 1x.

7. **International linkages (pre-manifest data) with Lines, Maritime Registers etc**

The committee observed that PCS 1x has the capability to link with international portals to bring pre-manifest data. Hence, Committee recommended that PCS 1x should utilize data from international registers (Lloyds etc.) and international data providers to reduce errors and improve capturing of data. IPA shall facilitate such relevant services / data through other depts. / agencies of Govt.

8. **PCS should extend to all maritime trade bodies (major ports, non-major ports, other marine ancillary service etc.)**

Committee noted that PCS 1x offers the capability to integrate and unite all defined stakeholders; should there be a need to add or remove any at a later stage, the same can be effected easily. Committee noted that PCS 1x is not only for the major ports but for all the ports in the country and recommended Ministry of Shipping may issue an order to make PCS 1x mandatory for all Indian Sea ports including Public & Private ports.

9. **Standardization and harmonization of data exchange throughout the process**

The committee observed that along with the mandate that ensures adoption, another method to improve adoption is to standardize data points and processes across trade stakeholders. This should ensure the participation of various trade bodies which ensures buy-in. PCS 1x has already defined the processes and has standardized data points that should reduce the effort on those counts. Coupled with an intuitive UI/ UX, the task of pushing a mandate is vastly simplified.

(On System Functionality)

10. **All stakeholders should have profile led access to the system; to have single sign-on**

Committee noted that a single sign-on ensures that stakeholder has access to their own data and transactions and allows a structured transaction framework with other stakeholders. This also enables the stakeholder the flexibility to incorporate business specific solutions that they may wish to incorporate into their functioning.

Committed also noted that PCS 1x, as designed, offers a profile led access for stakeholders. This ensures that all participants on the PCS are "accredited". The profile also allows for a single sign-on to the PCS system for accessing various functionalities, the reach is controlled by the role and rules defined for every user. In this regard, the logistics department may issue a circular to all the portals to enable single sign on based on PAN identification to avoid multiplicity of the sign on accounts. Further committee also recommended that the KYC done with ICEGATE may be considered for authentication as an accredited user for PCS platform as well on mutually agreed methodology.

11. **Real time integration with private Port/ Terminal (with their respective POS/TOS) for sharing the live data to the customer such as berthing schedules, pendency, Cut off time, Yard inventory, gate In and Out status, E-Form 13/6, Pre-Advice, EIR etc.**

The committee observed that a real-time integration of stakeholders via EDI etc ensures data points that enable stakeholders to better perform their roles and interact with other stakeholders.PCS 1x incorporates the latest messaging capabilities (EDI, XML etc) in line with global best practices. This ensures that various stakeholders find it easy to integrate with the PCS platform. This also provides the ability to transact with stakeholders in real-time.

12. **Data repository/ Centralized Document Management for all the stakeholders to upload and download the documents for their respective activities. Common documents should be shared via single platforms to respective stakeholders such as IAL/EAL, IGM/EGM, BAPLIE, etc.**

Committee observed that a major part of trade efficiency depends on their ability to create and access documents on demand. A mechanism to do so via a document repository with a role and rules based access on the IPA provides trade the ability to create and produce documents on demand.PCS 1x has incorporated into its design a robust document management system that offers stakeholders the ability to store documents and retrieve on demand. Access to this repository is again rules and roles based.

IPA has to arrange for security audit before the systemgo live to address the security concerns of stakeholders.

13. **The corresponding information required by each agency and stake holder to be from single source (data lake) and to be maintained at PCS level**

Transaction and trade efficiency depends on the accuracy of the data. A data lake ensures that a single source of truth exists over the life of a transaction thereby reducing errors. Committee noticed that PCS 1x incorporates a data lake that allows for storing every unique data point once. This reduces manual intervention and reduces errors as all data, required during the course of a transaction, is from a "single source of truth".

14. **On the Modules that may be considered to be included in PCS 1xeither as development or as latch on, the Committee observed the following;**

a) **Transportation – a vehicle booking system that aims at reducing dwell time and congestion at ports; on account of better planning capabilities; planning of entry-exit, resources etc.**

PCS 1x provides the ability to latch on world-class solutions that work in tandem with PCS transactions; with a single sign-on. A world class transportation solution allows for better vehicle planning thereby reducing dwell times and reduces congestion at ports. This also allows for better resource management at terminals/ ports.

