



EdCIL (India) Limited
A Mini Ratna Company
A Government of India Enterprise
ISO 9001-2008 & 14001:2004

To-Be Process Report

Process design of TEQIP 3 incorporating any improvements from previous phases of TEQIP

Development of a web based system for management and operations of TEQIP – 3 including SPIUs and NPIU

May 2017

Document Control Sheet

Revision History

Version	Author	Date	Revision
V2	Aabhas Bhardwaj	08-06-2017	Changes as per the final discussion with NPIU.
V3	Aabhas Bhardwaj	19-06-2017	Addition of Academic MIS in the Business and Application Architecture

Report reviewed by:

S. No.	Reviewer	Signature	Date

Report approved by:

S. No.	Name	Signature	Date

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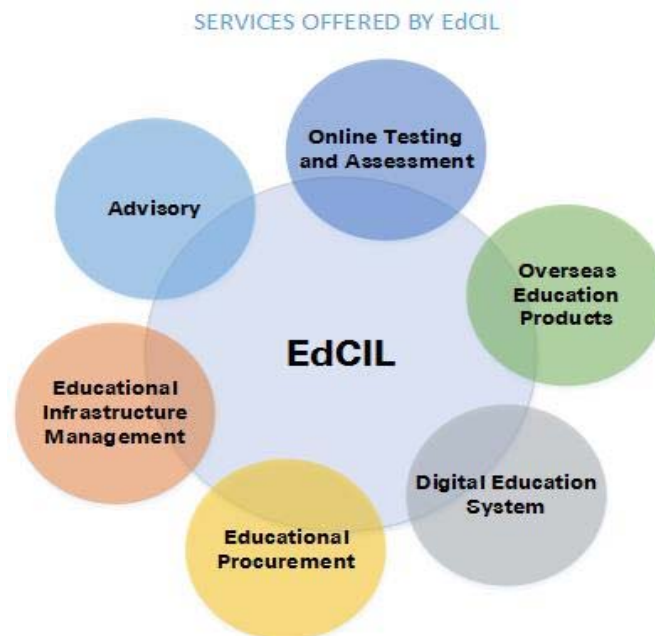
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1. Executive Summary

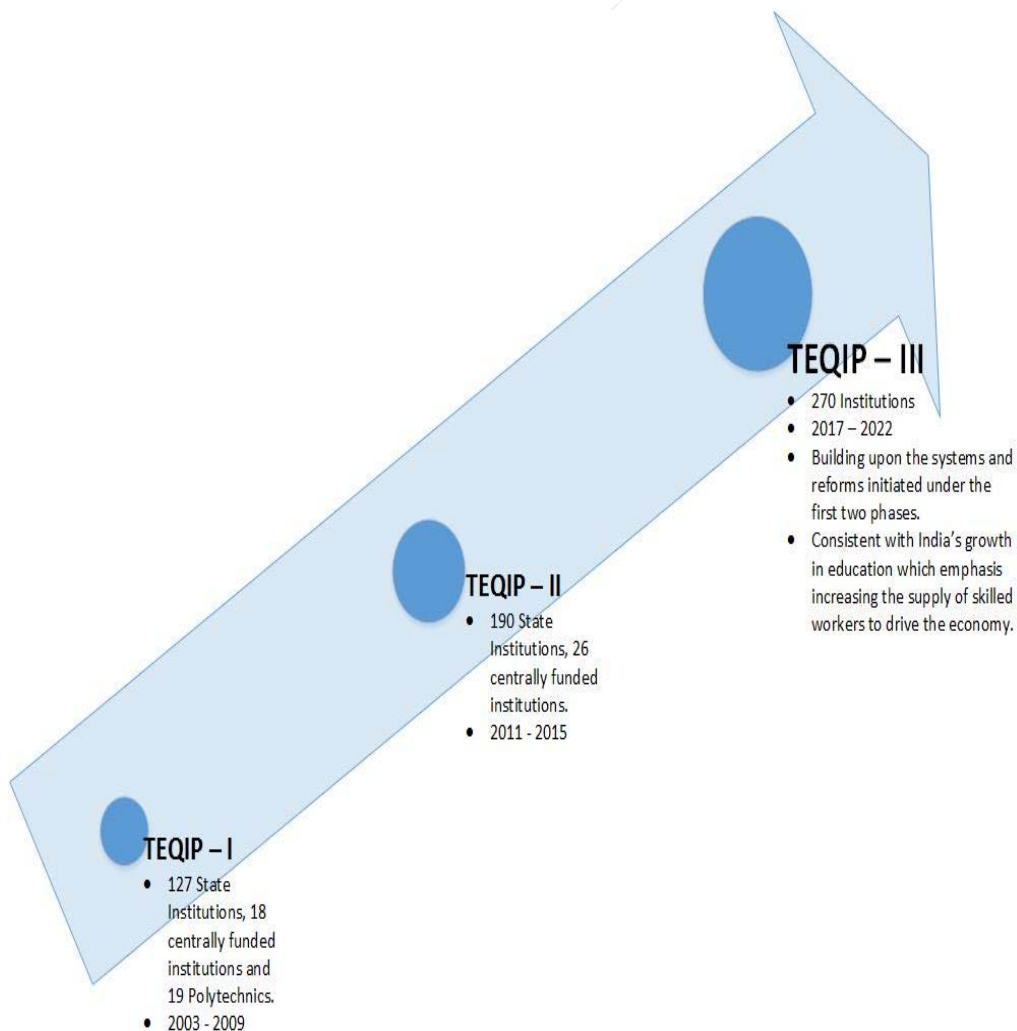
EdCIL (Educational Consultants India Limited) is a CPSE under the administrative control of MHRD that offers Project Management and Consultancy services in the entire education and Human Resource Development value chain. **EdCIL** has been designing comprehensive and ready-to-use solutions for educational institutions, PSUs and other Autonomous bodies. **EdCIL** design customized and implementable solutions across a wide range of services such as:

- **Online Testing and Assessment:** An online recruitment program for PSU's, and educational institutions.
- **Advisory:** Designing governance philosophy, training design, impact assessment, organization restructuring and design of new education schemes for institutions.
- **Educational Infrastructure Management:** Providing PMC (Project Management Consultancy) services for the development of better education.
- **Educational Procurement:** Procurement of various items for different educational institutions.
- **Digital Education System:** Providing project management services for various domains.
- **Overseas Education Products**

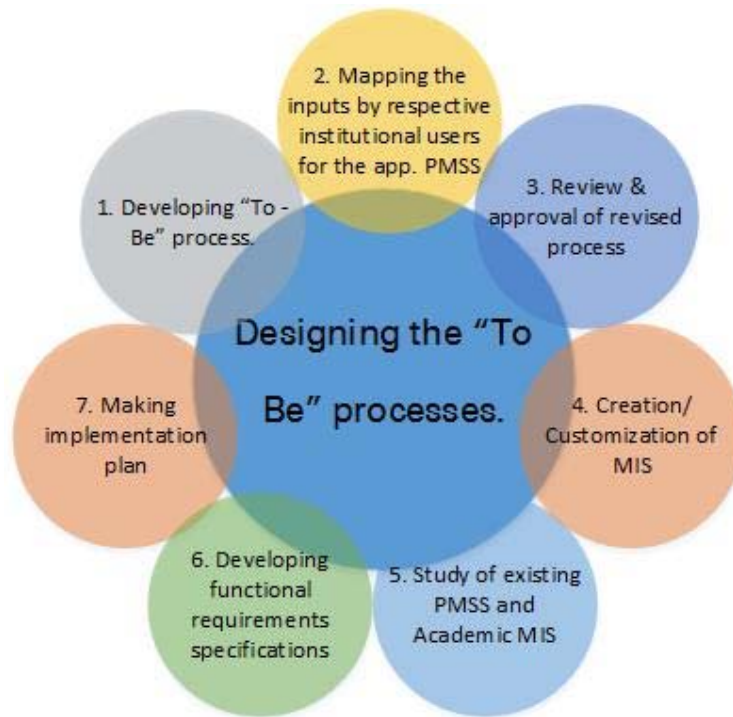


The vision of the assignment can be captured in the following objectives:

- To create an environment in which Engineering Institutions can achieve their own set of targets for excellence and sustain the same with autonomy and accountability.
- To support development plans including synergistic Networking and Services to community and economy of competitively selected institutions for achieving higher standards.
- To improve efficiency and effectiveness of the technical education management system in the states and institutions.



To achieve the set objectives for the project; a participatory approach has been employed for the To-Be Process Report as follows:

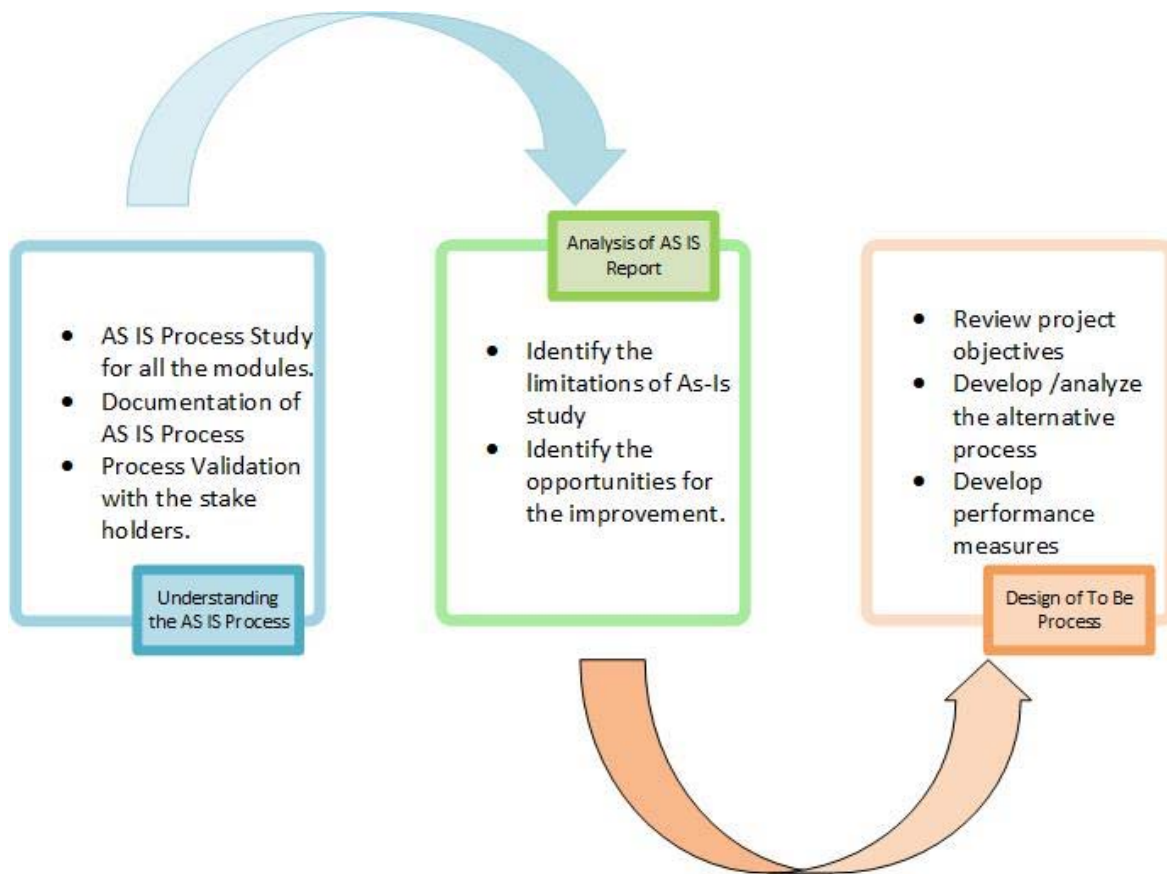


- Mapping the inputs by respective institutional users for the application PMSS and Academic MIS.
- Clearing the revised process to the teams at center and state.
- Creating MIS for the teams for better Monitoring.
- Developing functional requirements specifications for the information systems identified.
- Detailed workflow and description of various parts of PMSS and Academic MIS.
- IT systems architecture for better understanding.
- Making implementation plan to meet the targets within the stipulated time.

The above mentioned activities have been achieved through detailed meetings with various stakeholders and data collection through a structured questionnaire.

This To-Be Process Report takes a comprehensive look at the current state of PMSS and Academic MIS in a holistic way to gain an understanding about how the present delivery mechanism works and where the department currently stands. This is crucial for proposing further course of action for PMSS and Academic MIS in executing the set objectives of the Project.

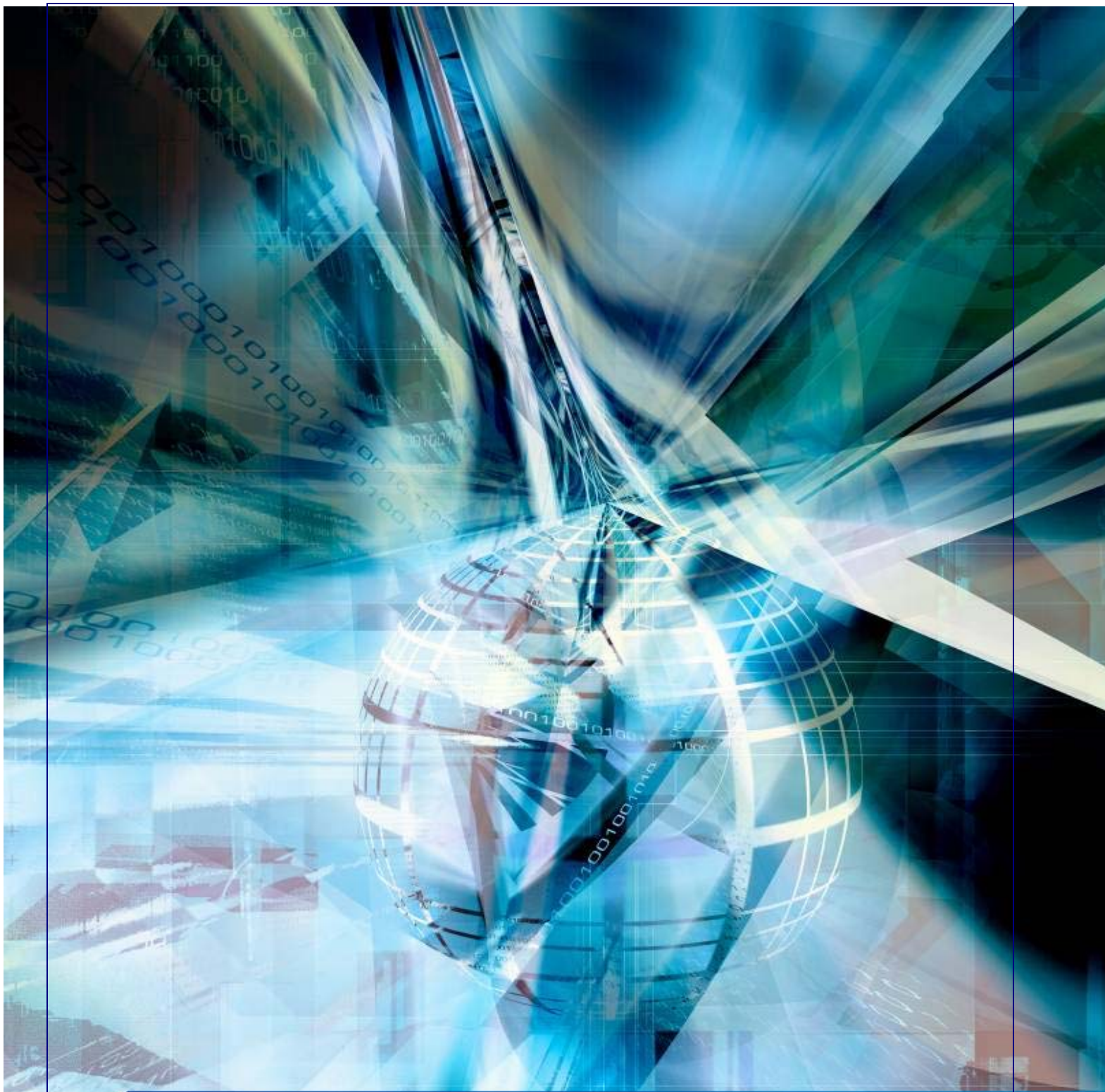
The complete To-Be Process Study can be visualized as follows:



Based on the As-Is State Assessment, the issues & challenges that get highlighted will be prioritized to enable development of an effective Procurement Management Support System. Inputs from the As-Is Study has been used to prepare a To-Be Scenario by filling the gaps & loopholes in the existing systems and processes.

This To-Be Process Report for “Process design of TEQIP 3 incorporating any improvements from previous phases of TEQIP” is broadly divided into two distinct parts:

1. **Part One** gives a brief about EdCIL and lays down the context of the assignment, covering the Project objectives.
2. **Part Two** details out various processes that is to be followed for PMSS and Academic MIS; clearly indicating the process flow and the changes in the existing system.



Part One : Background

2. Introduction

In order to make technical education in India more relevant and link it to market requirements, the government of India, with support from the World Bank initiated a systemic transformation for the states. With a view to transform the technical education over a period of 10-12 years through three phases, in 2002-03, the first phase was launched as TEQIP -1 and in 2010-17, the second phase was launched as TEQIP-2 and now,

TEQIP – 3, which is to be launched in FY'17-18 proposes to build on the significant results achieved in the two phases of the project which supported over 250 engineering institutes and thousands of faculty members from institutes such as NIT Rourkela, College of Engineering Pune, Jawaharlal Nehru Technological University Hyderabad, and BIT Mesra. It has made a considerable impact on the quality of education by implementing institutional and policy reforms focusing on institutional autonomy and accountability.

The project will support approximately 200 engineering education institutes in the focus states to produce higher quality and more employable engineers. Importantly, it will support Affiliated Technical Universities for the first time, and thereby multiply project benefits to all affiliated colleges, not just those being supported individually. It is estimated that, by project closing, roughly 3 million undergraduate and post-graduate students, of which 30 percent will likely be female and 20 percent from scheduled castes and tribes, and over 100,000 faculty and staff would have benefitted. It will also scale up post-graduate education, research, development and innovation at these institutions.

The project is also designed to build capacity of technical education policy planners and administrators. Substantial efforts will be devoted to monitoring and evaluation to improve governance and ensure that the investments result in better performance of the selected institutions. Student assessment and faculty appraisal systems, including mentoring-related activities will be strengthened. It will support industry collaboration in research and student job placement; and ensure better data management to facilitate quality assurance, among others.

3. Project Background and Objective

Background

The Project, third phase of TEQIP is fully integrated with the Twelfth Five – year plan objectives for Technical Education as a key component for improving the quality of Engineering Education in existing institutions with a special consideration for Low Income states and special category states and support to strengthen few affiliated technical universities to improve their policy, academic and management practices.

Project Objectives

The project objectives will focus on the following objectives:

- Improving quality and equity in engineering institutions in focus states ie. Low Income States, states in North East of India and hill states.
- System – level initiatives to strengthen sector governance and performance which include widening the scope of Affiliating Technical Universities (ATUs) to improve their policy, academic and management practices toward affiliated institutions.
- Twinning arrangements to build capacity and improve performance of institutions and ATUs participating in focus states.
- Facilitate online submission of proposals by institutions and evaluation.
- Facilitate fund transfer to various project entities.
- Monitor physical performance
 - Defined performance indicators
 - Monitoring levels; institute, state, national
 - Tracking performance promised by institutes
- Monitor fund utilization
 - Expenditure and utilization monitoring
 - Defined broad expenditure heads/subheads
 - Monitoring levels: institute, states, national
- Support procurement management (following world bank guidelines)

- Procurement following world bank guidelines
- Various methods and steps for goods, services and works
- Monitoring levels: institute, state, national
- Adherence to procurement guidelines by the institutes

4. Key Stakeholders and their Roles

S. No.	Stakeholders	Key Responsibilities with respect to the Project	Involvement in PMSS and Academic MIS
1.	NPIU	<ul style="list-style-type: none"> Review funding requirements from Institutions and monitor fund utilization for different sub-components. Develop clear TORs, guidelines and methodologies for mentors and, performance and data auditors. Monitor fund utilization and implementation progress. Develop, implement and maintain a Project Management Information System (MIS). Ensure full knowledge and systematic application of the World Bank's Procurement Guidelines and provide guidance on queries from States, UTs and institutions, regarding the World Bank's Procurement Procedures and use of PMSS. Build capacity in the SPIUs for carrying out procurement audits at the State level. Providing guidelines for financial, accounting, reporting and audit aspects through facilitating preparation of Financial Management Manual. 	<ul style="list-style-type: none"> Approval of plans submitted by SPIU/Institutions. Monitoring all the actions and activities of SPIU and Institutions with respect to the PMSS. Configuring the PMSS and Academic MIS at the initial level and setting up of components and their sub components and various monitoring indicators. Defining the activities covered in the TEQIP components. Procurement of goods/services/works for NPIU. Coordinating with the World Bank. Review of plans submitted by SPIU or Institutions. Responding the queries and issues registered by SPIU or Institutions.

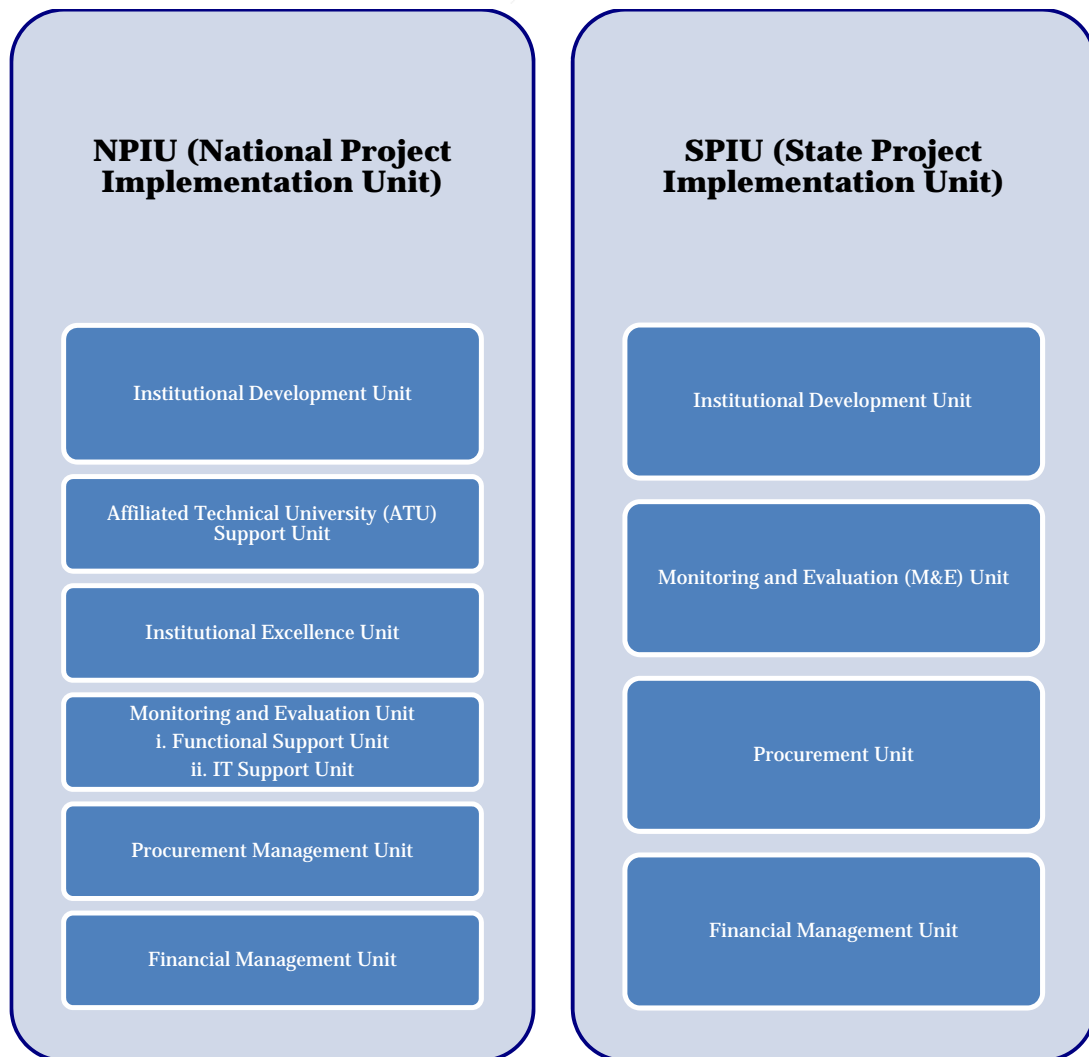
S. No.	Stakeholders	Key Responsibilities with respect to the Project	Involvement in PMSS and Academic MIS
		<ul style="list-style-type: none"> Facilitate implementation of the Project and provide advisory services. Ensure timely compliance of audit observations by all the States, UTs, CFIs and other recipients and coordinate timely response from all concerned on audit observations. 	
2.	SPIU	<ul style="list-style-type: none"> Carrying out orientations for the institutes under the respective jurisdiction. Monitoring the progress for the institutes under the respective jurisdiction. Organizing workshops for the institutes under the respective jurisdiction. Providing guidance for the institutes under the respective jurisdiction. Coordinating with NPIU for the institutes under the respective jurisdiction. Selection of Training providers for the institutes under the respective jurisdiction. Organizing workshops in the respective states. Review and process the procurement plans for Institutes. 	<ul style="list-style-type: none"> Approval of plans submitted by Institutions and forwarding the same to NPIU for further approval Monitoring all the actions and activities of Institutions with respect to the PMSS and Academic MIS. Procurement of goods/services/works for SPIU. Coordinating with the NPIU. Review of plans submitted by Institutions. Monitoring the data entered by the respective institutions with respect to Academic growth. Entering the Monitoring data in Academic MIS which further will be monitored by NPIU.