A separate transportation module– a vehicle booking system will be developed as part of PCS 1x by the developer.

b) **Booking (cargo and containers) – a world class cargo booking engine that has trust and participation from trade.**

PCS 1x is already working with world class cargo booking systems such as INTTRA for incorporation in the PCS workflow. The PCS 1x architecture allows for easy integration of such globally trusted solutions. **This will be available at PCS 1x as latch on.**

c) **Marketplace for goods and services (marine services) –**

The ability to bring various service providers on a single platform (providers to the marine industry), the ability to match buyers to sellers and providing them a platform to transact.

The functionality of market place can be put into place in association with the National Trade Portal which is being developed by Logistics division, MOC&I, GOI.

d) **Multimodal shipments - Railways (Container Train Operations; General Cargo Booking); Coastal/ Inland waterways – PCS needs the ability to integrate and offer the ability to bring in various modes of transport required during the course of the shipment.**

Given the "open" architecture of PCS 1x, various systems such as FOIS, LDB etc can be integrated and incorporated in the transactional workflow. This also facilitates in expanding the reach of the PCS platform within the trade community. **This will be available at PCS 1x as latch on.**

e) **Dues collections (single point of collection of dues)**

Presently, every stakeholder is paid based on their banking relationships for that, every port has a banking relationship and trade has to pay through the port designated bank all charges related to the port. Furthermore, the current processes do not provide the ability to match the trade transaction with payment transaction; often resulting in discrepancies and inefficiencies. **This will be part of PCS 1x as a payment aggregator gateway.**

PCS 1x has a unique aggregator payment solution which allows for a single point of collection and multiple points for settlement through the payment gateway. This saves time, money and effort of stakeholders, otherwise, they will have to run between financial institutions of various agencies. PCS 1x also offers the capability to match trade transactions with relevant payment transactions, thereby reducing discrepancies and allowing for quick settlement of transactions.

f) **Tracking**

PCS 1x provides transparency across the life cycle of the transaction and the ability to know the location of shipment at any given point in time. A bundled notification engine provides information to the right person, for the right transaction at the right time. **This will be part of PCS 1x**

g) **Dashboard and analytics (KPI Management tool)**

PCS 1x provides the ability for every stakeholder to better plan and decide; a decision support tool with a predefined set of reports. This starts at stakeholder level and can fold up to a national level via aggregation of data. **This will be part of PCS 1x.**

3. **Deliberations &Recommendations:**

On the basis of assessment of differences between PCS 1.0 and PCS 1x the Committee deliberated the issue in detail.

1. During the course of the presentation of PCS 1x by M/s Portall, Committee enquired whether PCS 1x will be able to accommodate and integrate the additional stakeholders, additional features, and additional modules, if any, to be identified in future. The representatives of developer of PCS 1x have confirmed that their system is capable of integrating additional features and additional modules with additional stakeholders at any point of time by way of providing a latch on facilities and without any additional cost they will be able to integrate the additional modules.

2. CSLA and CFSAI (members of FILA-Federation of Indian Logistics Association) and other stakeholders strongly opined that PCS 1x will take care of business requirements of all the maritime stakeholders. Further, they have stressed that bringing another version of PCS within short intervals will disrupt the whole technological adoption of maritime business supply chain and will have impact in adoption costs, staff/ training costs, changes in business processes and change management etc.

   Since PCS 1x has all the technological innovations presently available and it may be loaded with any additional new functionalities & features identified at a later stage, Committee was of the opinion that PCS 2.0 may be put on hold and taken up after 3 years, if required.

3. Committee noted that the proposed architecture of PCS 1x has the flexibility to take care concerns of trade in terms of any new functionality as latch on or through development within the system or new stakeholder in future. Committee further noted that IPA appointed the consultant to carry out Business Process Reengineering (BPR) exercise for PCS 2.0 to find out what could be the features of ultimate and ideal PCS. Considering the stakeholders above view, Committee isof the view that the focus has to be given to PCS 1x project and TOR of PCS 2.0 project may require a review.