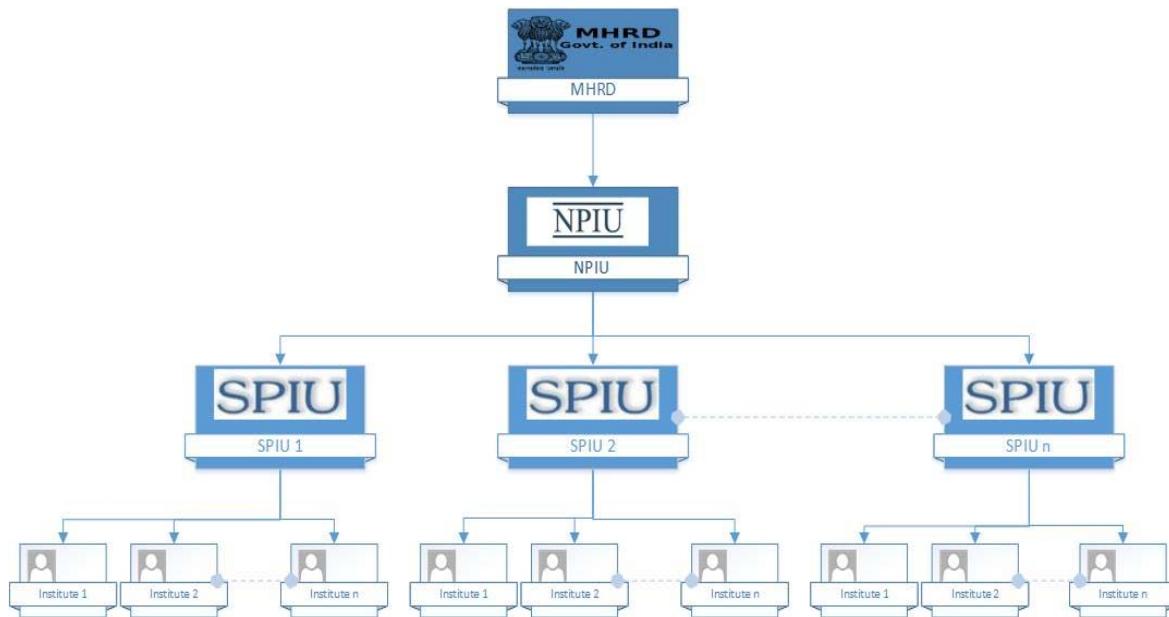
S. No.	Stakeholders	Key Responsibilities with respect to the Project	Involvement in PMSS and Academic MIS
3.	Institutes	<ul style="list-style-type: none"> • Development of the respective institutions/ATUs for the progress of students and faculty. • Preparation of development plans. • Ensuring proper utilization of the funds allocated for the development. • Procurement of various goods, services or works for the respective institutions. 	<ul style="list-style-type: none"> • Creation of procurement plans for the growth and development of respective Institutions and forwarding it further for the approval to the competent authority. • Revising and updating the procurement plans (if required). • Procurement of goods/services/works for institutions. • Coordinating with the SPIU and NPIU. • Review of revised plans by the BoG of the institutions and approving the same.

5. Overview

During the As-Is Study which was conducted, the current processes of TEQIP-2, PMSS (Procurement Management Support System) and Academic MIS was studied in detail. The information gathered as a result of this exercise was used to create work-flow diagrams / process maps, clearly depicting the involvement of various stakeholders for all the processes and the sequential flow of information and data and approvals between them. The process maps help in identifying the gaps and loopholes in the current processes, which in turn are used to create this To-Be Scenario addressing all the issues and challenges highlighted.

Following is the further classification of the functional units of NPIU and SPIU, further, after the two divisions, Institutes are there at every state level.





In the following section of this report, we aim at developing and structuring a To-Be Scenario for PMSS and Academic MIS by the data gathered during the As-Is Study.

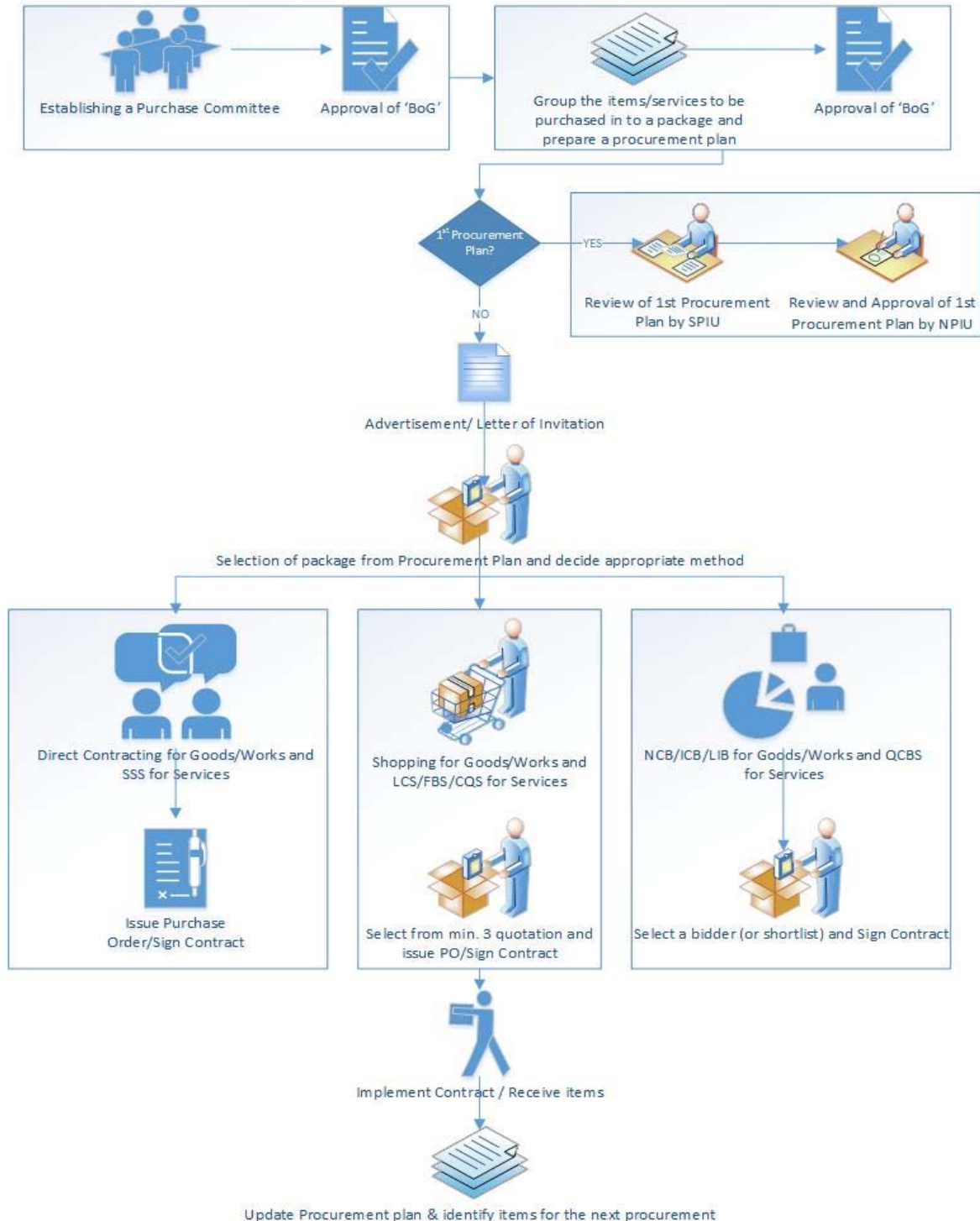
The background of the slide is a complex, abstract digital composition. It features a central, glowing wireframe globe that appears to be composed of binary data. Surrounding the globe are various elements: streams of binary code (0s and 1s) in different colors (blue, green, yellow) that seem to flow or radiate from the center; sharp, angular geometric shapes in shades of blue and green; and a sense of motion and depth created by overlapping planes and light effects. The overall color palette is dominated by cool blues and greens, with some warmer yellow and orange highlights. The bottom of the slide is a solid dark blue trapezoidal shape that serves as a base for the title text.

Part Two: Architecture of PMSS and Academic MIS

6. Business Architecture

6.1 Steps involved in PMSS and Academic MIS

6.1.1 PMSS (Procurement Management Support System)

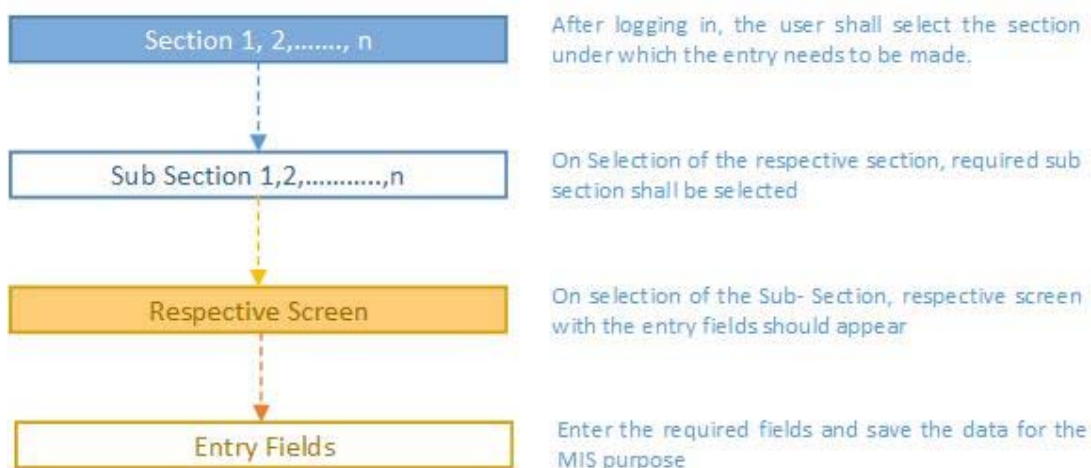


6.1.2 Academic MIS



Recording of various activities

NAVIGATION AIDE FOR INSTITUTIONS



6.2 Description of Components

6.2.1 Component 1: Improve Quality and Equity in Engineering Institutions in Focus States

6.2.1.1 Sub-component 1.1: Institutional Development Grants to Participating Institutions.

6.2.1.1.1 Possible activities under this Sub-Component

Possible activities that institutions may wish to consider include:

- Procurement of Goods (equipment, furniture, books LRs, software and minor items) and civil works for the improvement in teaching, training and learning facilities.
- Improve student learning
 - ✓ Faculty and staff training
 - ✓ Increasing capacity for postgraduate education and establishing teaching and research.
 - ✓ Improving transitions rates of all categories of students and improving non-cognitive skills of student

- ✓ Instituting academic and non-academic reforms including flexibility
- Student employability
 - ✓ Increasing interaction with industry
 - ✓ Student career counselling and placement
- Increasing faculty productivity and motivation
- Sponsored research, consultancy and other revenue generating activities
- Establishing a twinning system
 - ✓ Twinning arrangements with high performing institutions under [Sub-components 1.3](#) to build capacity and improved performance.
- Recruitment and retention of high-quality faculty

6.2.1.2 Sub-component 1.2: Widening Impact through ATUs focus States

6.2.1.2.1 Possible/Suggested activities under this Sub-Component

Possible/suggested activities for ATUs that they wish to adopt as per their development strategy are:

- Procurement of Goods (equipment, furniture, books LR, software and minor items)
 - ✓ Establishing/improving ERP/management information system for student, staff and faculty data
 - ✓ Improving financial management and procurement
 - ✓ A modern HR system for efficient personnel management
- Improvement in Teaching, Learning and Research Competence of affiliated institutions
 - ✓ Mentoring of affiliated institutions and promoting of applications to UGC/NBA.
 - ✓ Increasing faculty productivity and motivation
 - Sponsored research, consultancy and other revenue generating activities.
 - Joint publications
 - Faculty and staff training
 - Help institutions design/review curriculum and exams
 - Faculty Development Programs
 - Build strong leadership teams
 - Short term courses/diplomas
 - ✓ Twinning arrangements with ATUs under [Sub-component 1.3](#) to build capacity and improved performance
 - ✓ Preparation of massive open online courses (also referred to as MOOCs)

- ✓ Developing credit based systems such that students in institutions could use select e-learning courses as part of their degree programs.
- ✓ Greater access to digital resources
- ✓ Improving institutional governance
- ✓ Student employability
 - Industry linkage through career counselling, placement and research
 - Entrepreneurship development
- ✓ Centralized Research hubs opened to all faculty.

6.2.1.3 Sub-component 1.3: Twinning Arrangements to build capacity and improve performance of participating Institutions and ATUs

6.2.1.3.1 Possible/suggested activities under this sub-component

The activities under this are the combined activities of [Sub-component 1.1](#) and [Sub-component 1.2](#).

6.2.2 Component – 2: System – Level initiatives to strengthen sector governance and performance

6.2.2.1 Activities

The following activities are to be undertaken,

- Technical assistance to AICTE
- Technical Assistance to NBA
- Establishing Professional Development Training Centers (PDTC) and Quality Circles
- Project Monitoring and Evaluation
- Activities under National Knowledge Network

6.3 Threshold Limits – TEQIP 3

Category	Value per contract*	Procurement Method	Review
Goods	>= US\$ 2,000,000	National Competitive Bidding (NCB)	Prior
	<= US\$ 3,000,000		
	< US\$ 2,000,000	National Competitive Bidding (NCB)	Post
	<= US\$ 100,000	Shopping	Post

	Proprietary Equipment ≥US\$ 50,000	Direct Contracting	Prior
	Proprietary Equipment <US\$ 50,000	Direct Contracting	Post
Minor Items	≤ US\$ 1,000	Direct Contracting	Post
Works	≥ US\$ 10,000,000 ≤ US\$ 40,000,000	National Competitive Bidding (NCB)	Prior
	< US\$ 10,000,000	National Competitive Bidding (NCB)	Post
	≤ US\$ 100,000	Shopping	Post
	≤ US\$1,000	Direct Contracting	Post
Services	≥ US\$ 1000,000	Quality and Cost Based Selection (QCBS)/ Fixed Budget Selection (FBS)/ Least Cost Selection	Prior
	< US\$ 1000,000	Quality and Cost Based Selection (QCBS)/ Fixed Budget Selection (FBS)/ Least Cost Selection	Post
	≤ US\$ 300,000	Consultant's Qualification Based Selection (CQS)	Post
	≥ US\$ 50,000	Single Source Selection (SSS)	Prior
	<US\$ 50,000	Single Source Selection (SSS)	Post
	≥ US\$ 300,000	Individual Consultant Selection (ICC)	Prior
	< US\$ 300,000	Individual Consultant Selection (ICC)	Post

6.4 NPIU (National Project Implementation Unit)

National Project Implementation Unit (NPIU) is a unit of Ministry of Human Resource Development, Government of India, established in August 1990 for coordination, facilitation, monitoring and to provide guidance to the States/ Institutions in all aspects of the projects.

Vision:

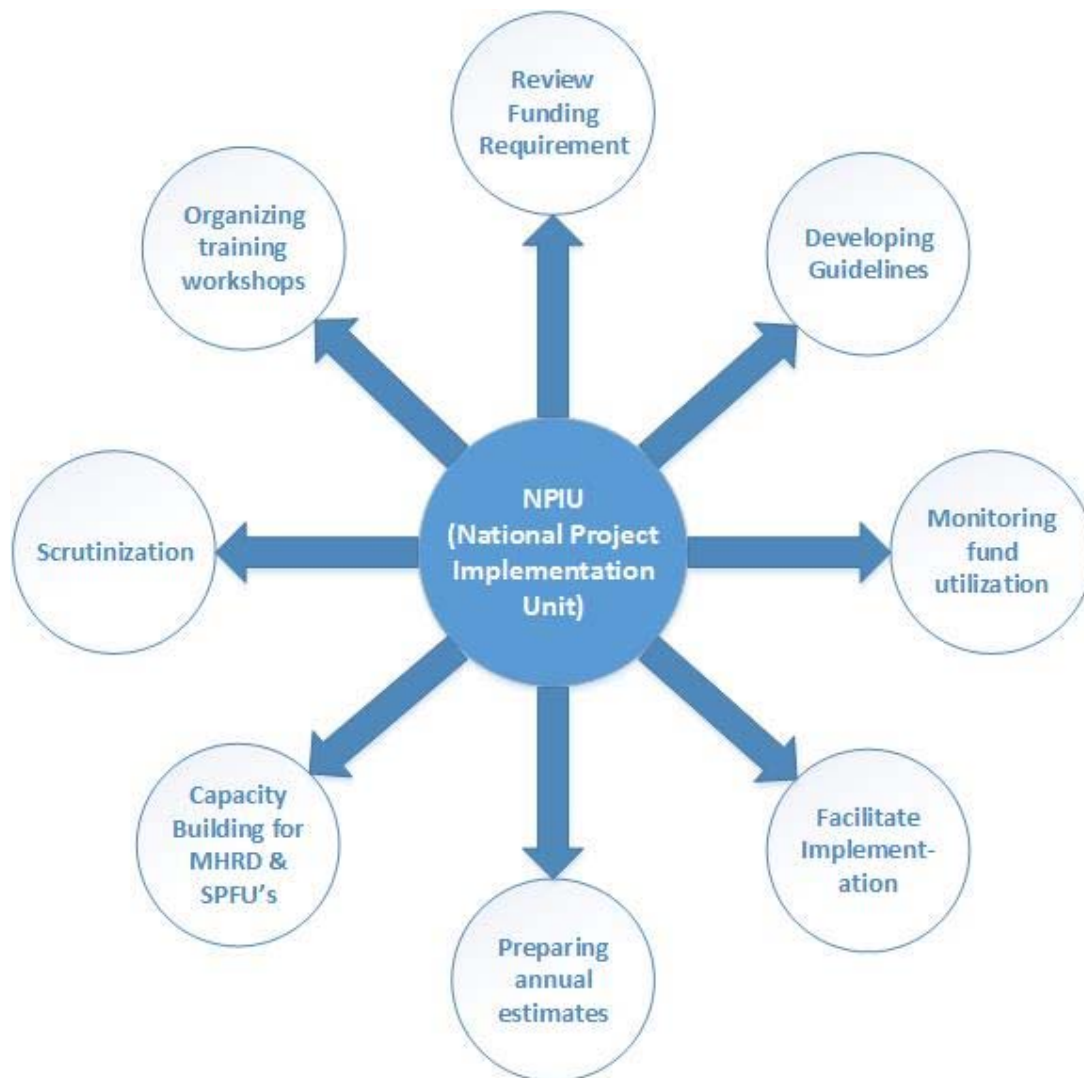
To develop and nurture a Technical Education System in the country which would produce skilled manpower of the highest quality comparable to the very best in the world and in adequate numbers to meet the complex technological needs of the economy; and provide the nation a comparative advantage in the creation and propagation of innovative technological solution and in the development of a technological capacity of the highest order, both for its application in economic development of the country and for becoming a major supplier of technology and technological services in the world.

Mission:

- To plan and design innovative projects for total quality improvement in technical education system in the country.
- To develop a model project management system
- To coordinate, monitor and review project implementation
- To liaise with project stakeholders such as Central Government, State Governments, Technical Education and Training providers, funding agencies, and industry etc.;
- To disseminate widely, success stories and lessons learnt from the successful projects.
- To undertake research studies for developing models of successful Project implementation.
- To prepare guideline documents/conduct training workshops for effective implementation of the Projects.
- To develop close linkages and network among different agencies.

6.4.1 Activities Undertaken

Following are the main activities that are undertaken by NPIU:



- Review funding requirements from Institutions and monitor fund utilization for different sub-components.
- Scrutiny by evaluation of Institutional Development Proposals submit recommendations of NEC to the NSC for selections and communicate decisions of the NSC to the States, UTs and CFIs along with recommendations for improvement of proposals, as may be required.
- Develop clear TORs, guidelines and methodologies for mentors and, performance and data auditors.
- Monitor fund utilization and implementation progress.
- Identify individual experts and agencies that can help to develop guidelines and also provide in-situ training to senior faculty to build their capacity for Training Needs Analysis (TNA).
- Coordinating the activities with IITs and IIMs for faculty training.

- Develop, implement and maintain a Project Management Information System (MIS). Ensure full knowledge and systematic application of the World Bank's Procurement Guidelines and provide guidance on queries from States, UTs and institutions, regarding the World Bank's Procurement Procedures and use of PMSS.
- Build capacity in the SPIUs for carrying out procurement audits at the State level.
- Providing guidelines for financial, accounting, reporting and audit aspects through facilitating preparation of Financial Management Manual.
- Facilitate implementation of the Project and provide advisory services.
- Ensure timely compliance of audit observations by all the States, UTs, CFIs and other recipients and coordinate timely response from all concerned on audit observations.

6.4.2 PMSS - NPIU

6.4.2.1 e-Dashboards

6.4.2.1.1 Alert Dashboard

a. Bid Openings planned (This Month)

It should capture and show the following details for the bids that are planned to be opened in the current month.

Package Code	Package Name	Procurement Method	Planned Bid Opening Date
--------------	--------------	--------------------	--------------------------

b. Bids Opened (This Month)

It should capture and show the following details for the bids that are opened in the current month.

Package Code	Package Name	Procurement Method	Bid Opening Date
--------------	--------------	--------------------	------------------

c. Eval. Reports To Be Prepared

It should capture and show the following details for the evaluation report to be prepared for the packages defined.

Package Code	Package Name	Procurement Method	Current Stage
--------------	--------------	--------------------	---------------

d. Orders to be Placed

It should capture and show the following details for the evaluation report to be prepared for the packages defined.

Package Code	Package Name	Procurement Method	Current Stage
--------------	--------------	--------------------	---------------

6.4.2.1.2 eDashboard – NPIU Dashboard

a. Bid opening meetings planned in this week

The bid openings planned in the current week needs to be captured and displayed as per the following format.

Package Code	Package Name	Status	Procurement Method	Planned Bid Opening Date
--------------	--------------	--------	--------------------	--------------------------

b. Packages locked

Total number of packages locked in the current week to be captured and displayed as per the following format.

Purchaser Name	Package Code	Package Name	Procurement Method	Bid Opening Date
----------------	--------------	--------------	--------------------	------------------

c. Payments – this week

Packages for which the payment has been made in the current week shall be captured and displayed as per the following format. The week shall start from Monday to Sunday.

Package Code	Package Name	Purchaser Name	Procurement Method	Milestone Name	Expected Payment Date
--------------	--------------	----------------	--------------------	----------------	-----------------------

d. Procurements to be initiated in this week

When the package is created, the procurements to be initiated in the current week to be captured as per the blow format. The week shall start from Monday to Sunday.

Package Code	Package Name	Procurement Method	Estimated Financial Sanction Date
--------------	--------------	--------------------	-----------------------------------

e. Same procurement carried out within interval of 6 months

If any same type of procurement carried out in the interval of 6 months, it should be captured and displayed in the following format. The starting of the 6 months period should be from 1st April to 30th September and next period from 1st October to 31st March.

Package Code	Purchaser Name	Package Name	Procurement Method	Current Stage
--------------	----------------	--------------	--------------------	---------------

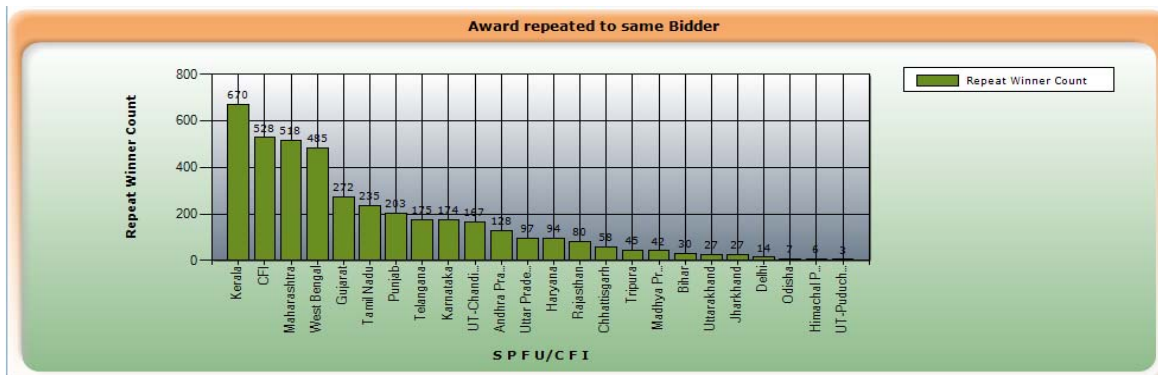
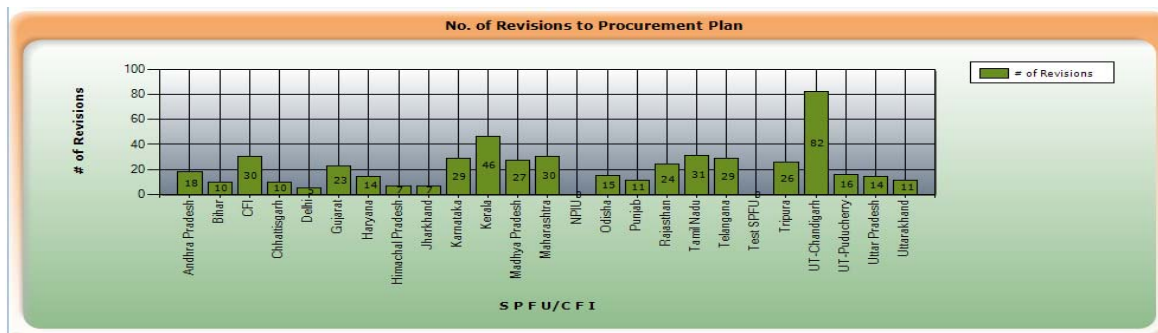
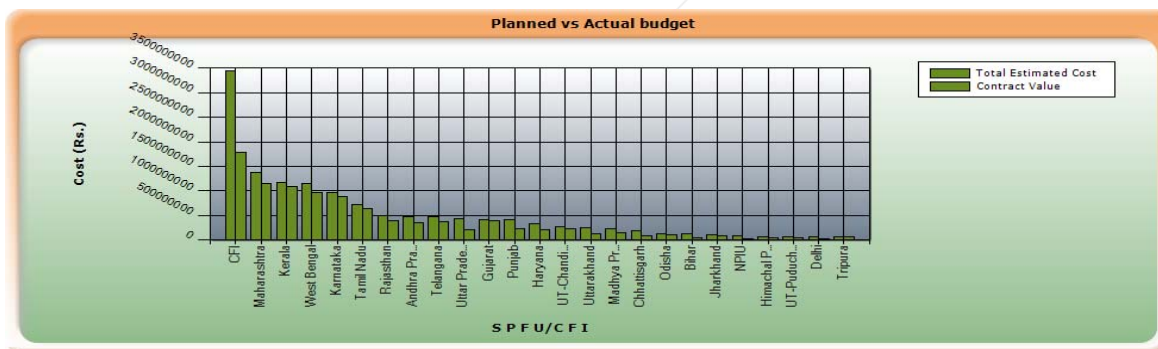
f. Two Suppliers with same phone number

Two suppliers having the same phone number is being captured and shown in the below format.

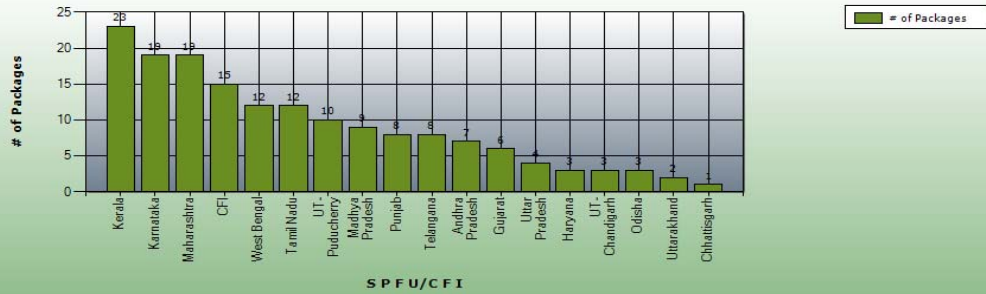
Package Code	Purchaser Name	Package Name	Supplier Name	Procurement Method	Current Stage
--------------	----------------	--------------	---------------	--------------------	---------------

g. Other Graphs

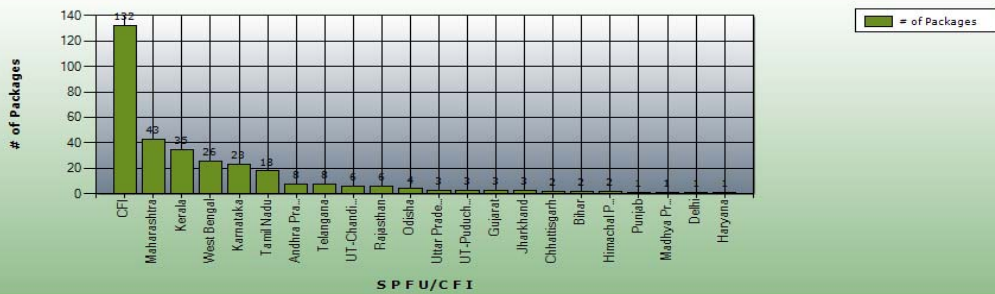
This may be further drilled down by clicking the respective graph's to view the institute wise details. Other graphs may be added as per the requirement of NPIU for the monitoring purpose.



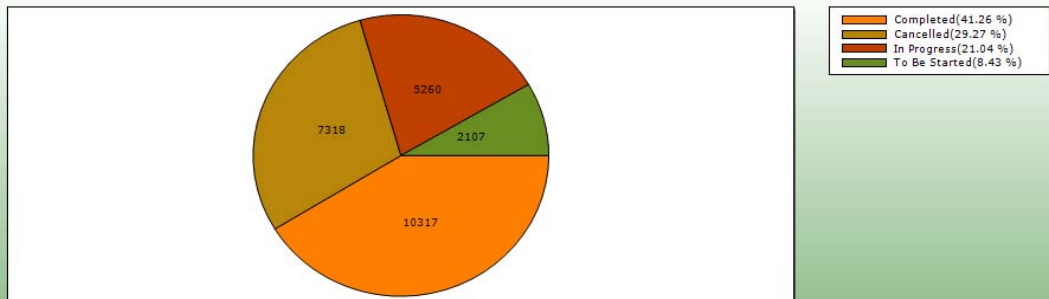
Contracts not awarded to L1 Bidder

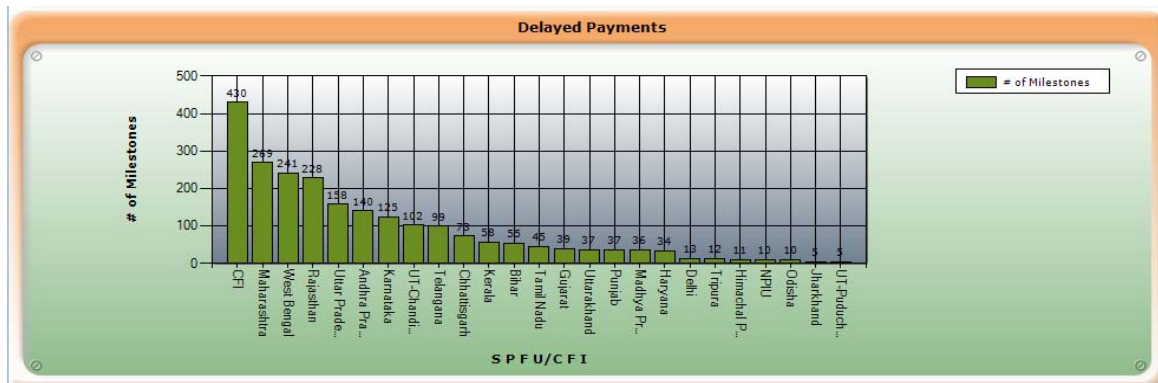
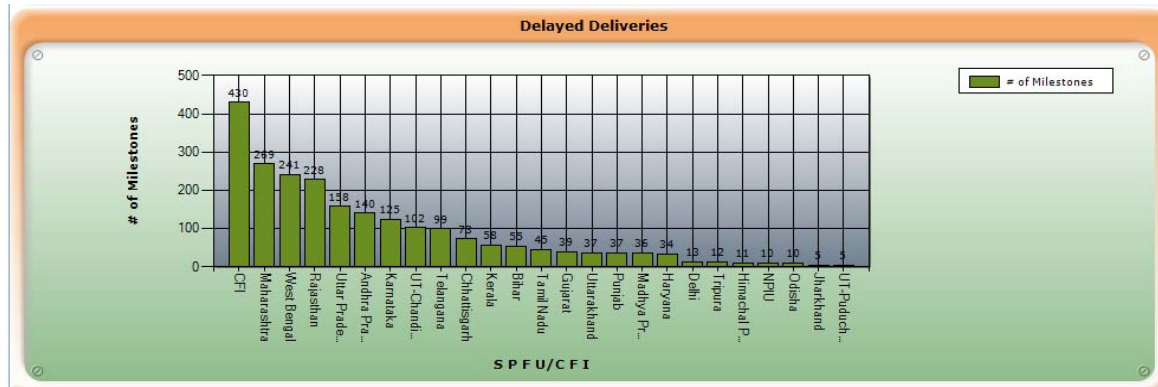
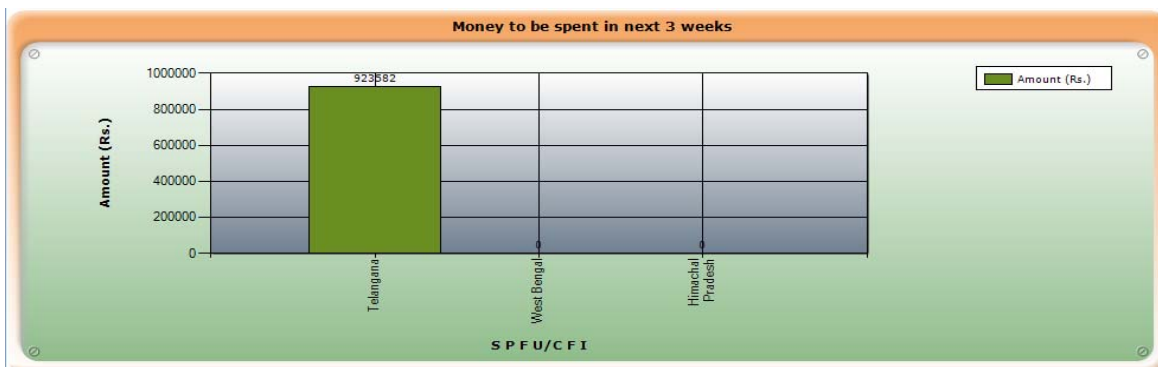
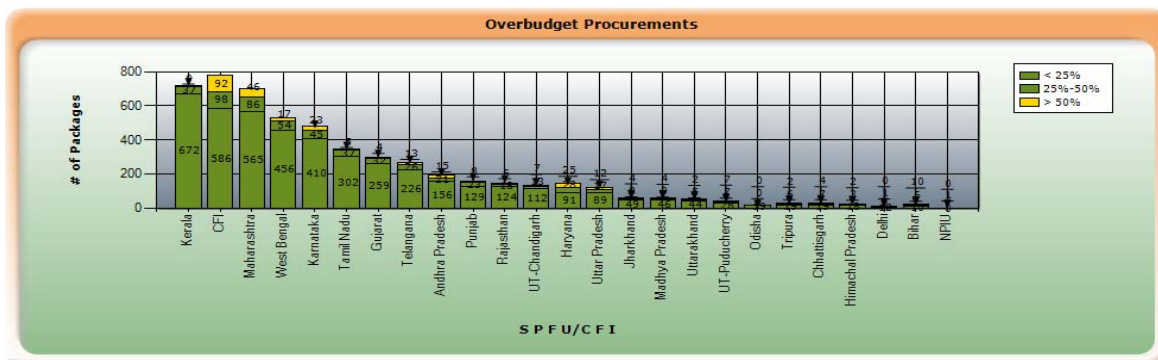


Change in Readout and Evaluated price



Status of Procurements





6.4.2.2 Configuration

6.4.2.2.1 Activities

Various activities are recorded and displayed here. The list of activities may be fixed by the SI and the same should be populated in the activities list of the institutes in the form of drop down for the selection of the same. The activities should be listed with the below details.

- Activity Name
- Activity description

6.4.2.2.2 Components

Various components are to be defined as per the [Section 6.2](#) of this document by the SI and should be available for the user to view the same. The following details are to be captured and shown,

- Component Code
- Component Name
- Component Description

On click of the respective component, its sub-components are to be shown. The following options should be available,

- Add
- Delete
- Select All
- Clear all
- The components shall be shown as per the below grid format,

Sub-Component Code	Sub-Component Name	Sub-Component Description	Associated Activities	Delete
--------------------	--------------------	---------------------------	-----------------------	--------

On click of the respective Sub-component, it should be allowed to edit the Code, Name, Description and Associated activities of the respective sub-components.

6.4.2.2.3 Category – Sub Category

Categories and Sub Categories shall be added and viewed by the user which shall be entered by the SI and the same needs to be populated to the institutions while creating and revising the packages under the head Category and Sub-Category. The following details should be shown,

- Item Category
- Item Sub-Category

6.4.2.2.4 Institution Type

Types of Institutions should be added by the NPIU and there should be an option to add/delete/modify the institution types. On click of the respective types of institutions, the institutions listed under each category shall be visible.

6.4.2.2.5 Institutions

The list of institutions should be added by the NPIU and there should be an option to Add/Delete/Modify the institution details. The details that are to be captured are as follows,

- Institution Type – A drop down with the options created in Institution Type.
- Institutions name – Name of the Institutions
- State
- Code
- Monitoring Agency
- State
- Institute Name
- Address
- Website URL
- Phone No.
- Fax No.
- Email ID
- Director

On click of the institution names, its sub-components under which it is registered should be shown along with the following options.

Sub-Component	Allocated Budget (Rs)	Budget for Goods (Rs)	Budget for Civil Works	Budget for Services
---------------	-----------------------	-----------------------	------------------------	---------------------

The calculation of the Budget should be based upon the category wise funding as per the [Section 6.3](#) of this document.

NOTE:

1. If Monitoring Agency is ‘NPIU’, for all the approvals institutions shall submit the details to NPIU.
2. If Monitoring Agency is ‘SPIU’, for all the approvals institutions shall submit the details to SPIU and will further be sent to NPIU by SPIU.

6.4.2.2.6 NPIU

The details of NPIU and the details of its committee members shall be entered and furnished in this section. The details that are to be captured are as follows,

- Code
- Name
- Address
- Phone Number
- Email ID
- Fax Number
- Credit No.

- Project Name
- Allocated Budget
- Project Cost

6.4.2.2.7 SPIU

The details of various SPIU's across India shall be captured and furnished here. The details may be captured by NPIU itself. On click of the respective SPIU name, its members and the following details should be shown,

- Code
- Name
- Email ID
- Address
- Fax No.
- Website URL
- Allocated Budget

6.4.2.2.8 Procurement Methods

It defines the different procurement methods provided to institutions for procuring various items. It defines the number of days allowed for the following activities which may be different for different methods. The procurement methods may be captured by the NPIU.

6.4.2.2.9 MIS Configuration

NPIU should have an option to select and define the different custom reports as per their requirement. It should be configurable by NPIU for the fields' data in the MIS reports.

6.4.2.3 Procurement

NPIU have the rights to monitor and evaluate all the procurement plans submitted by all project entities. They may also create plans which shall be approved by CPA. They may also approve the plans which have been sent to them by institutions through SPIU's for the state funded institutions. Whereas, the institutions which are centrally funded may send the plans directly to NPIU for the approval. 1st plan to be reviewed and approved by NPIU and revision may be carried out by the institutions with the approval of competent authority of the institution.

6.4.2.3.1 Prepare/Revise Plan

NPIU may view the prepared or revised plans which may further be drilled down to view the current status of the plans submitted by the institutions. They may also create their own procurement plans.

6.4.2.3.2 Old Plans

NPIU may view the old submitted plans and may further drill down to view the respective details by clicking on 'Revision Date'.

6.4.2.3.3 Approvals - Plans

NPIU may view and approve the plans submitted by SPIU's and all project institutions. The institutions plan should be forwarded to NPIU through respective SPIUs in case of state funded institutions and the institution plans may also be submitted directly to NPIU in case of centrally funded institutions.

6.4.2.3.4 Process – Initiate

The procurement plans which have been initiated by all project entities may be viewed.

6.4.2.3.5 Process – In Progress

The procurement plans which are in progress by all project entities may be viewed. This includes various stages from entering the package details to making payments. All the steps and details entered by the institutions should be viewable by NPIU.

6.4.2.3.6 Process – Prior Reviews

In case the institutes are submitting the package or plan for prior approval or reviews of SPIU's or NPIU, it may be viewed by clicking on 'Prior reviews'. This shall be based upon the threshold limits. The packages which requires a prior approval shall be shown in this tab.

6.4.2.3.7 Process – Completed

The package which are completed by all project entities may be viewed in this tab by NPIU with all the detail.

6.4.2.3.8 Process – Cancelled

The cancelled packages by all project entities may be viewed by NPIU's in this tab,

6.4.2.4 PMSS – MIS

MIS is generated for various domains, other than the below mentioned reports, NPIU may create and modify the custom reports as per their requirement.

a. Pipeline Packages-Report

The packages which are in pipeline by the institutions, shall be fetched herein as a report. The following data shall be entered in order to fetch the report,

- CFI/SPIU – Respective State or 'All' is selected
- Institute – Respective institute under the respective state or 'All' is selected
- Item Category – Respective Item Category or 'All' is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched

b. STATUS OF COMPLETED GOODS/CIVIL WORKS/SERVICES

The packages with completed civil work may be fetched herein. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched
- Type of Procurement

c. DETAILS OF CONTRACT PLACED (ON-GOING) GOODS/CIVIL WORKS/SERVICES

The packages wherein the civil work is under process may be fetched herein. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched
- Type of Procurement

d. DETAILS OF TENDERS FLOATED FOR GOODS/CIVIL WORKS/SERVICES

The packages wherein the tenders for civil work is floated may be fetched herein. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched
- Type of Procurement

e. Procured Packages-Report

The packages which are in already procured by the institutions, shall be fetched herein as a report. The following data shall be entered in order to fetch the report,

- CFI/SPIU – Respective State or ‘All’ is selected
- Institute – Respective institute under the respective state or ‘All’ is selected
- Item Category – Respective Item Category or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched

f. DETAILS OF TENDERS YET TO BE FLOATED FOR GOODS/CIVIL WORKS/SERVICES

The packages wherein the tenders are yet to be floated for civil work but the package has been approved/defined may be fetched herein. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected

- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched
- Type of Procurement

g. STATUS OF EXPENDITURE UPTO REPORTING MONTH UNDER TEQIP

The details of expenditure upto the reporting month under TEQIP may be fetched herein.

The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched

h. Delivery Status Report

The delivery status report may be fetched herein. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched

i. PROCUREMENTS NOT AWARDED TO LOWEST BIDDER

The procurements which are not awarded to the lowest bidders due to any reason are fetched herein. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched

j. Delayed Payment Report

The delayed payments report is fetched herein. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched

k. Institution Rating Report

The institution rating report is fetched herein. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched

l. Procurement Status

The packages which are in already procured by the institutions, shall be fetched herein as a report. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected
- Procurement Method – Respective Procurement method or ‘All’ is selected
- From Date – Date from which the report is to be fetched
- To Date – Date to which the report is to be fetched

m. Plan Approval Status

The list of plan approvals is fetched herein as a report. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected

n. Users List

The list of users created is fetched herein as a report. The following data shall be entered in order to fetch the report,

- State Name – Respective State or ‘All’ is selected
- Institution – Respective institute under the respective state or ‘All’ is selected

6.4.2.5 Requests/Queries

Any requests or queries sent by the institutions to NPIU or SPIU may be viewed and also the required action may be taken in this section.

6.4.3 Procurement Methods

The NPIU may also carry out the procurement process. In this process, Procurement Coordinator – NPIU will send the plan to CPA for the approval. All the limits and methods shall remain same as that of SPIU and Institutions.

6.4.4 Academic MIS

NPIU is responsible for monitoring all states and therefore all the respective institutions that are centrally or state funded. Academic unit of NPIU covers the MIS and monitors the funding and progress of the institutions registered in TEQIP-III. A nodal officer is assigned to monitor the progress and functioning of institutes and states and reports directly to the CPA.

6.4.4.1 e-Dashboard

6.4.4.1.1 e-Dashboard – Institutions

The e-Dashboard of Institutions shall provide various graphical representations as per the monitoring indicators set by NPIU for institutions.

6.4.4.1.2 e-Dashboard – SPIU

The e-Dashboard of SPIU shall provide various consolidated graphical representations as per the monitoring indicators set by NPIU for institutions under the jurisdiction of the respective states.

6.4.4.1.3 e-Dashboard – NPIU

e-Dashboard of NPIU shall provide the overall performance of all the institutions and SPIU in the graphical format.

6.4.4.2 MIS

The MIS configured and defined by NPIU in the configuration shall be made shown in this tab. The MIS shall be downloadable in HTML as well as in the standard downloadable formats.

6.4.4.3 Monitoring Indicators

TEQIP-III: Results Framework Performance Monitoring Indicators (including DLIs)							
Project Development Objective Indicators							
		Cumulative Target Values					
Indicator Name	Baseline	YR1 TY2017 (July 2016– June 2017)	YR2 TY2018 (July 2017– June 2018)	YR3 TY2019 (July 2018– June 2019)	YR4 TY2020 (July 2019– June 2020)	YR5 TY2021 (July 2020– September 2020)	End Target (September 2020)
1. Average score of students participating in tests designed to measure technical and critical thinking skills ^c		[No target as the test will be designed and piloted during this period]	Test administered for first time and baseline established	Test administered for second time and 5 percent increase over baseline		Test administered for third time and 5 percent increase over previous cycle	

2. NBA-accredited programs in participating institutes (a) UG programs (DLI#1) (b) PG programs Indicator will track increase in percentage points	50%	(a) Focus States -Applied and accredited: 2 Other States - Accredited : 1 (b) Focus States - Applied and accredited: 2 Other States Accredited : 1	(a) Focus States -Applied and accredited: 5 Other States - Accredited: 4 (b) Focus States - Applied and accredited: 5 Other States Accredited: 15	(a) Focus States -Applied and accredited: 8 Other States -Accredited: 8 (b) Focus States - Applied and accredited: 15 Other States Accredited: 8	(a) Focus States -Applied and accredited: 31 Other States - Accredited: 5 (b) Focus States - Applied and accredited: 20 Other States Accredited: 15	(a) Focus States -Applied and accredited: 31 Other States - Accredited: 15 (b) Focus States - Applied and accredited: 20 Other States Accredited: 15	(a) Focus States -Applied and accredited: 31 Other States - Accredited: 15 (b) Focus States - Applied and accredited: 20 Other States Accredited: 15
3. Percentage of students in the final year of UG program from Participating Institutes in Focus States who achieved the qualifying score in the GATE exam (DLI#3)	Below 13% at National level		15%	20%	25%	25%	25%

^c The project will pilot low-stakes testing to measure the progress of students in project institutes. The test will be designed as part of the project and is expected to test the following areas: technical skills in physics, mathematics, and informatics; critical thinking and creativity; and quantitative literacy skills. The exact measure to be tracked and the improvement to be expected will be determined once the test is finalized. The indicator will be considered met if the average score increases by at least 5 percent from the previous test cycle.