4. As Customs representative was not present during the first meeting, IPA facilitated the meeting of the developers of PCS 1x with Customs, ICEGATE / ICES, and Single window team to discuss SWIFT and PCS integration on 3rd July 2018 and 19th July 2018.Custom nominated Shri Bijoy Mohapatra (ADG,ICEGATE)as a member of PCS 1x Project Management and Monitoring Committee to ensure smooth integration.

5. The Committee noted that the PCS 1x project will Go-Live by Dec-2018 with value add-ons as per the PCS 1x project timelines as noted below:

Milestone Activity	Target Date	Status
Bid Award	07-05-2018	Completed
Agreement signing	15-05-2018	Completed
Completion of system study with recommendations for process optimization and	30-05-2018	Completed

Submission of the report		
Design and submit Proto-type of the proposed community system to the Stakeholders	07-06-2018	Completed
Setting up Cloud space/Development environment.	23-08-2018	Work in Progress
Migration of existing PCS 1.0 functionality to cloud and commencement for UAT with four identified pilot ports	21-09-2018	Work in Progress
Development, Integration, and Implementation of the value-added solution (including UAT+Training)	05-11-2018	-
Go-Live	10-12-2018	-
Operation and Maintenance (O&M) Phase*	2 Years after Go-Live	-

Committee recommended thatPCS1x implementation may be monitored by the same Committee by holding its meeting once in two months

6. CSLA's concern about safety & security of data was noted by the Committee and developer of PCS 1x explained security features of the proposed system. Security consideration in the proposed system include system security and data security including KYC and two-factor authentication. The committee directed the developer of PCS1x to interact with FILA to address the security concern during the development of the system. IPA shall also arrange for third party security audit (Data & System) at an appropriate time.

After deliberations on the report, Joint Secretary (Ports) requested that FILA shall provide a letter confirming that all the members of FILA have accepted the committee's recommendations.

7. Based on the above deliberations, the specific recommendations of the Committee are as follows:

A. A legal framework needs to be explored under various laws governing maritime trade stakeholders so that they can be mandated to carryout transactions through PCS 1x.

B. As customs has already initiated the process of upgrading ICEGATE for real time data exchange via API based architecture, a pilot project at Vizag port to be done to test the API based transaction between PCS 1x and ICEGATE.

C. PCS Team to work with Single Window team to integrate all PGAs with SWIFT and integrate only SWIFT with PCS 1xso as to achieve a true single window.

D. Since PCS 1x platform has the right framework to use real-time API integration, all Ports & other Stakeholders shall make necessary technological changes at their end to enable real time information exchange with PCS, as per the change management documents to be prepared by the developer.

E. PCS 1x to onboard all maritime stakeholders such as major, non-major ports , CFS & ICDs etc. so that end-to-end trade transaction can take place on PCS 1x platform itself

F. Since the open architecture of PCS 1x provides the capacity and flexibility to offer various functionality and services to trade through the latch on, customs to consider PCS 1x as a nodal platform to deal with all maritime stakeholders for the exchange of messages with ICEGATE.

G. PCS 1x shall have the ability to latch on various modules such as e-VGM, e-Seal, e-Waybill, e-Payment, e-Invoicing ,Customs clearance, Warehousing, etc. if not provided in the PCS 1x itself.

H. IPA to ensure that following functional modules are included in PCS 1x by the developer either through development or through the latch on with other platforms/software at no additional cost to IPA, which was committed by developer of PCS 1x during the meeting.

   a. **Transportation - Part of PCS 1x**
   b. **Booking (cargo, containers, vessel slot) - Latch On**
   c. **Marketplace for goods and services (marine services) – to be taken up in association with National Trade Portal**
   d. **Multimodal shipments - Railways (Container Train Operations; General Cargo Booking); Coastal/ Inland waterways- Latch On**
   e. **Dues collections (single point of collection of dues) – Part of PCS 1x as aggregator payment gateway.**
   f. **International Linkages with Lines, Maritime registers etc. – Latch On**
   g. **Track and trace facility(end-to-end) – Part of PCS 1x**

I. All stakeholders should have profile led access in the PCS 1x system to have single sign-on. KYC system adopted in ICE Gate may also be taken as authenticated KYC for the purpose of PCS 1x as well and customs to provide updated List of KYC to explore technical feasibility.

J. MoS may issue an order to make PCS 1x mandatory for all Indian sea ports including all public and private ports.

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