Indicator Name	Baseline	Cumulative Target Values					
		YR1 TY2017 (July 2016–June 2017)	YR2 TY2018 (July 2017–June 2018)	YR3 TY2019 (July 2018– June 2019)	YR4 TY2020 (July 2019– June 2020)	YR5 TY2021 (July 2020– September 2020)	End Target (September 2020)
4. Transition rate of UG engineering students from the first year to second year in participating institutes. (Disaggregated by SC/ST groups and gender)	Focus States -All: 50 -SC/ST: 40 -Female: 45 Other States -All: 67 -SC/ST: 54	Focus States -All: 51 -SC/ST: 41 -Female: 46 Other States -All: 68 -SC/ST: 56 -Female: 66	Focus States -All: 53 -SC/ST: 43 -Female: 48 Other States -All: 70 -SC/ST: 58 -Female: 68	Focus States -All: 55 -SC/ST: 45 -Female: 50 Other States -All: 75 -SC/ST: 60 -Female: 70	Focus States -All: 60 -SC/ST: 50 -Female: 55 Other States -All: 77 -SC/ST: 65 -Female: 75	Focus States -All: 60 -SC/ST: 50 -Female: 55 Other States -All: 77 -SC/ST: 65 -Female: 75	Focus States -All: 60 -SC/ST: 50 -Female: 55 Other States -All: 77 -SC/ST: 65 -Female: 75

	-Female: 64						
5. Percentage of students from traditionally disadvantaged groups in total enrolment in participating institutes (a) SC/ST (b) Women	SC/ST: 15 Women: 26	SC/ST: 16 Women: 26.5	SC/ST: 17 Women: 27	SC/ST: 18 Women: 28	SC/ST: 20 Women: 30	SC/ST: 20 Women: 30	SC/ST: 20 Women: 30
Core sector indicators							
1. Direct project beneficiaries (Number) - (Core)	1,469,441	1,496,759	1,541,801	1,614,472	1,690,643	1,690,643	3,210,204 (cumulative)
2. Female beneficiaries (Percentage - Sub-Type: Supplemental) - (Core)	26	26.5	27	28	29	30	30
Quality indicators							
3. Percentage of participating institutes in focus states with UGC autonomy (DLI#2)	42.5	45	50	55	66	66	66
Indicator Name	Baseline	Cumulative Target Values					
		YR1 TY2017 (July 2016–June 2017)	YR2 TY2018 (July 2017–June 2018)	YR3 TY2019 (July 2018– June 2019)	YR4 TY2020 (July 2019– June 2020)	YR5 TY2021 (July 2020– September 2020)	End Target (September 2020)
4. Percentage of PhD students in total enrolment in engineering disciplines in participating institutes Indicator will track percent increase over baseline	Focus States: 1.6 Other States: 2.5	Focus States:10 Other States:10	Focus States:30 Other States:30	Focus States:70 Other States:70	Focus States:100 Other States:100	Focus States:100 Other States:100	Focus States:100 Other States:100
5. Percentage of sanctioned faculty positions in participating institutes	Focus States: 40	Focus States: 42	Focus States: 50	Focus States: 65	Focus States: 85	Focus States: 85	Focus States: 85

filled by regular or contract faculty, contracted according to AICTE norms	Other States: 65	Other States: 66	Other States: 68	Other States: 70	Other States: 85	Other States: 85	Other States: 85
6. Number of faculty trained in either their subject domain, pedagogy, or management in participating institutes		Focus States: 500 Other States: 1,000	Focus States: 1,000 Other States: 2,000	Focus States: 2,500 Other States: 3,000	Focus States: 5,000 Other States: 6,000	Focus States: 5,000 Other States: 6,000	Focus States: 5,000 Other States: 6,000
7. Percentage of externally funded R&D projects and consultancies in total revenue in participating institutes	Focus States: 2 Other States: 10	Focus States: 3 Other States: 11	Focus States: 4 Other States: 12	Focus States: 5 Other States: 13	Focus States: 7 Other States: 15	Focus States: 7 Other States: 15	Focus States: 7 Other States: 15
8. Participation of affiliated institutes in participating ATUs in newly designed research-hub related activities (number)	0	Focus States: 5 Other States: 20	Focus States: 10 Other States: 30	Focus States: 15 Other States: 60	Focus States: 30 Other States: 150	Focus States: 30 Other States: 150	Focus States: 30 Other States: 150
Indicator Name	Baseline	Cumulative Target Values					
		YR1 TY2017 (July 2016–June 2017)	YR2 TY2018 (July 2017–June 2018)	YR3 TY2019 (July 2018– June 2019)	YR4 TY2020 (July 2019– June 2020)	YR5 TY2021 (July 2020– September 2020)	End Target (September 2020)
9. Student, Staff, and Faculty Satisfaction Survey		Report on first round published and action plan prepared		15 percent increase in average satisfaction level over the previous round Report on second round published and action plan prepared		15 percent increase in average satisfaction level over the previous round Report on third round published and action plan prepared	
10. Employer satisfaction with engineers recruited in the past year		First round of employer satisfaction survey conducted		10 percent increase in average satisfaction level over the previous round		10 percent increase in average satisfaction level over the previous round	

		Report on first round published and action plan prepared		Report on second round published and action plan prepared		Report on third round published and action plan prepared	
Indicator Name	Baseline	Cumulative Target Values					
		YR1 TY2017 (July 2016– June 2017)	YR2 TY2018 (July 2017–June 2018)	YR3 TY2019 (July 2018– June 2019)	YR4 TY2020 (July 2019– June 2020)	YR5 TY2021 (July 2020– September 2020)	End Target (September 2020)
11. Development and implementation of GATE as a mandatory exit examination for students of engineering colleges (DLI#4)			AICTE passes an order requiring all final year UG students in AICTE recognized engineering institutes to take GATE	At least 60% (52) of Participating Institutes assist at least 70% of their graduating students in preparing for the GATE	At least 90% (78) Participating Institutes assist at least 75% of their graduating students in preparing for the GATE	At least 90% (78) Participating Institutes assist at least 75% of their graduating students in preparing for the GATE	At least 90% (78) Participating Institutes assist at least 75% of their graduating students in preparing for the GATE
Equity							
12. Number of engineering education institutes in focus states that meet the enabling mechanisms for participation in the project	21	55	87				
System efficiency							
13. Percentage of eligible transactions, in the previous six months, against which funds are released in full to participating institutes by the MHRD, within 10 calendar days of the date of the date on which the participating institute requests the payment	0		50	95	95	95	95

Indicator Name	Baseline	Cumulative Target Values					
		YR1	YR2	YR3	YR4	YR5	End Target

		TY2017 (July 2016– June 2017)	TY2018 (July 2017–June 2018)	TY2019 (July 2018– June 2019)	TY2020 (July 2019– June 2020)	TY2021 (July 2020– September 2020)	(September 2020)
14. Percentage of participating institutes with a BoG, Department Management Committee or equivalent that meets at least 4 times every calendar and which publicly discloses the minutes of all meetings	Focus States: 35 Other States: 60		Focus States: 60 Other States: 80	Focus States: 80 Other States: 95	Focus States: 95 Other States: 95	Focus States: 95 Other States: 95	Focus States: 95 Other States: 95
15. Number of participating ATUs with MIS capable of producing annual report against prescribed indicators	0	MIS designed: Focus States: At least 1 ATU Non-LIS: At least 1 ATU	MIS developed: Focus States: At least 3 ATUs Non-LIS: At least 2 ATUs	MIS functional: Focus States: At least 5 ATUs Non-LIS: At least 3 ATUs	MIS functional: Focus States: At least 5 ATUs Non-LIS: At least 3 ATUs	MIS functional: Focus States: At least 5 ATUs Non-LIS: At least 3 ATUs	MIS functional: Focus States: At least 5 ATUs Non-LIS: At least 3 ATUs
16. Percentage of participating institutes that produce and publish an annual report in the prescribed format in accordance with the requirements set out in the PIP	0	Focus States: 20 Other States: 20	Focus States: 60 Other States: 60	Focus States: 75 Other States: 75	Focus States: 85 Other States: 85	Focus States: 85 Other States: 85	Focus States: 85 Other States: 85
17. Number of participating ATUs in focus states that publicly declare final semester examination results before the start of the next academic year	0		1	3	6	6	6

6.4.4.4 Request and Queries

Any requests or queries sent by the institutions to NPIU by Institutions or SPIU may be viewed and also the required action may be taken in this section.

6.4.4.5 Configuration

NPIU should have an option to select and define the different custom reports as per their requirement. It should be configurable by NPIU for the fields' data in the MIS reports. NPIU shall

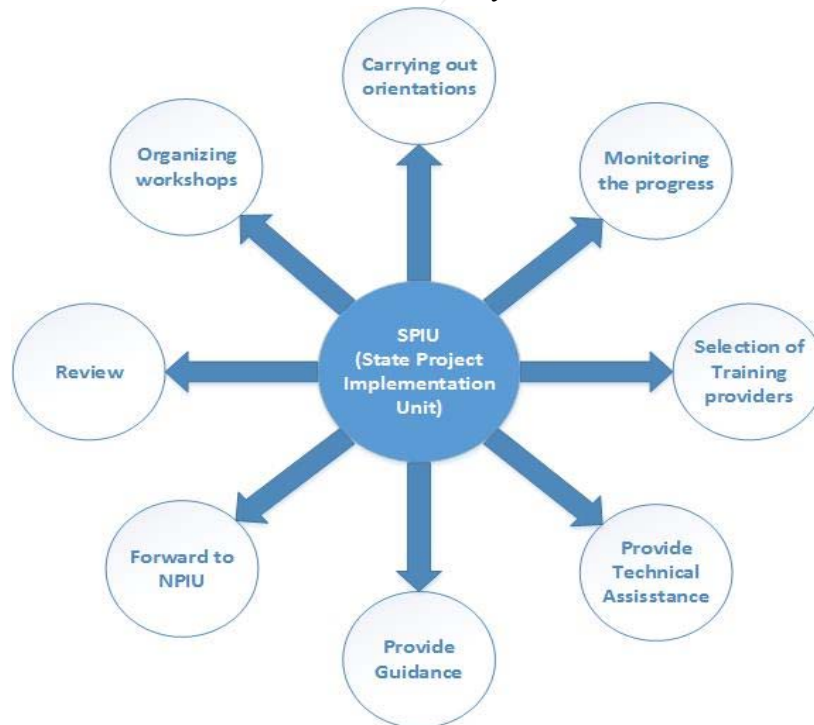
be allowed to set various Performance Monitoring Indicators for the effective monitoring purpose. Also, there should be an option for the NPIU to select which MIS report shall be made visible to institutions/SPUI. Nevertheless, all the MIS's shall be made visible to NPIU.

6.5 SPIU (State Project Implementation Unit)

The Department of the State Government responsible for managing Technical Education will establish a State Project Implementation Unit (SPIU) with adequate staff. The SPIU's are located within the Department of the State Government responsible for Technical Education. The head of SPIU, designated as the **State Project Advisor (SPA)**, will be the Director of Technical Education. The SPA will be assisted by a Project Coordinator and Procurement Coordinator.

6.5.1 Activities Undertaken

Following are the main activities that are undertaken by the SPIU:



All the activities of SPIU shall be for the respective state institutes

Compilation of SPFU

SPFU (State Project Facilitation Unit)



6.5.2 PMSS – SPIU

6.5.2.1 Configuration Module

To access the Configuration Module, click on ‘Configuration’

6.5.2.1.1 Sub Components

‘Sub Component’ is a view only tab. Sub-component(s) is configured by **NPIU**. Following fields can be viewed under this sub tab;

- Allocated Budget
- Budget for Goods
- Budget for Civil Works
- Budget for Services

6.5.2.1.2 Departments

Departments of the institutions under the respective SPIU can be viewed here. The details that are to be captured are as follows,

- Institution Type
- Institutions name
- State
- Code
- Monitoring Agency
- State

- Institute Name
- Address
- Website URL
- Phone No.
- Fax No.
- Email ID
- Director

6.5.2.1.3 Purchase Committee

Purchase Committee for the state can be viewed here. This is being defined by the respective SPIU's.

6.5.2.1.4 State Logo

State logo should be uploaded by the respective states and can be viewed here.

6.5.2.2 User Maintenance

Under this node, institution's user details may be seen. This will show all the users of the respective institution. The details of the users may be seen under the following heads,

Sr. No.	Field Name	Sample Data
1	Full Name	Mohammed Ali Shaikh
2	First Name	Mohammed
3	Middle Name	Ali
4	Last Name	Shaikh
5	User Name	shaikh.mohammed
6	Birth Date	02/03/1978
7	Gender	Male
8	Email	shaikh.mohammed@cslnit.com
9	Phone	020-26789023
10	Address	B289, Shamim Towers, Kload Street
11	City	Mumbai
12	Pin Code	400058
13	Role	Procurement Coordinator(Institution)
14	State	Maharashtra
15	Institution	CSL NIT

On clicking the respective user ID's, the details of the user shall be seen.

6.5.2.3 Procurement Plan

6.5.2.3.1 Purpose

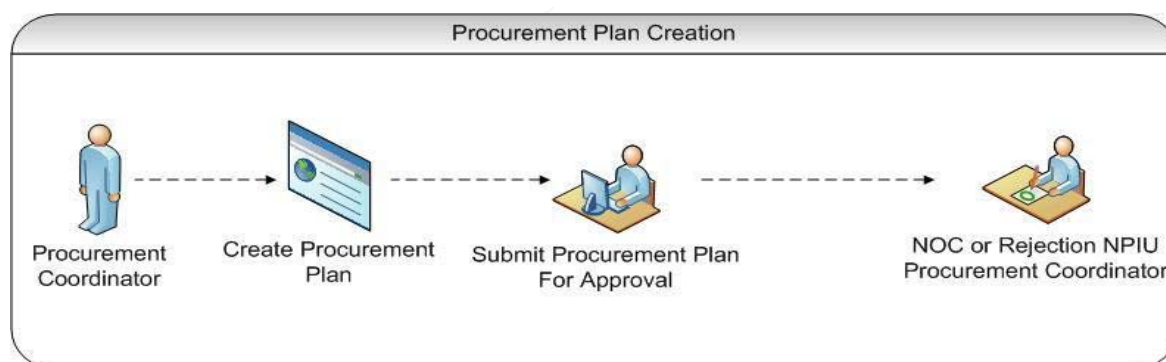
The purpose of the procurement plan is to plan and define all the procurements for the stipulated plan period. Procurement plan is the heart of the PMSS; procurements can be initiated in PMSS only when the procurement plan has been approved. SPIU may also view/evaluate/reject and the plans of institutions under its jurisdiction. It should get the approval for the institution's plan(s) from NPIU.

6.5.2.3.2 Roles

Procurement Coordinator (SPFU) – creates and submits the plan for approval

Procurement Coordinator – NPIU's procurement coordinator who approves the procurement plans

6.5.2.3.3 Process Flow



Planning process can be further segregated in two parts,

a. Procurement Plan Creation

To create all the packages and services those are to be procured in the stipulated plan period. This is being prepared by Procurement Coordinator (SPIU).

To create procurement plan, an option to be selected **Procurement-> Plan-> Prepare/Revise Plan**

To add the details in the procurement plan, following details are to be captured.

Sr. No.	Field Name	Field Description	Sample Data
---------	------------	-------------------	-------------

1	Package Name	Enter Name of Package. A package is group of items to be purchased together. Items belonging to the same expenditure category (Goods, Works or Services) should be grouped together. Proprietary items should be added as separate packages. The system will refer to the package by this name. This name will appear in bidding documents, purchase order/contracts and any other document	Stationary Items
2	Justification	Enter more information about the Package. The description will be displayed and can be changed at the time of actual procurement of the item. This field is not mandatory.	This includes pens, pencils and computer printing papers.
3	Category	Select Expenditure Category of the package – Goods or Civil Works. This is one of the important fields related to the package. Please note that you cannot modify the	Goods
4	Sub Category	Select Expenditure Sub-Category. This dropdown will be populated after you select the category. This is one of the important fields related to the	Equipments
5	Sub Component	Select the sub component for this package	1.2
6	Activity	Mention the activity to which this package is related	Management Capacity Enhancement
7	Is Proprietary	This checkbox will be editable only for Category “Goods” and Sub-Category “Equipments”. Check the checkbox if the package is a	
8	Through DGS & D	Check the checkbox if the package is going to be procured through DGS & D.	
9	Through GeM	Check the checkbox if the package is going to be procured through GeM.	
10	Estimated Financial Sanction Date	Enter date in DD/MM/YYYY format or select date using calendar. You cannot enter past Date. Please enter date on which you should get financial	12/02/2011

Items should be added in the plan created. Minimum one item should be mandatory.

Sr. No.	Field Name	Field Description	Sample Data
1	Item Name	Enter Name of an individual Item This name will appear in bidding documents, purchase order/contracts and any other document wherever list of individual items is displayed.	Pencils
2	Justification	Enter more information about the item. The description will be displayed in bidding documents, purchase order/contracts and any other document wherever list of individual items appears. This field is not mandatory.	HB Pencils
3	Quantity	Enter Quantity of the item to be procured. This is one of the important fields related to the item.	100
4	Est. Cost Per Unit	Enter Estimated Cost Per Unit (.e. Rate) for the item	200
5	Estimated Cost	This is a read-only field. This will get auto-calculated by the system as Quantity * Est. Cost Per Unit.	

To plan procurement of service, another tab should be there to select services and an option to add the plan.

Sr. No.	Field Name	Field Description	Sample Data
1	Service Name	Enter Name of Service to be procured. The system will refer to the package by this name. This name will appear in bidding documents, contracts and any other document related to procurement of this package.	Inventory System
2	Description	Enter more information about the Service to be procured. The description will be displayed and can be changed at the time of actual procurement. This field is not mandatory.	Service will include development of inventory application.
3	Category	This lists only one entry "Services". Select the item from the list. This is one of the important fields related to the package.	Services

4	Sub-Category	Select Expenditure Sub-Category. This dropdown will be populated after you select the category. This is one of the important fields related to the package.	Professional Services
5	Sub Component	Select the sub component for this package	1.2
5	Activity	Mention the activity to which this package is related	Management Capacity Enhancement
6	Service Provider	This dropdown lists two items – Firms and Individual For Services which will be procured from Individual Consultant, select “Individual” from the dropdown. For Services which will be procured from Firms,	Firms
7	Total Estimated Cost	Enter Total Estimated Cost of the service	100000
8	Indicative Procurement Method	After you enter Total Estimated Cost, System will calculate Indicative Procurement Methods applicable for the estimated cost and populate this dropdown. Select appropriate Procurement method from the list.	SSS
9	Estimated Financial Sanction Date	Enter date in DD/MM/YYYY format or select date using calendar. You cannot enter past Date. Please enter date on which you are expected to get internal financial sanction for procurement of this	12/02/2011

b. Procurement Plan Approval

To send the procurement plan for review and approval. The procurement plans of SPIU's and institutions is approved by NPIU's procurement coordinator.

Once the procurement plan is created it has to be sent for approval. SPIU plan will be sent to NPIU for approval. SPIU should submit the plan and NPIU should be able to take action such as Approve or Reject on the plan. When the approving authority approves the plan email will be received by the SPIU users. Once the plan is approved by the approving authorities the status of the plan will change to 'Approved', which can be seen in the Column after the plan title. To view the approving details click on the 'Plan Status' link this

will show the approval stages and comments. If the plan is rejected then status of the plan will be 'Under Clarification'. SPIU users will receive an email notification accordingly. If rejected, click on the plan title. Then click on the 'Rejection Comments' link, which is in the upper bar in the right section and view the rejection comments.

6.5.2.4 Old Plans

The plans revisions done by the institutions/SPIU in the packages from time to time shall be shown under old plans. The details shall be shown in the below format. On click of the package name, the details of the revision shall be displayed.

Category	Package Code	Package Name	Proc. Method	Estimated Cost	Actual Cost	Define Timelines
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6.5.2.5 Institution's Plan Approval

For review and approvals, institutions send the plan to SPIU. Further, the procurement coordinator of SPIU reviews and approves the plan.

The institution plan may be viewed along with the SPIU's own plans. There should be an option to send it further for the approval to NPIU. In case of rejection of the plan, it should be sent back to the institution.

6.5.2.6 Plan Revision

The purpose of the procurement plan revision is to make changes to existing packages/ services or to add new packages/ services. Revised packages/ services can be initiated only when the revised procurement plan has been approved. The procurement plan of the institution, if revised needs to be sent for the approval of the BoG of the institution. SPIU may view the revised plan of the institutions. In case of revision of the plan of SPIU, it may be revised and sent for the approval to NPIU.

Note: When a procurement plan is revised and sent for approval, procurements may still be initiated for those package/ service which are not revised or already approved. However, the package/ service which have been revised cannot be initiated until the procurement plan is approved by BoG.

6.5.2.7 Procurement Process

To perform the procurement of the approved packages/ services, Process node is divided into;

- Initiation
- In Progress
- Prior Reviews
- Completed
- Cancelled

6.5.2.7.1 Initiation

Approved packages/services shall be viewed under **Initiate** section. There should be an option to initiate the plan further. An option to enter the date on which procurement was sanctioned internally, should be there. 'Revise Timelines' link should appear in front of the 'Actual Financial Sanction' date field. Dates should be auto populated based on the Procurement Method and Initiation date. Editing of the dates, may be done, if required.

6.5.2.7.2 In Progress

Initiated procurements are listed under the option **Procurement-> Process-> In Progress**

6.5.2.7.3 Prior Reviews

Procurements which falls above the defined threshold value are listed under the option **Procurement-> Process-> Prior Reviews**.

6.5.2.7.4 Completed

Completed procurements are listed under the option **Procurement-> Process-> Completed**. Option to view the details respective stage should be shown and should be clickable.

6.5.2.7.5 Cancelled

Cancelled procurements are listed under the option **Procurement-> Process-> Cancelled**. Option to view the details respective stage should be shown and should be clickable.

6.5.3 Shopping Methods

6.5.3.1 Shopping Goods

To perform procurement of goods using shopping method. Procurement Coordinator (SPIU) performs the activities. The process flow of Shopping of Goods shall remain same as per the As-Is flow with few changes as described below.



Invitation Letter

In this stage suppliers are added. Invitation letters are generated & sent out to these suppliers. The process to generate the invitation letter shall remain same as that of existing flow. Refer User Manual - SPFU.

Quotation Opening

In this stage the quotation opening is performed and responsive quotations are identified. The process for quotation opening shall remain same as that of existing flow. Refer User Manual - SPFU.

Quotation Evaluation

In this stage evaluation is performed and lowest evaluated supplier is identified. The process for quotation evaluation shall remain same as that of existing flow. Refer User Manual - SPFU.

Recommendation of Award

In this stage appropriate responsive supplier can be recommend. If the lowest evaluated responsive supplier (L1) is not acceptable by the committee then another supplier can be selected in this stage. The process for recommendation of award shall remain same as that of existing flow. Refer User Manual - SPFU.

Purchase Order

In this stage PO is generated and Payment terms are updated with expected completion and payment dates. The process for updating the Purchase Order Details shall remain the same as that of the existing flow in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)

- **Krishi Kalyan Tax (in percentage)** The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

GRN & Payments

In this stage Goods received details are captured and Payment tracking is performed. The process for recommendation of award shall remain same as that of existing flow. Refer User Manual - SPFU.

6.5.3.2 Shopping Works

To perform procurement of civil works using shopping method. Procurement Coordinator (SPIU) performs the activities. Post review of the plan may be required.

Prerequisite

- Package to be procured should fall under category civil works.
- Value of the package should be \leq USD 100,000

Process Flow

The process flow of Shopping of Works shall remain same as per the As-Is flow with few changes as described below.



Invitation Letter

In this stage contractors are added. Invitation letters are generated & sent out to these contractors. The process to generate the invitation letter shall remain same as that of existing flow. Refer User Manual - SPFU.

Quotation Opening

In this stage the quotation opening is performed and responsive quotations are identified. The process for Quotation Opening shall remain same as that of existing flow. Refer User Manual - SPFU.

Quotation Evaluation

In this stage evaluation is performed and lowest evaluated contractor is identified. The process for Quotation Evaluation shall remain same as that of existing flow. Refer User Manual - SPFU.

Recommendation of Award

In this stage appropriate responsive supplier can be recommend. If the lowest evaluated responsive contractor (L1) is not acceptable by the committee then another supplier can be selected in this stage. The process for Recommendation of Award shall remain same as that of existing flow. Refer User Manual - SPFU.

Letter of Acceptance

In this stage Letter of Acceptance is generated and acceptance is taken from the contractor. The process for Letter of Acceptance shall remain same as that of existing flow. Refer User Manual - SPFU.

Generation of WO

In this stage Work Order is generated and Payment terms are updated with expected completion and payment dates. The process for generating the WO shall remain the same as that of the existing flow. Payment terms and conditions shall also remain the same in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

WCC & Payments

In this stage Work completion details are captured and Payment tracking is performed. The process for WCC & Payments shall remain same as that of existing flow. Refer User Manual - SPFU.

6.5.3.3 Direct Contracting

To perform procurement of goods/civil works using Direct Contracting method. Procurement Coordinator (SPIU) performs the activities. Post review of the plan may be required.

Prerequisite

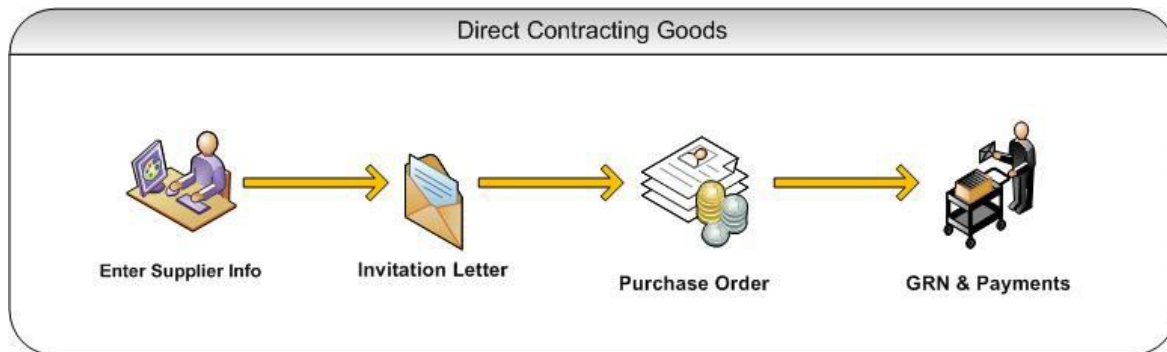
- Package to be procured should fall under category goods/ civil works.
- Value of the package should be
 - <=USD 50,000 for Proprietary Equipment with a post review with respect to goods
 - >=USD 50,000 for Proprietary Equipment with a prior review with respect to goods
 - <=USD 1,000 for civil works.

Process Flow

Direct Contracting is similar to Shopping except;

- Quotations are invited from only one supplier/ contractor. Thus the condition on minimum three suppliers/ contractors does not exist for Direct Contracting.

Quotation Opening and Quotation Evaluation steps are not present for Direct Contracting.



Invitation Letter

In this stage contractors are added. Invitation letters are generated & sent out to these contractors. The process to generate the invitation letter shall remain same as that of existing flow. Refer User Manual - SPFU.

Purchase Order

In this stage PO is generated and Payment terms are updated with expected completion and payment dates. The process for updating the Purchase Order Details shall remain the same as that of the existing flow in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

GRN & Payments

6.5.3.4 In this stage Goods received details are captured and Payment tracking is performed. The process for recommendation of award shall remain same as that of existing flow. Refer User Manual - SPFU.DGS & D

DGS & D flow is similar to Direct Contracting except;

- Rate Contract No., RC Item No. and Model No. have to be mentioned for the item(s).
- Instead of invitation letter a letter of enquiry is generated.

DGS&D rate contract may be used as framework agreement provided by WorldBank. This is indicative and subject to change as per guidelines of WorldBank to be issued in this regard.

6.5.3.5 GeM – Government e Marketplace

GeM flow is similar to Direct Contracting except;

- Contract No., Item No., Quantity Required, and Model No. have to be mentioned for the item(s).
- Instead of invitation letter, an authorization letter is to be generated
- On processing of the complete shopping procedure, GeM demand No. shall be entered in the system.

Prerequisite

For the shopping method at GeM, the following is required by the Govt. users,

- Aadhar Number
- Mobile No.
- Official Mail
- Class 3 Digital Signature
- Registration on GeM.

Value of the package should be

- ≤USD 30,000 with a post review
- ≥USD 30,000 with a prior review

6.5.4 Competitive Bidding Method

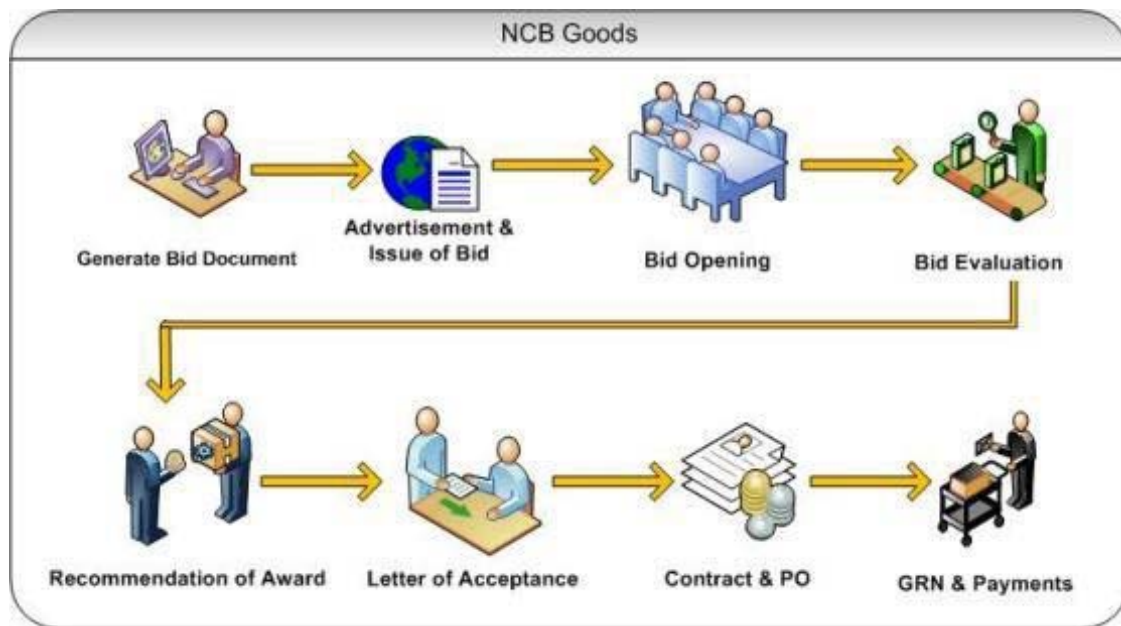
6.5.4.1 NCB Goods

To perform procurement of goods using NCB method.

- Procurement Coordinator (SPIU) – Performs Prior review, when applicable. All NCB's regardless of value are to be prior reviewed at SPIU
- Procurement Coordinator – NPIU's procurement coordinator, Performs Prior review, when applicable.

Prerequisite

- Package to be procured should fall under category goods.
- Value of the package should be ≥ USD 2,000,000 and ≤ USD 3,000,000.
 - For value range US\$ 2,000,000 up to US\$ 3,000,000, prior review is done by NPIU.
 - For value range <US\$ 2,000,000, post review is done by NPIU/WorldBank.



Generation of Bid

In this stage Standard Bidding Document is generated. The process to generate the bidding document shall remain same as that of existing flow. Refer User Manual - SPFU.

Advertisements & Issue of Bids

In this stage tender is floated and info of supplier purchasing bid is captured, if available. The process for advertisements and issue of bids shall remain same as that of existing flow. Refer User Manual - SPFU.

Bid Opening

In this stage Bid opening is performed and responsive bids are identified. The process of bid opening shall remain same as that of existing flow. Refer User Manual - SPFU.

****We may also introduce online tendering system in this process.**

Bid Evaluation

In this stage evaluation is performed and lowest evaluated bidder is identified. The process for bid evaluation shall remain same as that of existing flow. Refer User Manual - SPFU.

Recommendation of Award

In this stage appropriate responsive bidder can be recommend. If the lowest evaluated responsive bidder (L1) is not acceptable by the committee then another bidder can be selected in this stage. The process of Recommendation of award shall remain same as that of existing flow. Refer User Manual - SPFU.

LOA, Contract Award and PO

In this stage LOA, Contract Award and PO are generated and Payment terms are updated. The process for generation of LOA, Contract Award and PO shall remain same as that of existing flow. Refer User Manual - SPFU. Payment terms and conditions shall also remain the same in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

GRN & Payments

In this stage Goods received details are captured and Payment tracking is performed. The process for GRN & Payments shall remain same as that of existing flow. Refer User Manual - SPFU.

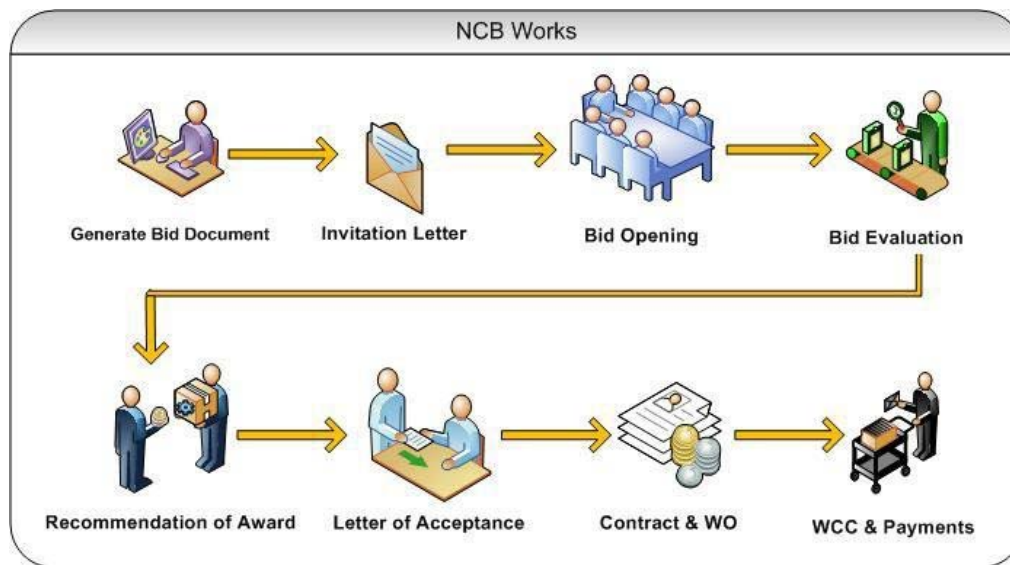
6.5.4.2 NCB Works

To perform procurement of civil works using NCB method.

- Procurement Coordinator (SPIU) – Performs Prior review, when applicable. All NCB's regardless of value are to be prior reviewed at SPIU
- Procurement Coordinator – NPIU's procurement coordinator, Performs Prior review, when applicable.

Prerequisite

- Package to be procured should fall under category goods.
- Value of the package should be \geq USD 10,000,000 and \leq USD 40,000,000.
 - For value range \geq US\$ 10,000,000 up to US\$ 40,000,000, prior review is done by NPIU.
 - For value range $<$ US\$ 10,000,000, post review is done by NPIU/WorldBank.



Generation of Bid

In this stage Standard Bidding Document is generated. The process to generate the bidding document shall remain same as that of existing flow. Refer User Manual - SPFU.

Advertisements & Issue of Bids

In this stage tender is floated and info of contractor purchasing SBD is captured, if available. The process for advertisements and issue of bids shall remain same as that of existing flow. Refer User Manual - SPFU.

Bid Opening

In this stage Bid opening is performed and responsive bids are identified. The process of bid opening shall remain same as that of existing flow. Refer User Manual - Institutions.

****We may also introduce online tendering system in this process.**

Bid Evaluation

In this stage evaluation is performed and lowest evaluated bidder is identified. The process for bid evaluation shall remain same as that of existing flow. Refer User Manual - SPFU.

Recommendation of Award

In this stage appropriate responsive Contractor can be recommend. If the lowest evaluated responsive Contractor (L1) is not acceptable by the committee then another Contractor can be selected in this stage. The process of Recommendation of award shall remain same as that of existing flow. Refer User Manual - SPFU.

LOA, Contract Award and PO

In this stage LOA, Contract Award and PO are generated and Payment terms are updated. The process for generation of LOA, Contract Award and PO shall remain same as that of existing flow. Refer User

Manual - Institutions. Payment terms and conditions shall also remain the same in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

WCC & Payments

In this stage Work completion details are captured and Payment tracking is performed. The process for GRN & Payments shall remain same as that of existing flow. Refer User Manual - SPFU.

6.5.4.3 ICB – International Competitive Bidding

To perform procurement of goods using ICB method. Procurement Coordinator (institution) will initiate the process.

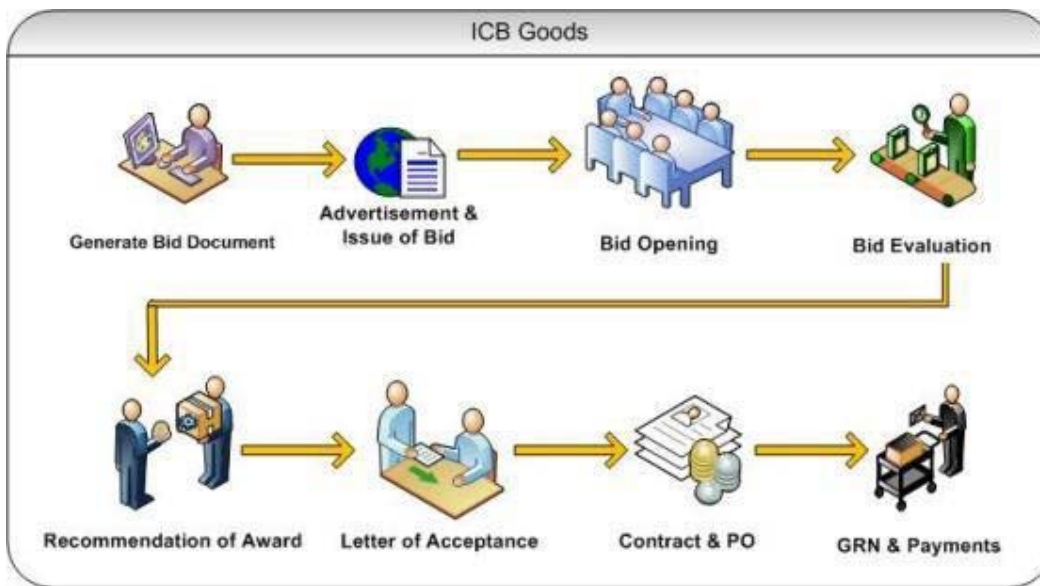
Prerequisite

- Package to be procured should fall under category goods.

Process Flow

Steps for ICB are same as NCB except;

- At the advertisement stage ‘International site details’ and ‘UNDB’ published data can be inputted.
- At every stage World Bank prior review is required thus after every stage package will go for World Bank review.



6.5.4.4 LIB Method

To perform procurement of goods using LIB method, Procurement Coordinator (institution) will initiate the process.

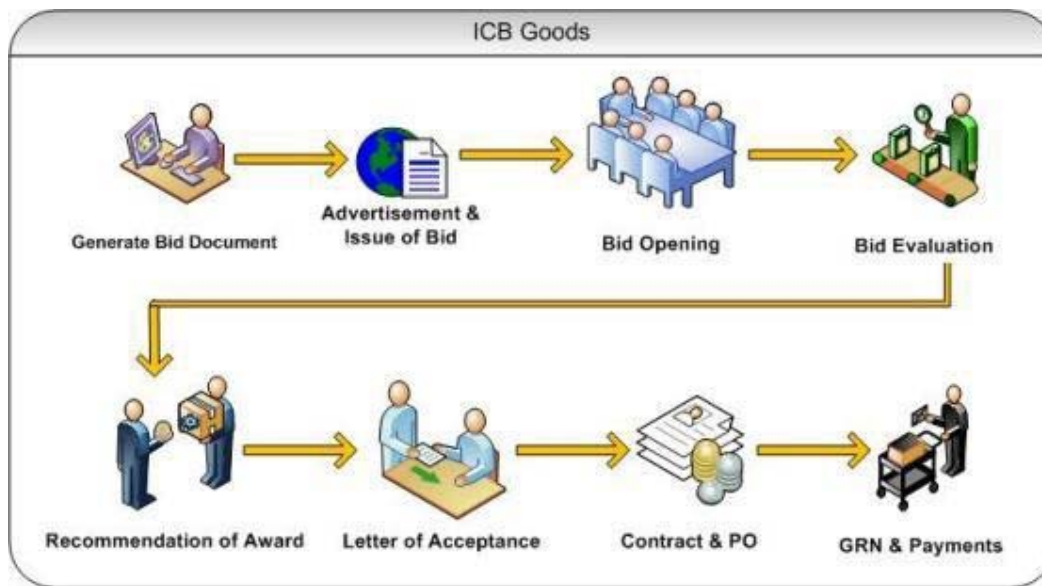
Prerequisite

- Package to be procured should fall under category goods.

Process Flow

Steps for LIB are same as ICB except;

- Advertisement is not done in LIB, it is done by direct invitation.



6.5.5 Services Method

6.5.5.1 Quality and Cost Based Selection (QCBS)

QCBS is most generally used method for selecting service providers. QCBS method can be used for selecting providers for Research contracts, professional services, training, workshops and fellowships. Procurement Coordinator (SPIU) initiates and carries out the process of selection of providers and also reviews the procurement if submitted to him for prior review.

Prerequisite

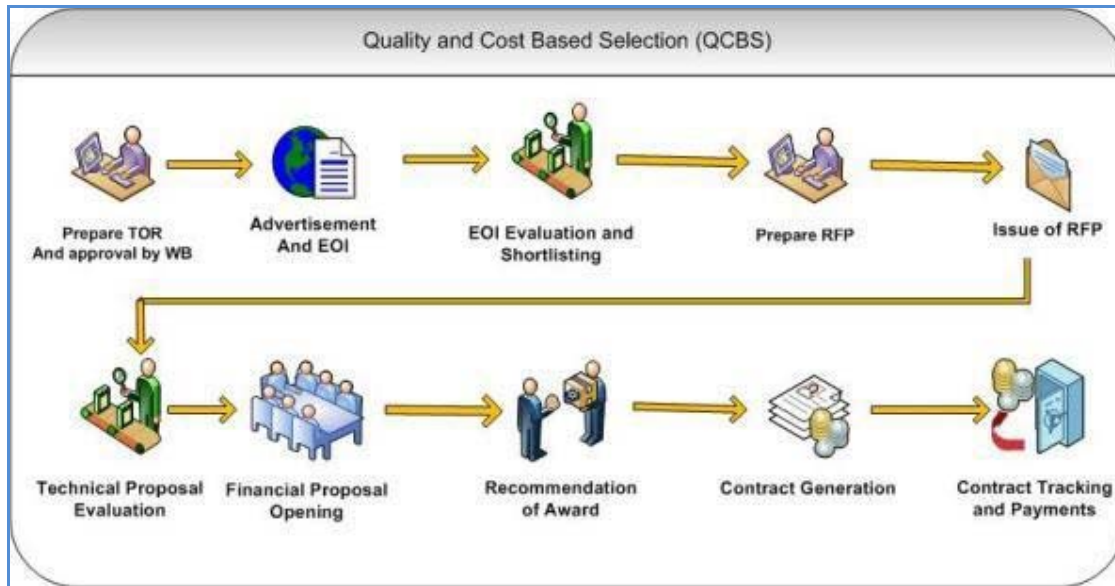
- Financial Sanction should be obtained for procurement of the service.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.

Prior Review Arrangements

- Services (other than consultancies) and IT systems: All contracts more than or equal to US\$1 million equivalent;
- Value of the package should be \geq USD 1,000,000 with prior review.*
- Value of the package should be $<$ USD 1,000,000 with post review.*
 - The review is being done by NPIU/WorldBank.

*As per the terms and conditions provided by the bank at the time of execution for state funded and centrally funded institutions.

Process Flow



Generation of ToR

In this stage activities related to TOR approval are performed. Technical Evaluation Committee will be defined in this stage. This committee will be involved in evaluation of technical proposals submitted by the consultants. The process for generation of ToR shall remain same as that of existing flow. Refer User Manual - SPFU.

Advertisement and Issue of EOI

In this stage Advertisement related activities are performed. The process for Advertisement and Issue of EOI shall remain same as that of existing flow. Refer User Manual - SPFU.

EOI Opening and Shortlisting of Consultants

In this stage the EOI opening is performed and responsive consultants are identified. The process for EOI Opening and Shortlisting of Consultants shall remain same as that of existing flow. Refer User Manual - SPFU.

RFP Preparation

In this stage the required information for RFP is accepted and RFP document is generated. The process for RFP Preparation shall remain same as that of existing flow. Refer User Manual - SPFU.

Issue of RFP

In this stage invitation letters are generated for shortlisted consultants and RFP document is issued to them. Pre-proposal meeting details are also recorded in this stage. The process for Issue of RFP shall remain same as that of existing flow. Refer User Manual - SPFU.

Technical Evaluation

In this stage Technical Proposal are evaluated and technical scores are calculated for the Proposals. The process for Technical Evaluation shall remain same as that of existing flow. Refer User Manual - SPFU.

Combined Evaluation

In this stage combined evaluation of the technical and financial proposals submitted by the consultants will be performed. The process for Combined Evaluation shall remain same as that of existing flow. Refer User Manual - SPFU.

Recommendation and Contract Generation

In this stage recommendation of award meeting details and negotiation meeting details are recorded in the system. If negotiations are successful, contract will be generated. The process for Recommendation and Contract Generation shall remain same as that of existing flow. Refer User Manual - SPFU.

Award of Contract and Payments

This is last stage of QCBS process. In this stage Contract sign date is entered and delivery dates are calculated. Actual Payment information is entered into the system against each payment milestone. 'Contract Award and Payments' tab is selected by default. The process for Award of Contract and Payments shall remain same as that of existing flow. Refer User Manual - SPFU.

6.5.5.2 Fixed Budget Selection (FBS)

FBS method can be used for selecting providers for Research contracts, professional services, training, workshops and fellowships. This method is used when estimated budget for the procurement has been fixed. Consultants who has quoted price within the indicated budget are evaluated. Procurement Coordinator (SPIU) initiates and carries out the process of selection of providers and also reviews the procurement if submitted to him for prior review.

Prerequisite

- Indicative Budget should be finalized.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at Institution, SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.

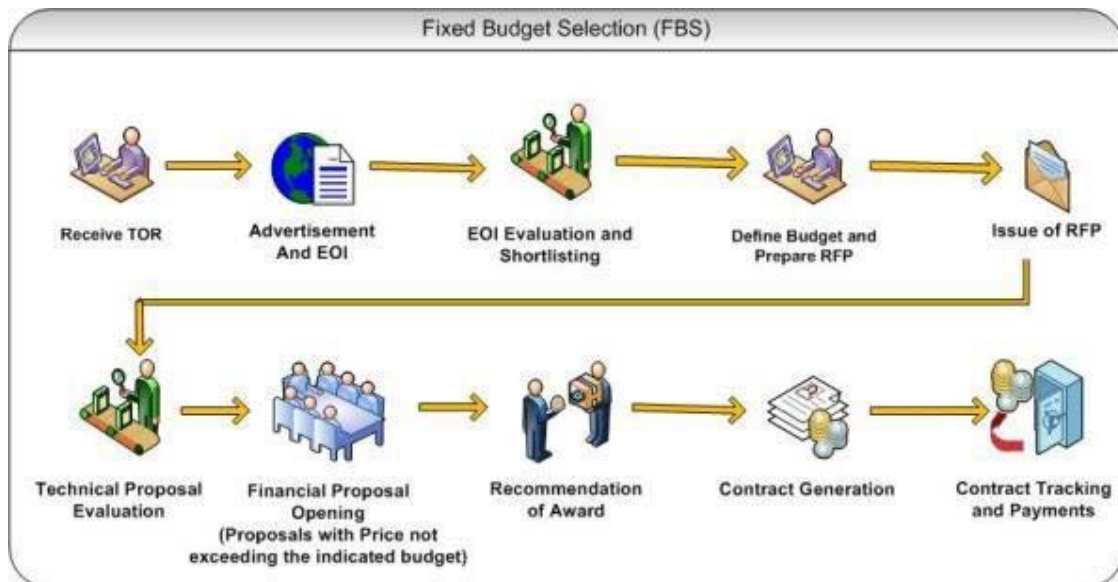
Prior Review Arrangements

- Services (other than consultancies) and IT systems: All contracts more than or equal to US\$1 million equivalent;
- Value of the package should be \geq USD 1,000,000 with prior review.*
- Value of the package should be $<$ USD 1,000,000 with post review.*
 - The review is being done by NPIU/WorldBank.

*As per the terms and conditions provided by the bank at the time of execution for state funded and centrally funded institutions.

Process Flow

Procurement using FBS method will follow same stages as QCBS method with few variations as mentioned below,



RFP Preparation

Available budget for procurement to be in a separate specified paragraph 3.3(b). In QCBS, this paragraph has details about estimated duration of the contract in person months as mentioned in the user manual – SPFU.

Combined Evaluation

Financial proposal Evaluation will be carried only for proposals which have quoted price within indicated budget. After the step “Enter Financial Proposal Opening Data”, Proposals exceeding the indicated budget shall be marked as technically non-responsive.

A Consultant who has obtained the highest technical score shall be selected and displayed as recommended consultant.

6.5.5.3 LCS – Least Cost Selection

LCS method can be used for selecting Consultants for assignments of a standard routine nature like audits, engineering design of non-complex works etc. Consultant Firm which is technically responsive and has quoted lowest price of all consultants is selected. Procurement Coordinator (SPIU) initiates and carries out the process of selection of providers and also reviews the procurement if submitted to him for prior review.

Prerequisite

- Indicative Budget should be finalized.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.

Prior Review Arrangements

- Services (other than consultancies) and IT systems: All contracts more than or equal to US\$1 million equivalent;
 - Value of the package should be \geq USD 1,000,000 with prior review.*
 - Value of the package should be $<$ USD 1,000,000 with post review.*
- The review is being done by NPIU/WorldBank.
-

Process Flow

Procurement using LCS method will follow same stages as QCBS method with few variations as mentioned below,



Combined Evaluation

System doesn't perform combined evaluation. A Consultant who has scored "minimum" qualifying technical score (% specified in RFP document) and has lowest quoted price shall be selected and displayed as recommended consultant.

6.5.5.4 Consultant Qualification Selection (CQS)

CQS method can be used for selecting Consultants for assignments of a standard routine nature like audits, engineering design of non-complex works etc. Consultant Firm which is technically responsive and has quoted lowest price of all consultants is selected. Procurement Coordinator (SPIU) initiates and carries out the process of selection of providers.

Prerequisite

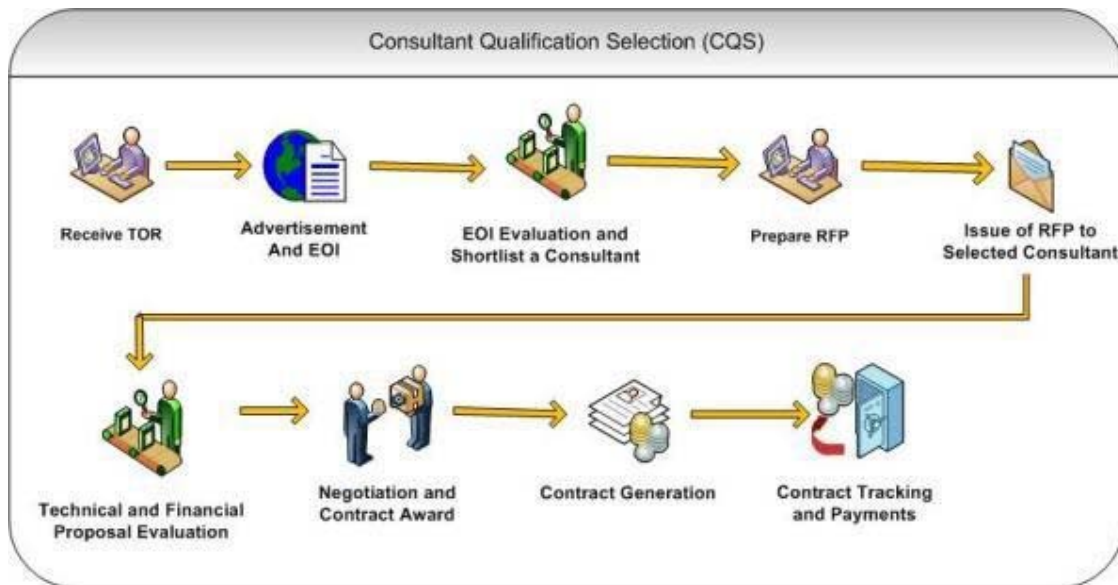
- Indicative Budget should be finalized.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at Institution, SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.
- Value of the package should be \leq USD 300,000

Prior Review Arrangements

Post review may be done for the CQS.

Process Flow

Procurement using CQS method will follow same stages as QCBS method with few variations as mentioned below,



EOI Opening & Shortlisting of Consultants

On step 'Shortlisting of Consultants', only one consultant will shortlisted and will be issued RFP. Technical and Financial Evaluation will be done for only one consultant.

6.5.5.5 Single Source Selection – SSS

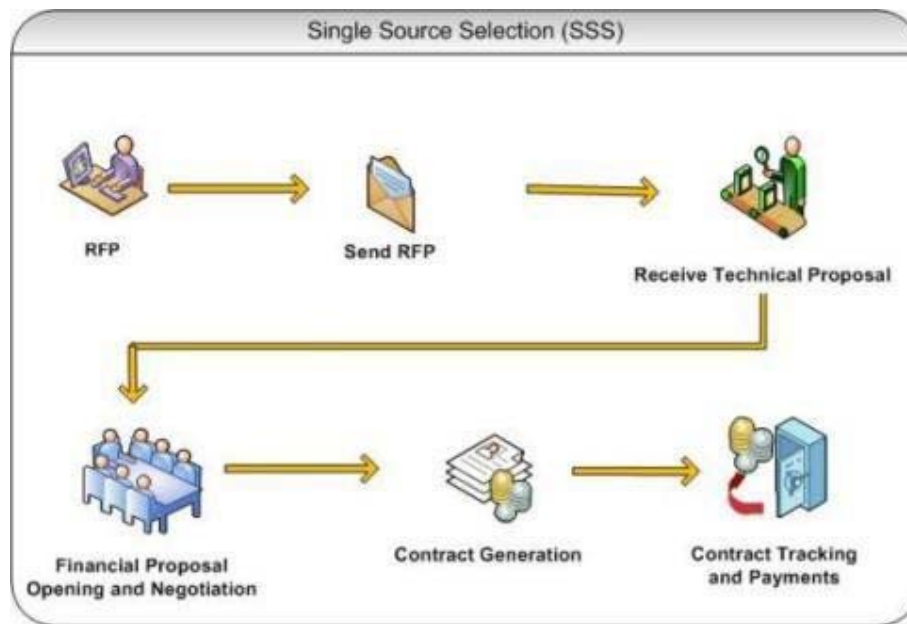
This method is used for obtain services from individual consultant using Single Source Selection. Procurement Coordinator (SPIU) initiates and carries out the process of selection of providers and also reviews the procurement if submitted to him for prior review. SSS method can be used for selecting consulting firms only if it presents a clear advantage over competition due to various reasons like continuation of same work, Rapid selection is necessary, small assignment, or the consultant has experience of exceptional significance of the assignment. As this is not competitive method of selection, technical or financial evaluation will not be carried out.

Prerequisite

- Justification for selection of the consultant should be documented and duly signed.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at Institution, SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.

- Value of the package \geq USD 50,000, a prior review is required.
- Value of the package $<$ USD 50,000, post review is required.

Process Flow



Generation of TOR

The steps on this stage are similar to QCBS except few variations. There should be an option **'Upload/View Consultant Justification'**. User can select and delete the document that has been uploaded in current stage of the procurement. Refer User Manual - SPFU.

RFP Preparation

The steps on this stage are similar to QCBS except few variations;

On "Instruction to Consultants" popup page, few fields are not displayed

- Min. Score for Technical Proposal
- Weightage for technical proposal
- Weightage for financial proposal

Issue of RFP

The steps on this stage are similar to QCBS except that RFP will be issued to only one consultant in case of SSS.

Recommendation and Contract Generation

In this stage recommendation of award meeting details and negotiation meeting details are recorded in the system. If negotiations are successful, contract will be generated. Refer User Manual - SPFU.

Award of Contract and Payments

The steps on this stage are similar to that of QCBS procurement method. Refer User Manual - SPFU.

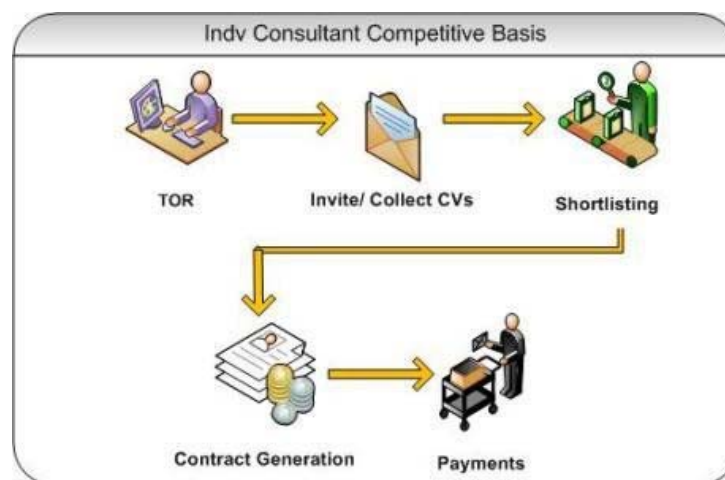
6.5.5.6 Individual Consultants – Competitive Method

This method is used to obtain services from individual consultants using competitive bidding. Procurement Coordinator (SPFU) – initiates and carries out the process of selection of providers.

Prerequisite

- Financial Sanction should be obtained for procurement of the service.
 - TOR (Terms of References) should be prepared and reviewed by reviewing authorities.
 - Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
 - Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the firms based on the evaluation criteria given in the RFP document.
 - Value of the package should be \geq USD 300,000 with prior review.*
 - Value of the package should be $<$ USD 300,000 with post review.*
- The review is being done by NPIU/WorldBank.

Process Flow



TOR

In this stage activities related to TOR approval are performed. Technical Evaluation Committee will be defined in this stage. This committee will be involved in evaluation of technical proposals submitted by the consultants. For the process flow, refer User Manual – SPFU

Shortlisting

In this stage short-listing of firms will be performed. For the process flow, refer User Manual – SPFU.

Contract Generation

In this stage the contract terms will be defined and contract will be generated. For the process flow, refer User Manual – SPFU.

Track Payment

This is last stage of the process. In this stage information about actual Payment will be entered into the system. For the process flow, refer User Manual – SPFU.

6.5.5.7 Individual Consultants – SSS

This method is used for obtain services from individual consultant using Single Source Selection. Procurement Coordinator (SPFU) – initiates and carries out the process of selection of providers.

Prerequisite

- Justification for the consultant should be prepared and duly signed.
- Other Prerequisites are similar to Individual Consultant – Competitive method.
- Value of the package should be \geq USD 300,000 with prior review.*
- Value of the package should be $<$ USD 300,000 with post review.*
The review is being done by NPIU/WorldBank.

Process Flow



TOR

The steps on this stage are similar to Individual Consultant – Competitive method.

Nominate Consultant

In SSS method, there will be no short-listing process. Instead, justification for selection of consultant will be uploaded in the system.

Contract Generation

The steps on this stage are similar to Individual Consultant – Competitive method.

Track Payment

The steps on this stage are similar to Individual Consultant – Competitive method.

6.5.6 Academic MIS

SPIU is responsible for monitoring all the institutions that are state funded. SPIU shall cover the MIS and monitors the funding and progress of the institutions registered in TEQIP-III. They will also enter the respective data which will therefore be monitored by NPIU.

6.5.6.1 e-Dashboard

The e-Dashboard of SPIU shall provide various consolidated graphical representations as per the monitoring indicators set by NPIU for institutions under the jurisdiction of the respective states. It will also focus on the data entered by the respective states.

6.5.6.2 MIS

The MIS configured and defined by NPIU for the SPIU's in the configuration shall be made shown in this tab. The MIS for both SPIU and respective institutions under their jurisdiction should be downloadable. The MIS shall be downloadable in HTML as well as in the standard downloadable formats.

6.5.6.3 Monitoring Data

Following are the screens and the respective sub menu of the To Be MIS system. SPIU's will enter the data with respect to each section. The captured data shall be populated in the MIS generated from the system and NPIU will have the option to monitor the same by the means of MIS that shall be defined.

NAVIGATION AIDE FOR SPIUs

No.	Section	Sub-section/Screen	Entry Fields
1	State Project Implementation Unit	SSC Composition	Date of SSC Constitution
			Upload Govt. Order
			SSC Member
			Name
			Designation
			Organization/Department
2		SSC Meetings	Purpose of Meeting
			Type of Meeting
			Date of Meeting
			Meeting Agenda (Upload)
			Meeting MOM (Upload)
3		Review Meetings with institutions	Purpose of Meeting
			Type of Meeting
			Date of Meeting
			Meeting Agenda (Upload)
			Meeting MOM (Upload)
4		Implementation of Reforms	Document Type (General/Specific)
			General-(Private Unaided/Govt. Aided/University)
			Specific-Institution Name
			Reform
	Letter/ Order No		
	Date of Issue		
	Upload		
5	Facilitating Faculty Development Through Pedagogical Training	Pedagogical Training Type	
		Institution Type (TEQIP/NON TEQIP)	
		State	
		TEQIP/NON TEQIP Institution Name	

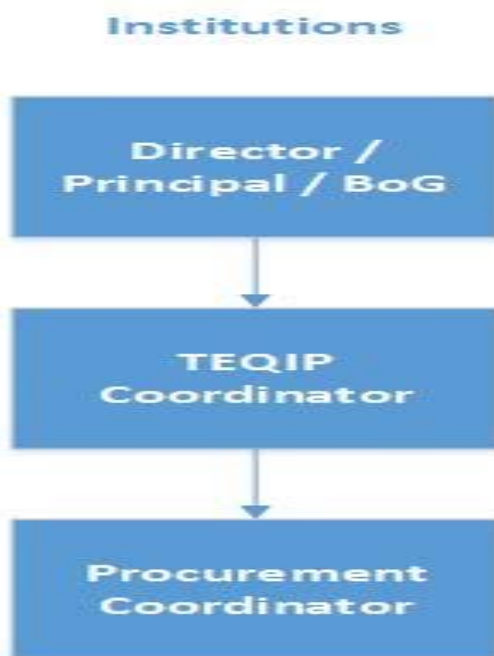
6		Capacity Building to Strengthen Management	Venue
			Date From
			Date To
			Training Status
			Total Attendees
			Training Provider
			Non TEQIP - No. of Parallel Sessions
			Upload Attendance Sheets
			Management Capacity Building
			Title of Proposal
			Date of Submission to NPIU
			Date of Approval by NPIU
			Approved Cost
			Upload Proposal

6.5.6.4 Request and Queries

Any requests or queries sent by the institutions to SPIU or if SPIU needs to submit any query to NPIU, it may be viewed in this section and also the required action may be taken.

6.6 Institutions

6.6.1 Institutional Level Implementation Arrangements



The Project at the Institutional level will be managed by two bodies

- The Board of Governors (BoG)
- An Institutional TEQIP Unit.

6.6.1.1 Institutional TEQIP Unit

The Unit, headed by Institutional Project Director (IPD), will be responsible for implementation of the Institutional project. He/she is to be assisted by a Senior Professor called as Institutional Project Coordinator (IPC) for coordinating the activities of the institutional project.

6.6.2 PMSS - Institutions

6.6.2.1 Basic Configuration

Institutes are configured by NPIU. The fields for the configuration of the institutes shall include,

- Department Code*
- Institution Type*^
- Monitoring Agency*^
- Institute Name*
- State^
- Address
- Website URL
- Phone Number*
- Fax Number
- Email ID
- Director

^The fields are non-editable by the institutions and are to be freezed.

*Mandatory fields

6.6.2.2 Configuration Module

Institutes may be able to edit or view the various configurations as below,

6.6.2.2.1 Sub Components

‘Sub Component’ is to be a view only tab for institutions. Sub-component(s) is configured by NPIU. Following fields can be viewed by Institutions under this tab;

- **Allocated Budget**

- **Budget for Procurement**
- **Budget for Civil Works**
- **Budget for Services**
- **Estimated left over budget for Procurement** – The budget as per each project cost, used shall be subtracted from the budget defined for Procurement by NPIU
- **Estimated left over budget for Civil Works** – The budget as per each project cost, used shall be subtracted from the budget defined for Civil Works by NPIU
- **Estimated left over budget for Services** – The budget as per each project cost, used shall be subtracted from the budget defined for Services by NPIU

6.6.2.2.2 Departments

Departments are configured by NPIU/**respective institutes**, whereas Institution may **view** and **change** here few details as per their requirement. The fields shall include,

- **Department Code***
- **Department Name***
- **Department Head**

*Mandatory fields

6.6.2.2.3 Purchase Committee

Institutes should be able to enter the details of the purchase committee by entering the following details,

- **Committee Member Name***
- **Department Name (Drop down)***
- **Designation**
- **Role in purchase committee**

*Mandatory fields

6.6.2.2.4 Institution Logo

Institution's logo should be uploaded in here.

- **Browse File (File upload option)**
- **Description**

6.6.2.3 User Maintenance

User Maintenance shall be visible in the following Tabular form with the option to sort each column.

Name	User ID	Role/Designation	SPIU	Institution
------	---------	------------------	------	-------------

- **Name** – User Name
- **User ID** – User ID for the user
- **Role/Designation** – The designation or role assigned to the respective users.
- **SPIU** – Name of the State under whose jurisdiction the institute is listed.
- **Institution** – Name of the institution.

On click of the User ID, the following details should be populated which are to be non-editable,

- **Name**
- **First Name**
- **Middle Name**
- **Last Name**
- **User ID**
- **Birth Date**
- **Gender**
- **Email ID**
- **Phone**
- **Address**
- **PIN Code**
- **Role**
- **Designation**
- **State**
- **Institution**

6.6.2.4 Procurement Plan

6.6.2.4.1 Purpose

The purpose of the procurement plan is to plan and define all the procurement requirement for the stipulated plan period. Procurement plan is the heart of the PMSS; procurements can be initiated in PMSS only when the procurement plan has been approved.

6.6.2.4.2 Process Flow

Planning process can be further segregated in two parts,

a. Procurement Plan Creation

Purpose

To create all the packages and services those are to be procured in the stipulated plan period. This is to be created by Procurement Coordinator at institution level. *<Also refer User Manual for details>*

Prerequisite

- Sub component(s) should have been added against the institution – Select option Configuration-> Master-> Institutions. Click on the institution name and check the ‘Sub Components’ subtab in the below section. If no sub components are added then NPIU needs to be contacted.
- Departments should be defined – Select option Configuration-> Master-> Institutions. Click on the institution name and check the ‘Departments’ subtab in the below section.

To create procurement plan, select option **Procurement-> Plan-> Prepare/ Revise Plan**

Title	Current Stage	Sub-component	Plan Created Date	Plan Approval Date	Approved By
-------	---------------	---------------	-------------------	--------------------	-------------

- **Title** – Title of the plan
- **Current Stage** – Current Stage where the plan is pending. This may be Under Preparation/Submitted to SPIU/Submitted to NPIU/Approved
- **Sub-component** – The sub-component in which the Institute has been registered.
- **Plan Created Date** – Date of plan was created.
- **Plan Approval Date** – Date on which the plan is approved
- **Approved By** – Plan is approved by – SPIU/NPIU

Option to click the Procurement Plan Title and to add it further, following details should be captured. For further details, refer User Manual – Institutions.

Sr. No.	Field Name	Field Description	Sample Data
1	Package Name	<p>Enter Name of Package. A package is group of items to be purchased together. Items belonging to the same expenditure category (Goods, Works or Services) should be grouped together. Proprietary items should be added as separate packages. The system will refer to the package by this name. This name will appear in bidding documents, purchase order/contracts and any other document related to procurement of this package.</p>	Stationary Items
2	Justification	<p>Enter more information about the Package. The description will be displayed and can be changed at the time of actual procurement of the item. This field is not mandatory.</p>	This includes pens, pencils and computer printing papers.
3	Category	<p>Select Expenditure Category of the package – Goods or Civil Works. This is one of the important fields related to the package. Please note that you cannot modify the category after you save. After you select the category, 'Item Details' section will appear.</p>	Goods

4	Sub-Category	Select Expenditure Sub-Category. This dropdown will be populated after you select the category. This is one of the important fields related to the package.	Equipments
5	Activity	Select Project Activity This dropdown will list all activities associated with the sub-component. There is a small box in front of this field. If required, Click on this box to see the complete name of the 'Activity' This is one of the important fields related to the package.	Institutional Management Capacity Enhancement
6	Is Proprietary	This checkbox will be editable only for Category "Goods" and Sub-Category "Equipment's". Check the checkbox if the package is a proprietary item. This is one of the important fields related to the package.	
7	Through DGS & D	Check the checkbox if the package is going to be procured through DGS & D	
8	Through GeM	Check the checkbox if the package is going to be procured through DGS & D	
9	Estimated Financial Sanction Date	Enter date in DD/MM/YYYY format or select date using calendar. You cannot enter past Date. Please enter date on which you are expected to get internal financial sanction for procurement of this package. System will automatically calculate estimated timelines for procurement of this package based on this date. This is one of the important fields related to the package.	12/2/2011

On adding the items, there should be another link - 'Suggest Methods' This should populate the 'Indicative Procurement Method' dropdown. The method(s) will be populated based on the 'Total Estimated Cost'.

The appropriate method should be selected in the 'Indicative Procurement Method' dropdown.

Once saved, tentative timelines should be defined. The purpose of this link is to input the estimated dates of Bid Invitation, Bid Opening, etc for that package.

The auto defined dates may be changed if required by clicking on 'Define Tentative Timelines'.

For category Goods, 'Department Wise Breakup', link should appear against those Items which have Procuring Department as 'Institution Level'.

To plan procurements of services; 'Services' tab should be there and an option to 'Add' the details as below,

Sr. No.	Field Name	Field Description	Sample Data
1	Service Name	Enter Name of Service to be procured. The system will refer to the package by this name. This name will appear in bidding documents, contracts and any other document related to procurement of this package.	Inventory System
2	Description	Enter more information about the Service to be procured. The description will be displayed and can be changed at the time of actual procurement. This field is not mandatory.	Service will include development of inventory application.
3	Category	This lists only one entry "Services". Select the item from the list. This is one of the important fields related to the package.	Services
4	Sub-Category	Select Expenditure Sub-Category. This dropdown will be populated after you select the category. This is one of the important fields related to the package.	Professional Services

5	Activity	<p>Select Project Activity</p> <p>This dropdown will list all activities associated with the sub-component. There is a small box in front of this field. If required, Click on this box to see the complete name of the 'Activity'</p> <p>This is one of the important fields related to the package.</p>	Institutional Management Capacity Enhancement
6	Service Provider	<p>This dropdown lists two items – Firms and Individual For Services which will be procured from Individual Consultant, select "Individual" from the dropdown. For Services which will be procured from Firms, select "Firm" from the dropdown.</p>	Firms
7	Total Estimated Cost	Enter Total Estimated Cost of the service	100000
8	Indicative Procurement Method	<p>After entering the Total Estimated Cost, System will calculate Indicative Procurement Methods applicable for the estimated cost and populate this dropdown. Select appropriate Procurement method from the list.</p>	SSS
9	Estimated Financial Sanction Date	<p>Enter date in DD/MM/YYYY format or select date using calendar. You cannot enter past Date. Please enter date on which you should get financial sanction for procurement of this package.</p> <p>System will automatically calculate estimated timelines for procurement of this package based on this date. This is one of the important fields related to the package.</p>	40879

After adding all the packages and services to be procured, the Procurement Plan may be submitted.

b. Procurement Plan Approval

Purpose

To send Procurement Plan for review and approval. Procurement plan shall be submitted by the Procurement Coordinator (Institution) for the approval. Procurement Coordinator (SPIU) shall approve the procurement plans of institutions. Procurement Coordinator at (NPIU) shall approve the procurement plans of SPIU and Institutions. The 1st procurement plan of institution shall be submitted for prior review by NPIU/ World Bank before implementation by the project entities through PMSS. NPIU/SPIUs scrutinizes the institution Procurement Plan for (i) Ensuring the World Bank norms are complied with and (ii) Ensuring that the items are permissible under the project.

Prerequisite

- Plan should be created completely.
- Plan should be within the allocated budget

Process

Once the procurement plan is created it has to be sent for approval. For the State Sponsored Institutions the first approval will be given by the respective state and the second approval is by NPIU. For the Centrally funded institutions, the approval will be given by the NPIU. For further details, user manual – institutions may be referred.

1. Submit Procurement Plan.

2. An email pop up shall be seen, click on 'Send'. This will send an email to the approving authority.
3. When the approving authority approves the plan email will be received by the institution users.
4. Once the plan is approved by all the approving authorities the status of the plan shall be change to 'Approved', which can be seen in the Colum after the plan title in the right section.
5. To view the approving details click on the 'Plan Status' link this will show the approval stages and comments.
6. If the plan is rejected then status of the plan shall be 'Under Clarification'. Institution users will receive an email notification accordingly.
7. If rejected, click on the plan title. Then click on the 'Rejection Comments' link, which is in the upper bar in the right section and view the rejection comments.
8. Modify the plan as required and send the plan for approval again.

c. Procurement Plan Revision

Purpose

The purpose of the procurement plan revision is to make changes to existing packages/ services or to add new packages/ services. Revised packages/ services can be initiated only when the revised procurement plan has been approved. The revision/updation in finalized Procurement Plan can be carried out at institution level with the approval of respective BoGs.

- Procurement Coordinator (institution) – revises and submits the plan for approval
- Director / Head of Institution – Approves revision.

Prerequisites

- Procurement Plan should be approved at least once.
- Procurement budget should be available.

Process Flow

To revise the procurement plan select option **Procurement-> Plan-> Prepare/ Revise Plan.**

The Director/BoG can login and select option Procurement-> Plan-> Approvals

When a procurement plan is revised and sent for approval, procurements may still be initiated for those package/ service which are not revised. However, the system will not allow to initiate those packages which have been sent for revision until the procurement plan is approved.

6.6.2.5 Old Plans

The plans revisions done by the institutions in the packages from time to time shall be shown under old plans. The details shall be shown in the below format. On click of the package name, the details of the revision shall be displayed.

Category	Package Code	Package Name	Proc. Method	Estimated Cost	Actual Cost	Define Timelines
----------	--------------	--------------	--------------	----------------	-------------	------------------

6.6.2.6 Procurement

Process node is divided into;

- Initiation
- In Progress
- Completed
- Cancelled

6.6.2.6.1 Initiation

Click on 'Initiate' link, which is in the right section to initiate the procurement and fill in the below details,

Sr. No.	Field Name	Field Description1`	Sample Data
1	Actual Financial Sanction Date	Enter the date in DD/MM/YYYY format. This date is the date on which procurement was sanctioned internally.	12/03/2011

'Revise Timelines' link should appear in front of the 'Actual Financial Sanction' date field, on clicking the link a pop up should appear. Dates in the popup should be auto populated based on the Procurement Method and Initiation date. Editing of the dates, may be done, if required.

'Click here to Proceed' link this should display the Guidelines for the select method.

'Click to start Procurement Process' this should initiate the procurement and the package/ service should move to in progress.

6.6.2.6.2 In Progress

Initiated procurements are listed under the option **Procurement-> Process-> In Progress**

Click on the Package/ Service Name. This will open the procurement in its current stage.

Perform the action required for this stage and Click on 'Next'. Now, Perform the action required for the next stage and proceed to complete the required actions.

6.6.2.6.3 Prior Reviews

Procurements which falls above the defined threshold value are listed under the option **Procurement-> Process-> Prior Reviews**.

6.6.2.6.4 Completed

Completed procurements are listed under the option **Procurement-> Process-> Completed**

Click on the Package/ Service Name.

To view details of the package/ service.

To view documents attached to the package/service click on the documents subtab that should be available.

6.6.2.6.5 Cancelled

Cancelled procurements are listed under the option **Procurement-> Process-> Cancelled**

Click on the Package/ Service Name.

To view details of the package/ service, click on the respective stage, steps or subtabs.

To view documents attached to the package/ service click on the documents subtab that should be available.

6.6.3 Shopping Methods

6.6.3.1 Shopping Goods

To perform procurement of goods using shopping method. Procurement Coordinator (Institution) performs the activities. Post review of the plan may be required.

Prerequisite

- Package to be procured should fall under category goods.
- Value of the package should be <=USD 100,000

Process Flow

The process flow of Shopping of Goods shall remain same as per the As-Is flow with few changes as described below.



Invitation Letter

In this stage suppliers are added. Invitation letters are generated & sent out to these suppliers. The process to generate the invitation letter shall remain same as that of existing flow. Refer User Manual - Institutions.

Quotation Opening

In this stage the quotation opening is performed and responsive quotations are identified. The process for quotation opening shall remain same as that of existing flow. Refer User Manual - Institutions.

Quotation Evaluation

In this stage evaluation is performed and lowest evaluated supplier is identified. The process for quotation evaluation shall remain same as that of existing flow. Refer User Manual - Institutions.

Recommendation of Award

In this stage appropriate responsive supplier can be recommend. If the lowest evaluated responsive supplier (L1) is not acceptable by the committee then another supplier can be selected in this stage. The process for recommendation of award shall remain same as that of existing flow. Refer User Manual - Institutions.

Purchase Order

In this stage PO is generated and Payment terms are updated with expected completion and payment dates. The process for updating the Purchase Order Details shall remain the same as that of the existing flow in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

GRN & Payments

In this stage Goods received details are captured and Payment tracking is performed. The process for recommendation of award shall remain same as that of existing flow. Refer User Manual - Institutions.

6.6.3.2 Shopping Works

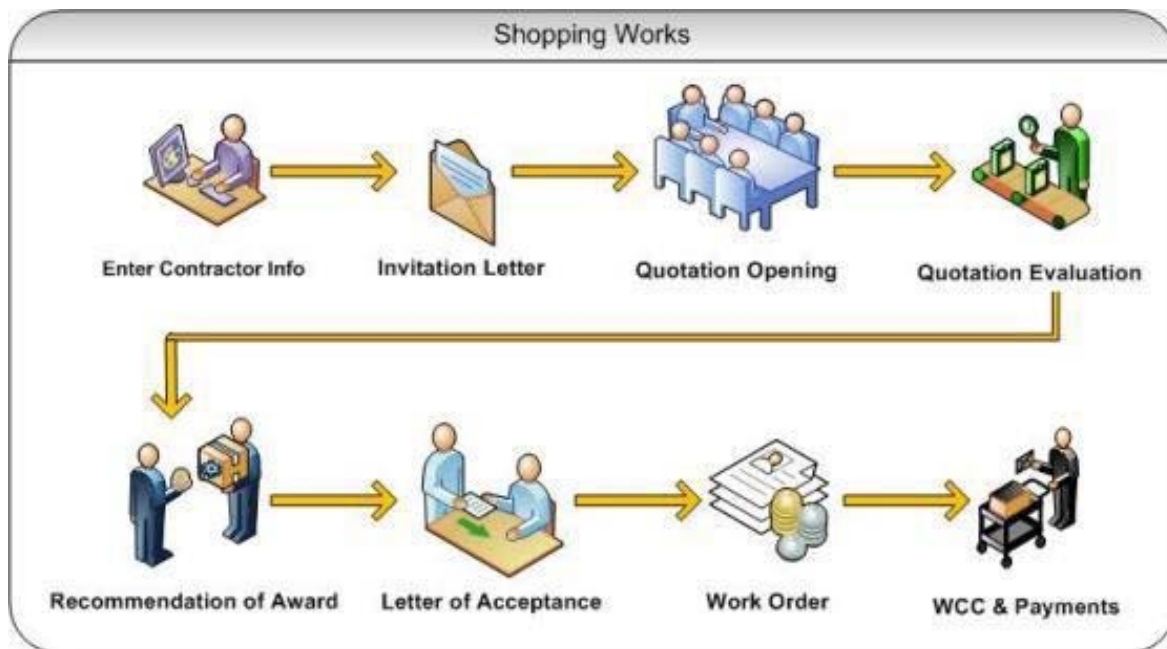
To perform procurement of civil works using shopping method. Procurement Coordinator (Institution) performs the activities. Post review of the plan may be required.

Prerequisite

- Package to be procured should fall under category goods.
- Value of the package should be \leq USD 100,000

Process Flow

The process flow of Shopping of Works shall remain same as per the As-Is flow with few changes as described below.



Invitation Letter

In this stage contractors are added. Invitation letters are generated & sent out to these contractors. The process to generate the invitation letter shall remain same as that of existing flow. Refer User Manual - Institutions.

Quotation Opening

In this stage the quotation opening is performed and responsive quotations are identified. The process for Quotation Opening shall remain same as that of existing flow. Refer User Manual - Institutions.

Quotation Evaluation

In this stage evaluation is performed and lowest evaluated contractor is identified. The process for Quotation Evaluation shall remain same as that of existing flow. Refer User Manual - Institutions.

Recommendation of Award

In this stage appropriate responsive supplier can be recommend. If the lowest evaluated responsive contractor (L1) is not acceptable by the committee then another supplier can be selected in this stage. The process for Recommendation of Award shall remain same as that of existing flow. Refer User Manual - Institutions.

Letter of Acceptance

In this stage Letter of Acceptance is generated and acceptance is taken from the contractor. The process for Letter of Acceptance shall remain same as that of existing flow. Refer User Manual - Institutions.

Generation of WO

In this stage Work Order is generated and Payment terms are updated with expected completion and payment dates. The process for generating the WO shall remain the same as that of the existing flow. Payment terms and conditions shall also remain the same in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

WCC & Payments

In this stage Work completion details are captured and Payment tracking is performed. The process for WCC & Payments shall remain same as that of existing flow. Refer User Manual - Institutions.

6.6.3.3 Direct Contracting

To perform procurement of goods using Direct Contracting method. Procurement Coordinator (Institution) performs the activities. Post review of the plan may be required.

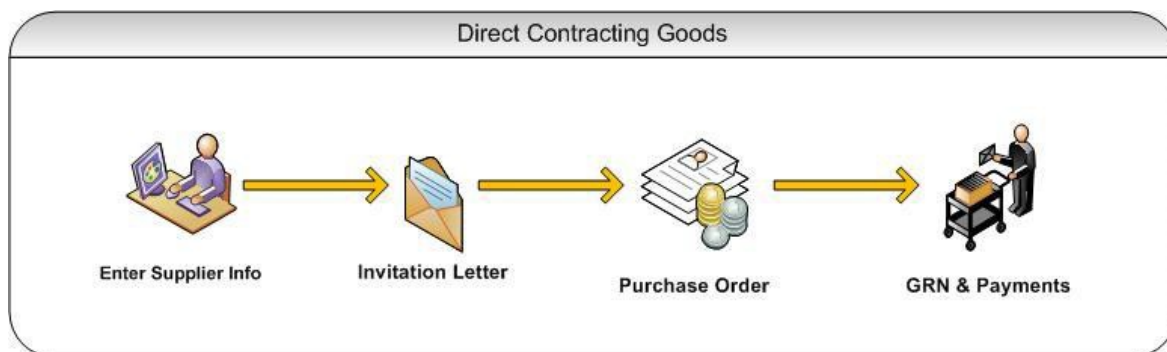
Prerequisite

- Package to be procured should fall under category goods/ civil works.
- Value of the package should be
 - ≤USD 50,000 for Proprietary Equipment with a post review
 - ≥USD 50,000 for Proprietary Equipment with a prior review
 - ≤USD 1,000 for Minor Items

Process Flow

Direct Contracting is similar to Shopping except;

- Quotations are invited from only one supplier/ contractor. Thus the condition on minimum three suppliers/ contractors does not exist for Direct Contracting.
- Quotation Opening and Quotation Evaluation steps are not present for Direct Contracting.



Invitation Letter

In this stage contractors are added. Invitation letters are generated & sent out to these contractors. The process to generate the invitation letter shall remain same as that of existing flow. Refer User Manual - Institutions.

Purchase Order

In this stage PO is generated and Payment terms are updated with expected completion and payment dates. The process for updating the Purchase Order Details shall remain the same as that of the existing flow in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

GRN & Payments

In this stage Goods received details are captured and Payment tracking is performed. The process for recommendation of award shall remain same as that of existing flow. Refer User Manual - Institutions.

6.6.3.4 DGS & D

DGS & D is similar to Direct Contracting except;

- Rate Contract No., RC Item No. and Model No. have to be mentioned for the item(s).
- Instead of invitation letter, a letter of enquiry is generated.
- DGS&D rate contract may be used as framework agreement provided by WorldBank. This is indicative and subject to change as per guidelines of WorldBank to be issued in this regard.

6.6.3.5 GeM – Government e-Marketplace

GeM is similar to Direct Contracting except;

- Contract No., Item No., Quantity Required, and Model No. have to be mentioned for the item(s).
- Instead of invitation letter, an authorization letter is to be generated
- On processing of the complete shopping procedure, GeM demand No. shall be entered in the system.

Prerequisite

For the shopping method at GeM, the following is required by the Govt. users,

- Aadhar Number
- Mobile No.

- Official Mail
- Class 3 Digital Signature
- Registration on GeM.

Value of the package should be

- \leq USD 30,000 in case of a single bid
- \geq USD 30,000 in case of competitive bidding

The above limits and procedure are indicative and subject to modification, as per guidelines of WorldBank to be issues in this regard.

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6.6.4 Competitive Bidding Method

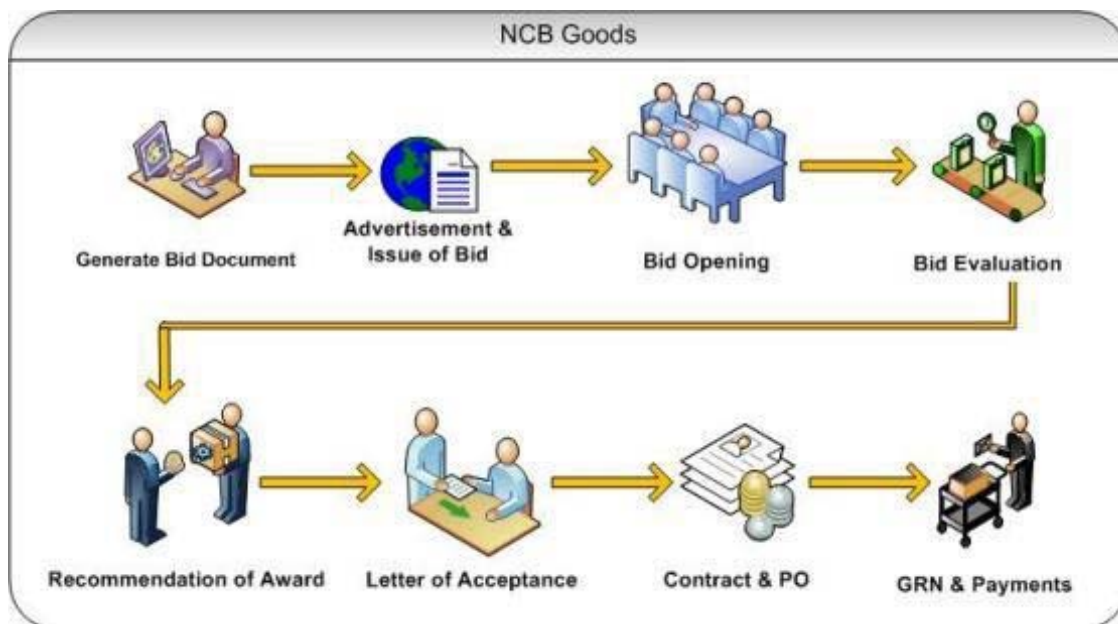
6.6.4.1 NCB Goods

To perform procurement of goods using NCB method.

- Procurement Coordinator (Institutions)
- Procurement Coordinator (SPIU) – Performs Prior review, when applicable. All NCB's regardless of value are to be prior reviewed at SPIU
- Procurement Coordinator – NPIU's procurement coordinator, Performs Prior review, when applicable.

Prerequisite

- Package to be procured should fall under category goods.
 - For value range US\$ 2,000,000 up to US\$ 3,000,000, with prior review.
 - For value range $<$ US\$ 2,000,000, with post review.



Generation of Bid

In this stage Standard Bidding Document is generated. The process to generate the bidding document shall remain same as that of existing flow. Refer User Manual - Institutions.

Advertisements & Issue of Bids

In this stage tender is floated and info of supplier purchasing bid is captured, if available. The process for advertisements and issue of bids shall remain same as that of existing flow. Refer User Manual - Institutions.

Bid Opening

In this stage Bid opening is performed and responsive bids are identified. The process of bid opening shall remain same as that of existing flow. Refer User Manual - Institutions.

****We may also introduce online tendering system in this process.**

Bid Evaluation

In this stage evaluation is performed and lowest evaluated bidder is identified. The process for bid evaluation shall remain same as that of existing flow. Refer User Manual - Institutions.

Recommendation of Award

In this stage appropriate responsive bidder can be recommend. If the lowest evaluated responsive bidder (L1) is not acceptable by the committee then another bidder can be selected in this stage. The process of Recommendation of award shall remain same as that of existing flow. Refer User Manual - Institutions.

LOA, Contract Award and PO

In this stage LOA, Contract Award and PO are generated and Payment terms are updated. The process for generation of LOA, Contract Award and PO shall remain same as that of existing flow. Refer User Manual - Institutions. Payment terms and conditions shall also remain the same in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

GRN & Payments

In this stage Goods received details are captured and Payment tracking is performed. The process for GRN & Payments shall remain same as that of existing flow. Refer User Manual - Institutions.

6.6.4.2 NCB Works

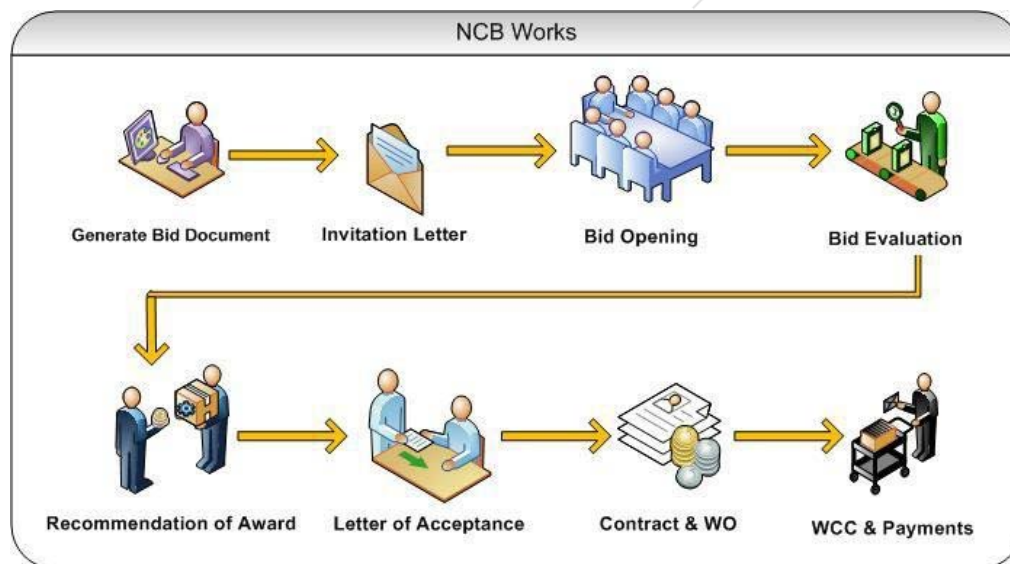
To perform procurement of civil works using NCB method.

- Procurement Coordinator (Institutions)

- Procurement Coordinator (SPIU) – Performs Prior review, when applicable. All NCB's regardless of value are to be prior reviewed at SPIU
- Procurement Coordinator – NPIU's procurement coordinator, Performs Prior review, when applicable.

Prerequisite

- Package to be procured should fall under category goods.
 - For value range \geq US\$ 10,000,000 up to US\$ 40,000,000, with prior review
 - For value range $<$ US\$ 10,000,000, with post review.



Generation of Bid

In this stage Standard Bidding Document is generated. The process to generate the bidding document shall remain same as that of existing flow. Refer User Manual - Institutions.

Advertisements & Issue of Bids

In this stage tender is floated and info of contractor purchasing SBD is captured, if available. The process for advertisements and issue of bids shall remain same as that of existing flow. Refer User Manual - Institutions.

Bid Opening

In this stage Bid opening is performed and responsive bids are identified. The process of bid opening shall remain same as that of existing flow. Refer User Manual - Institutions.

****We may also introduce online tendering system in this process.**

Bid Evaluation

In this stage evaluation is performed and lowest evaluated bidder is identified. The process for bid evaluation shall remain same as that of existing flow. Refer User Manual - Institutions.

Recommendation of Award

In this stage appropriate responsive Contractor can be recommend. If the lowest evaluated responsive Contractor (L1) is not acceptable by the committee then another Contractor can be selected in this stage. The process of Recommendation of award shall remain same as that of existing flow. Refer User Manual - Institutions.

LOA, Contract Award and PO

In this stage LOA, Contract Award and PO are generated and Payment terms are updated. The process for generation of LOA, Contract Award and PO shall remain same as that of existing flow. Refer User Manual - Institutions. Payment terms and conditions shall also remain the same in addition with the following tax options as below needs to be added,

- Service Tax (in percentage)
- Swachh Bharat Tax (in percentage)
- Krishi Kalyan Tax (in percentage)

The above taxes shall be applicable as per the guidelines of GoI and may be replaced by GST as per the norms of GoI.

WCC & Payments

In this stage Work completion details are captured and Payment tracking is performed. The process for GRN & Payments shall remain same as that of existing flow. Refer User Manual - Institutions.

6.6.4.3 ICB – International Competitive Bidding

To perform procurement of goods using ICB method. Procurement Coordinator (institution) will initiate the process.

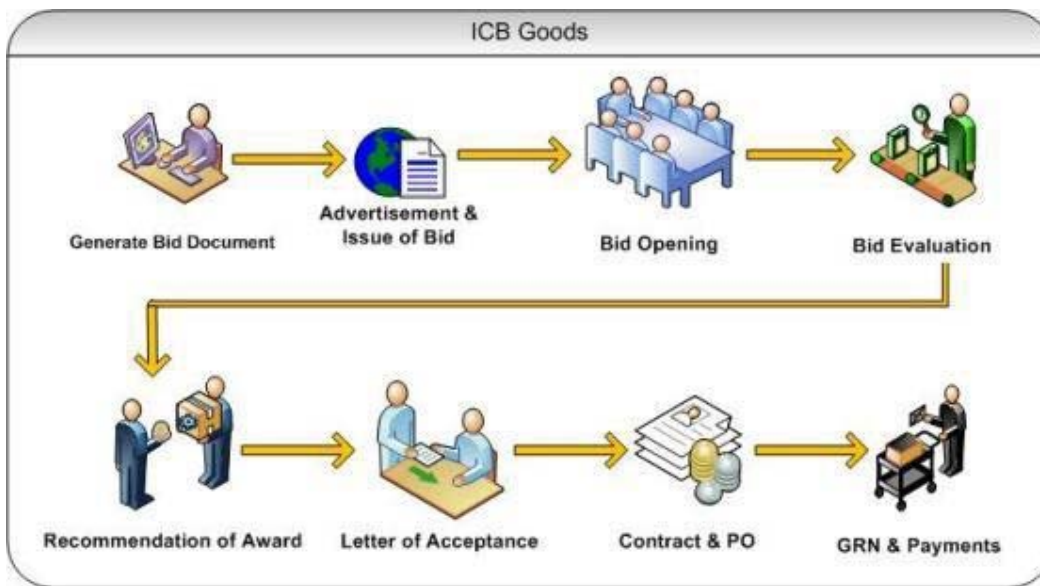
Prerequisite

- Package to be procured should fall under category goods.

Process Flow

Steps for ICB are same as NCB except;

- At the advertisement stage ‘International site details’ and ‘UNDB’ published data can be inputted.
- At every stage World Bank prior review is required thus after every stage package will go for World Bank review.



6.6.4.4 LIB Method

To perform procurement of goods using LIB method. Procurement Coordinator (institution) will initiate the process.

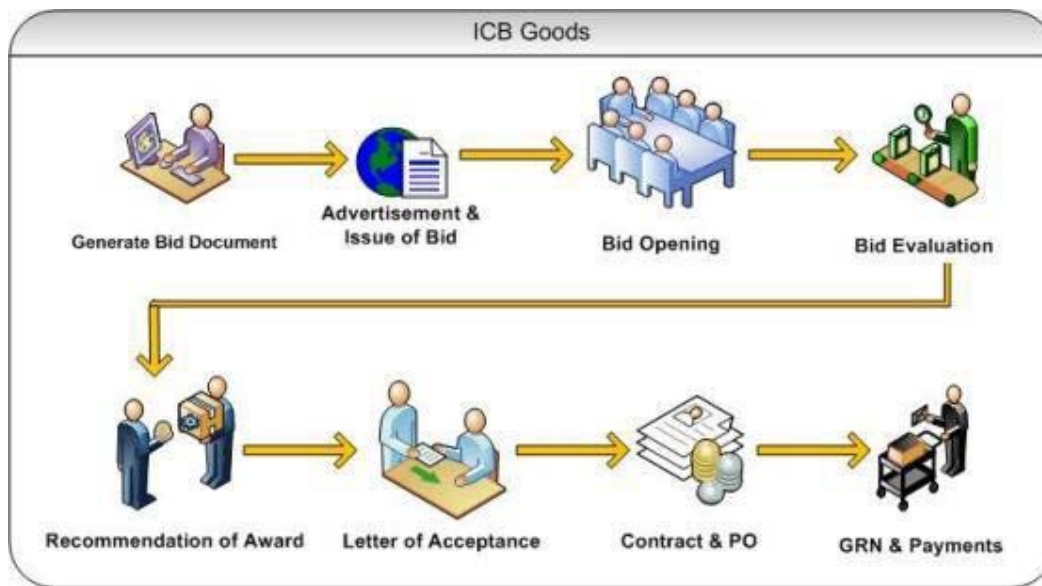
Prerequisite

- Package to be procured should fall under category goods.

Process Flow

Steps for LIB are same as ICB except;

- Advertisement is not done in LIB, it is done by direct invitation.



6.6.5 Services Method

6.6.5.1 Quality and Cost Based Selection (QCBS)

QCBS is most generally used method for selecting service providers. QCBS method can be used for selecting providers for Research contracts, professional services, training, workshops and fellowships.

- Procurement Coordinator (institution) – initiates and carries out the process of selection of providers.
- Procurement Coordinator (SPIU) – reviews the procurement if submitted to him for prior review.
- Procurement Coordinator (NPIU) – reviews the procurement if submitted to him for prior review.

Prerequisite

- Financial Sanction should be obtained for procurement of the service.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at Institution, SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.

Prior Review Arrangements

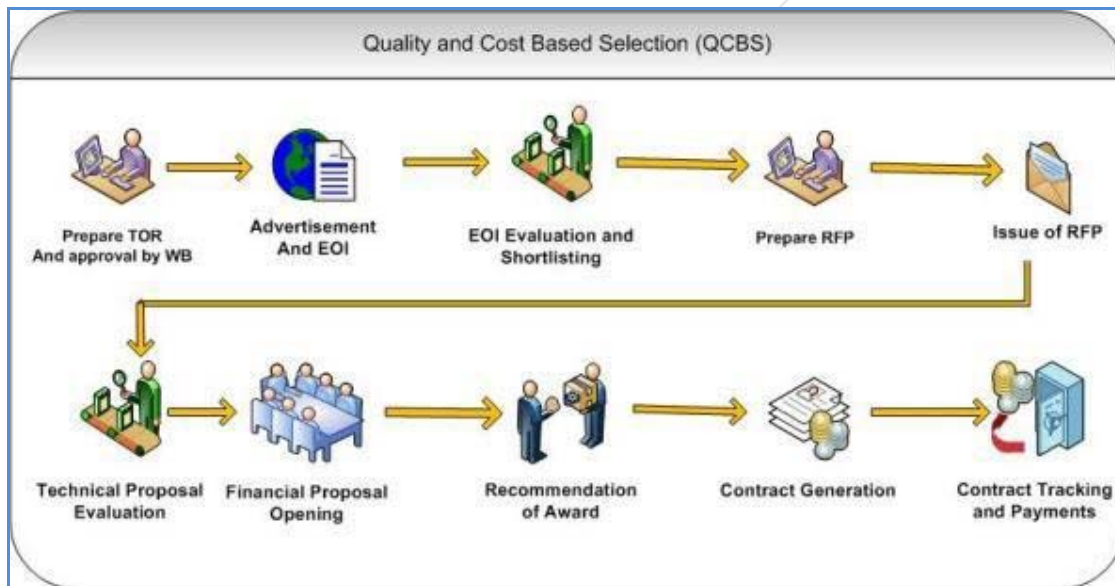
- Services (other than consultancies) and IT systems: All contracts more than or equal to US\$1 million equivalent;

- Value of the package should be \geq USD 1,000,000 with prior review.*
- Value of the package should be $<$ USD 1,000,000 with post review.*

The review is being done by NPIU.

*As per the terms and conditions provided by the bank at the time of execution for state funded and centrally funded institutions.

Process Flow



Generation of ToR

In this stage activities related to TOR approval are performed. Technical Evaluation Committee will be defined in this stage. This committee will be involved in evaluation of technical proposals submitted by the consultants. The process for generation of ToR shall remain same as that of existing flow. Refer User Manual - Institutions.

Advertisement and Issue of EOI

In this stage Advertisement related activities are performed. The process for Advertisement and Issue of EOI shall remain same as that of existing flow. Refer User Manual - Institutions.

EOI Opening and Shortlisting of Consultants

In this stage the EOI opening is performed and responsive consultants are identified. The process for EOI Opening and Shortlisting of Consultants shall remain same as that of existing flow. Refer User Manual - Institutions.

RFP Preparation

In this stage the required information for RFP is accepted and RFP document is generated. The process for RFP Preparation shall remain same as that of existing flow. Refer User Manual - Institutions.

Issue of RFP

In this stage invitation letters are generated for shortlisted consultants and RFP document is issued to them. Pre-proposal meeting details are also recorded in this stage. The process for Issue of RFP shall remain same as that of existing flow. Refer User Manual - Institutions.

Technical Evaluation

In this stage Technical Proposal are evaluated and technical scores are calculated for the Proposals. The process for Technical Evaluation shall remain same as that of existing flow. Refer User Manual - Institutions.

Combined Evaluation

In this stage combined evaluation of the technical and financial proposals submitted by the consultants will be performed. The process for Combined Evaluation shall remain same as that of existing flow. Refer User Manual - Institutions.

Recommendation and Contract Generation

In this stage recommendation of award meeting details and negotiation meeting details are recorded in the system. If negotiations are successful, contract will be generated. The process for Recommendation and Contract Generation shall remain same as that of existing flow. Refer User Manual - Institutions.

Award of Contract and Payments

This is last stage of QCBS process. In this stage Contract sign date is entered and delivery dates are calculated. Actual Payment information is entered into the system against each payment milestone. 'Contract Award and Payments' tab is selected by default. The process for Award of Contract and Payments shall remain same as that of existing flow. Refer User Manual - Institutions.

6.6.5.2 Fixed Budget Selection (FBS)

FBS method can be used for selecting providers for Research contracts, professional services, training, workshops and fellowships. This method is used when estimated budget for the procurement has been fixed. Consultants who has quoted price within the indicated budget are evaluated. Procurement Coordinator (Institution) initiates and carries out the process of selection of providers and also reviews the procurement if submitted to him for prior review.

Prerequisite

- Indicative Budget should be finalized.

- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at Institution, SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.

Prior Review Arrangements

- Services (other than consultancies) and IT systems: All contracts more than or equal to US\$1 million equivalent;
 - Value of the package should be \geq USD 1,000,000 with prior review.*
 - Value of the package should be $<$ USD 1,000,000 with post review.*

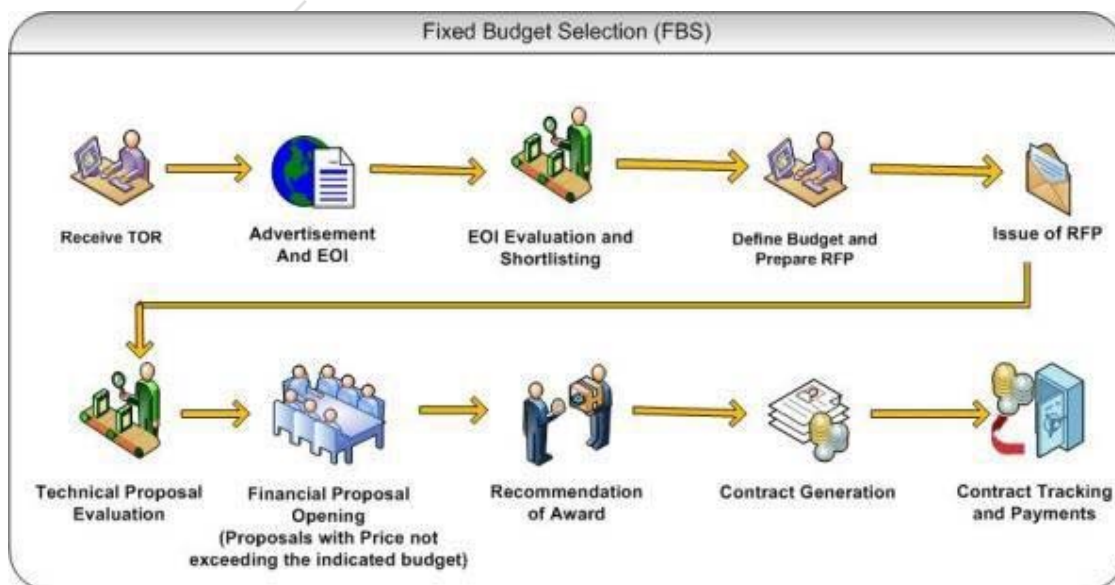
The review is being done by NPIU/WorldBank.

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*As per the terms and conditions provided by the bank at the time of execution for state funded and centrally funded institutions.

Process Flow

Procurement using FBS method will follow same stages as QCBS method with few variations as mentioned below,



RFP Preparation

Available budget for procurement to be in a separate specified paragraph 3.3(b). In QCBS, this paragraph has details about estimated duration of the contract in person months.

Combined Evaluation

Financial proposal Evaluation will be carried only for proposals which have quoted price within indicated budget. After the step “Enter Financial Proposal Opening Data”, Proposals exceeding the indicated budget shall be marked as technically non-responsive.

A Consultant who has obtained the highest technical score shall be selected and displayed as recommended consultant.

6.6.5.3 Least Cost Selection (LCS)

LCS method can be used for selecting Consultants for assignments of a standard routine nature like audits, engineering design of non-complex works etc. Consultant Firm which is technically responsive and has quoted lowest price of all consultants is selected. Procurement Coordinator (Institutions) initiates and carries out the process of selection of providers and also reviews the procurement if submitted to him for prior review.

Prerequisite

- Indicative Budget should be finalized.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at Institution, SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.

Prior Review Arrangements

- Services (other than consultancies) and IT systems: All contracts more than or equal to US\$1 million equivalent;
- Value of the package should be \geq USD 1,000,000 with prior review.*
- Value of the package should be $<$ USD 1,000,000 with post review.*

The review is being done by NPIU/WorldBank.

Process Flow

Procurement using LCS method will follow same stages as QCBS method with few variations as mentioned below,



For further details, refer User Manual -Institutions

Combined Evaluation

System doesn't perform combined evaluation. A Consultant who has scored "minimum" qualifying technical score (% specified in RFP document) and has lowest quoted price shall be selected and displayed as recommended consultant.

6.6.5.4 Consultant Qualification Selection (CQS)

CQS method can be used for selecting Consultants for assignments of a standard routine nature like audits, engineering design of non-complex works etc. Consultant Firm which is technically responsive and has quoted lowest price of all consultants is selected. Procurement Coordinator (institution) initiates and carries out the process of selection of providers.

Prerequisite

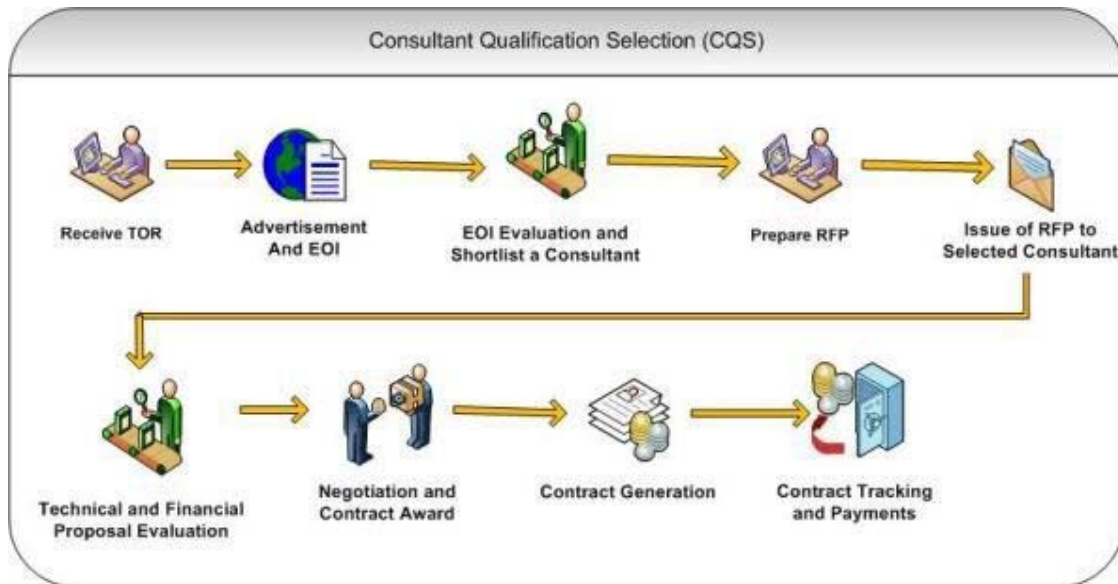
- Indicative Budget should be finalized.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at Institution, SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.
- Value of the package should be \leq USD 300,000

Prior Review Arrangements

- Post review may be done for the CQS.

Process Flow

Procurement using CQS method will follow same stages as QCBS method with few variations as mentioned below,



For further details, refer User Manual – Institutions.

EOI Opening & Shortlisting of Consultants

On step 'Shortlisting of Consultants', only one consultant will shortlisted and will be issued RFP. Technical and Financial Evaluation will be done for only one consultant.

6.6.5.5 Single Source Selection (SSS)

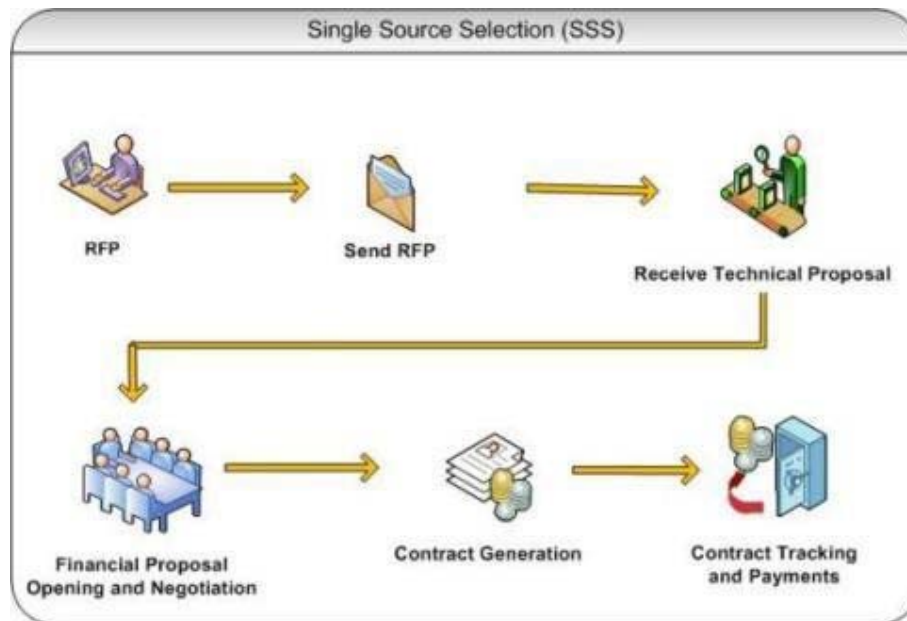
SSS method can be used for selecting consulting firms only if it presents a clear advantage over competition due to various reasons like continuation of same work, Rapid selection is necessary, small assignment, or the consultant has experience of exceptional significance of the assignment. As this is not competitive method of selection, technical or financial evaluation will not be carried out. Procurement Coordinator (institution) initiates and carries out the process of selection of providers.

Prerequisite

- Justification for selection of the consultant should be documented and duly signed.
- TOR (Terms of References) should be prepared and reviewed by reviewing authorities at Institution, SPIU and NPIU.
- Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.

- Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the consultants based on the evaluation criteria given in the RFP document.
- Value of the package \geq USD 50,000, a prior review is required.
- Value of the package $<$ USD 50,000, post review is required.

Process Flow



Generation of TOR

The steps on this stage are similar to QCBS except few variations. There is an option **‘Upload/View Consultant Justification’**. User can select and delete the document that has been uploaded in current stage of the procurement. Refer User Manual - Institution

RFP Preparation

The steps on this stage are similar to QCBS except few variations;

On “Instruction to Consultants” popup page, few fields are not displayed

- Min. Score for Technical Proposal
- Weightage for technical proposal
- Weightage for financial proposal

RFP Preparation

The steps on this stage are similar to QCBS except that RFP will be issued to only one consultant in case of SSS.

Recommendation and Contract Generation

In this stage recommendation of award meeting details and negotiation meeting details are recorded in the system. If negotiations are successful, contract will be generated. Refer User Manual - Institution.

Award of Contract and Payments

The steps on this stage are similar to that of QCBS procurement method.

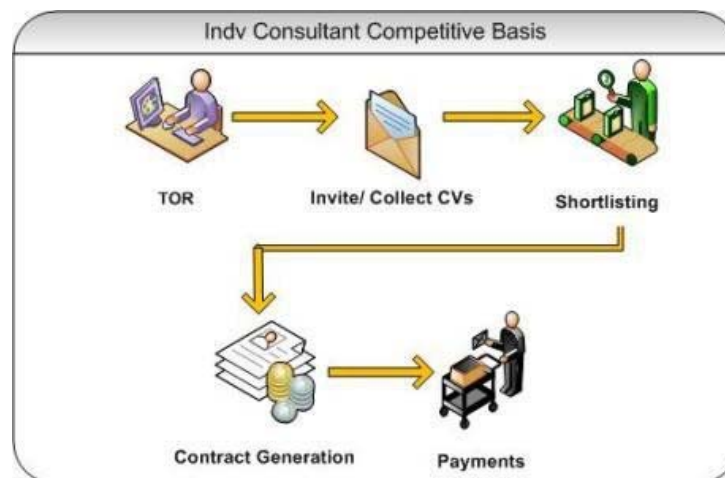
6.6.5.6 Individual Consultants – Competitive Method

This method is used for obtain services from individual consultant using competitive bidding. Procurement Coordinator (Institutions) – initiates and carries out the process of selection of providers.

Prerequisite

- Financial Sanction should be obtained for procurement of the service.
 - TOR (Terms of References) should be prepared and reviewed by reviewing authorities.
 - Terms of Reference (ToR) for all consultant contracts shall be furnished to the World Bank for its technical clearance.
 - Technical Review Committee should be formed for this procurement. This committee will review and evaluate technical proposals received by the firms based on the evaluation criteria given in the RFP document.
 - Value of the package should be \geq USD 300,000 with prior review.*
 - Value of the package should be $<$ USD 300,000 with post review.*
- The review is being done by NPIU/WorldBank.

Process Flow



Refer User-Manual Institutions, for more details.

TOR

In this stage activities related to TOR approval are performed. Technical Evaluation Committee will be defined in this stage. This committee will be involved in evaluation of technical proposals submitted by the consultants. For the process flow, refer User Manual – Institution

Shortlisting

In this stage short-listing of firms will be performed. For the process flow, refer User Manual – Institution.

Contract Generation

In this stage the contract terms will be defined and contract will be generated. For the process flow, refer User Manual – Institution.

Track Payment

This is last stage of the process. In this stage information about actual Payment will be entered into the system. For the process flow, refer User Manual – Institution.

6.6.5.7 Individual Consultants – SSS

This method is used to obtain services from individual consultant using Single Source Selection. Procurement Coordinator (Institutions) – initiates and carries out the process of selection of providers.

Prerequisite

- Justification for the consultant should be prepared and duly signed.
- Other Prerequisites are similar to Individual Consultant – Competitive method.
- Value of the package should be \geq USD 300,000 with prior review.*
- Value of the package should be $<$ USD 300,000 with post review.*
The review is being done by NPIU/WorldBank.

Process Flow



Refer User-Manual Institutions, for more details.

TOR

The steps on this stage are similar to Individual Consultant – Competitive method.

Nominate Consultant

In SSS method, there will be no short-listing process. Instead, justification for selection of consultant will be uploaded in the system.

Contract Generation

The steps on this stage are similar to Individual Consultant – Competitive method.

Track Payment

The steps on this stage are similar to Individual Consultant – Competitive method.

6.6.6 Academic MIS

SPIU shall cover the MIS and monitors the funding and progress of the institutions registered in TEQIP-III. They will also enter the respective data which will therefore be monitored by NPIU.

6.6.6.1 e-Dashboard

The e-Dashboard of SPIU shall provide various consolidated graphical representations as per the monitoring indicators set by NPIU for institutions under the jurisdiction of the respective states. It will also focus on the data entered by the respective states.

6.6.6.2 MIS

The MIS configured and defined by NPIU for the institutions in the configuration shall be made shown in this tab. The MIS for the respective institutions only should be downloadable. The MIS shall be downloadable in HTML as well as in the standard downloadable formats.

6.6.6.3 Monitoring Data

Following are the screens and the respective sub menu of the To Be MIS system for Institutions to enter the data. Institutes will enter the data with respect to each section. The captured data shall be populated in the MIS generated from the system and respective SPIU unit monitors and consolidates the data entered by the institutes under its jurisdiction and shares the same with NPIU to monitor and evaluate the same.

MIS: NAVIGATION AIDE FOR INSTITUTIONS

No.	Section	Sub-Section (if applicable)	Screen	Entry Fields
1	Institution Details	Institution Profile	Institution Baseline	Institution Name State Component Autonomous Allocated Amount (Rs.) Amount Received so far (Rs.) Amount of Current Installment (Rs.) Date of Current Installment Released Amount
2			Institution Information	Institute Name Institute Logo (Upload) Postal Address City District State Pin Code Telephone Fax Email Website Year of Establishment Category of Institution (Central Institution/State Institution /Govt. Funded/Aided /Private Unaided/Self-financed) Institution Type Affiliating University Date on which first approval was accorded by AICTE/UGC Year of Commencement of First Batch

3			Department	Name of Stream
				Department Name
4			Degree Title	Degree Level (Bachelors/Masters/Integrated(UG + PG)/Doctoral)
				Whether Existing
5			Programme	Department
				Degree Level
				Degree Title
				Programme
				Degree Type
				Year of Programme Commencement
				Is Evaluation Credit Based (Yes/No)
				From When (Date)
				Credit Programme Exemption (Yes/No)
				Date of Credit Exemption
				Whether Existing
				6
Upload Images				
Application for (Fresh/Renewal)				
Application Date				
Assessment Status (By UGC)(Scheduled/Completed/O btained)				
Assessment Date				
7			Accreditation Details	Department
				Degree Level
				Degree Title
				Programme Name
				Year of Commencement
				Duration
				AICTE/MHRD Approved Intake in academic year
				Eligible for Accreditation
				Accredited by NBA (Yes/No)

8				Validity
				Date from
				Any Proposed Programme
			Accreditation Progress	Programme
				Upload
				Applied for Accreditation(Yes/No)
				Fresh or Renewal (Renewal/Fresh)
				Submission Completion Date
				Track Access No
				Scheduled or Visited (Scheduled/Visited/NIL/NA)
				Scheduled Date
9			Infrastructure Details	Auditorium
				Canteen
				Classrooms
				Conference rooms
				Hostels
				Laboratories
				Sport Complex
				Tutorial Rooms
				Workshops
				Total Number
				Total Area (sqm)
10		Institution Asset	Library Details	Total Number
				Total Area (sqm)
				Seating Capacity
				Books Titles
				Books Volumes
				e-Books
				Journals
				e-Journals
				Course specific softwares
				Total Number for all above library items
11			Computer Centre	Total Number
				Total Area (sqm)
				Computer Terminal
				Internet Facility (mbps)
12			Source of Income	Source of Income Name

13				Previous Amount
				Current Amount
				Modified Date
				New Source of Income
				Amount
			Sanctioned Positions	Number of Faculty Required
				Sanctioned Positions for Faculty
				Sanctioned Positions for Staff
			Faculty Profile	Name
				Employee ID
				Date of Joining (Continuous)
				Stream Name
				Current Faculty Designation
				Department
				Highest Qualification
				Regular/Contract
				Salary Type (Pay Scale/Consolidated)
				Gender
				Enrolled for Upgradation (Yes/No)
				Whether Existing
14		Faculty/Staff Management	Faculty Upgradation	Department
				Faculty Name
				Employee Id
				Highest Qualification
				New Qualification
				Enrolled in (Same Institution/Other Institution)
				Has Upgraded (Yes/No)
15			Staff Profile	Name
				Employee ID
				Date of Joining (Continuous)
				Staff Type
				Staff Position
				Department
				Highest Qualification
				Regular/Contract
				Salary Type (Pay Scale/Consolidated)
				Gender
16				Previous Amount
				Current Amount
				Modified Date
				New Source of Income
				Amount
				Number of Faculty Required
				Sanctioned Positions for Faculty
				Sanctioned Positions for Staff
				Name
				Employee ID

17			Training Plan	Whether Existing
				Training For (Faculty/Staff)
				Nature of Training
				Training Category
18			Assign Training Plan	Title of Training
				Broad Area of Training
				External/Internal
				Training Provider
19			Faculty Attending Seminar/Conf/Workshop	Institution/ Organization Name
				Training For (Faculty/Staff)
				Training Type
				Nature of Training
20		Student Detail	Student Information	Training Category
				Title of Training
				Employee ID
				Faculty/Staff Name
				Training Status
				From Date
				To Date
				Venue
				Remark
				Faculty Training for
				Nature of Training
				Title of Training
				Broad Area of Training
				Training Provider
				Institution/ Organization Name
				Department
				Degree Level
				Degree Title
				Programme
				Semester
				Enrollment No
				Year of Enrollment
				Student Name
				Parent's/Guardian's Name
				Date of Birth
				Gender
				Nationality
				Religion
				Category

21				Admission Based On
				Rank/%
				Disability if any
				Type of Disability
22			Programme Assistantship	Department
				Degree Level
				Degree Title
				Programme
23			Student Diagnostic Test	Semester
				Sanctioned Intake
				Assistantship
				Category
24			Student Transition	Department
				Degree Level
				Degree Title
				Programme
			Student Performance	Semester
				Move To
				Student Name
				Enrollment No.
				Academically Weak
				Secured less than 40% in any paper or any equivalent grade
				No. of Papers in which secured<40% or any equivalent grade
				Fail
				No. of Fail Papers
				Department
				Degree Level
				Degree Title
				Programme

				Semester
				Sanctioned Intake
				Marks Type
				Student Name
				Enrollment No
				Year
				%/CGPA Obtained
				Degree Awarded
				First Attempt
				Class
25			Campus Placement	Department
				Degree Level
				Degree Title
				Programme
				Semester
				Student Name
				Enrollment No.
				Eligible
				Recruited
				National/International
26			Programme Fees from Students	Annual Salary (Rs.)
				Department
				Degree Level
				Degree Title
				Programme Name
				Tuition Fee
27	Academic Output	Research & Development	Publications	Other Fees
				Published by COE
				Whether Refereed? (Yes/No)
				Department
				Whether National/International
				Whether Journal/Proceeding
				Title of Paper
				Journal Name
				Volume No.
				Page No.
				ISSN/ISBN/ACCN No.
				Publication Date
				Whether Joint (Yes/No)

				Joint With (Academic Institute/R&D Institute/Industry)
				Joint Belongs To (National/International/Both)
				Author Name
				Department
				University/Institute/Industry
				University/Institute/Industry Name
28			Books	Belongs to COE (Yes/No)
				Book Type
				Department
				ISBN/ACCN No
				Publisher Name
				Publication Date
				Title
				Co-Author (Yes/No)
29			Innovations	Belongs to COE (Yes/No)
				Innovation Title
				Department
				Innovation Date
				Product/Process
				Technology Transfer (Yes/No)
				Commercialized (Yes/No)
				Amount (Rs)
				Transfer to
				Organization Name
				Commercialized Date
30			Patents	Belongs to COE (Yes/No)
				Name of Stream
				Department
				Obtained/Filed
				Patent Registered (National/International)
				Patent Title
				Patent Type (Product/Process)
				Patent Number
				Patent Grant Year
				Commercialized (Yes/No)
				Amount (Rs)
				Whether (Institutional/Joint)

31			Consultancies	Belongs to COE (Yes/No)
				Name of Stream
				Department
				Consultancy Type
				Consultancy Title
				Client Name
				Amount (Rs)
				Date From
				Date To
				Whether Joint (Yes/No)
				Joint With (Academic Institute/R&D Institute/Industry)
				Belongs to COE (Yes/No)
				Department
32			Externally Funded R&D Projects	Project Title
				Name of Principal Investigator
				Nature of Project
				Sponsored By
				Total Project Fund (Rs)
				Date From
				Date To
				Project Status
				Ownership (Joint/Independent)
				Joint With (Academic Institute/R&D Institute/Industry)
				Joint Belongs To (National/International/Both)
				Belongs to COE (Yes/No)
				Belongs to (Institute/Department)
33			MOU	Department
				MOU Signed with
				Title of MOU
				MOU Purpose
				MOU Signing Date
				MOU Validity (in years)
				Amount Received
				Activity Status
				Activity Result
				Whether (Indian/ Foreign)

34			Seminar/Conferences/ Workshop/Symposium Conducted	Conducted (Seminar/Conferences/Workshop/Symposium)
				Title
				Department
				Date From
				Date To
				Broad Area
				No. of Participants
				Amount (Rs)
				National/International
35			Citations	Institute
				Department
				Publication Name
				Belongs To
				Citations
36			Curricula Revision with Involving Industry	Department
				Degree Level
				Degree Title
				Programme
				Subject
				Reviewed (Yes/No)
				No of Industry
				Industries Involved
				Revision/Alignment Date
37		Industry Institute Interaction	Students Attachment with Industry	Department
				Degree Level
				Degree Title
				Programme
				Semester
				Name of Industry
				Nature of Work
				Evaluator (Industry/Institute)
				Date From
				Date To
				List of Students for selection
38			Industry Sponsored Chairs	Chair Name
				Department Or Centre
				Name of Sponsoring Industry
				Life Long (Yes/No)

39				Date From
				Date To
40			Industry Personnel Trained	Amount Associated
				Industry Personnel
41			Collaborative Academic Programme	Name of the Industry
				Name of the Trainer/Dept/Center
42			Students Admission Policy	Training Mode
				Date From
43			Seat Reservation Details	Date To
				Area/Subject of Training
44			Determining Curricula Revision	Stream
				Department
45			Credit Exemption	Degree Level
				Name of Collaborative Programme
46			Students Admission Policy	Industry/Other Institution
				Industry or Institution Name
47			Seat Reservation Details	Description about Programme
				Existing/Yet to Start
48			Determining Curricula Revision	Year of Start
				Student Name
49			Credit Exemption	Enrollment No
				Admission Via
50			Seat Reservation Details	Charging Capitation Fees
				Adhering to Central/State Govt. Admission Rules
51			Determining Curricula Revision	Degree Level
				Reservation Type
52			Credit Exemption	%
				Department
53			Determining Curricula Revision	Degree Level
				Degree Title
54			Credit Exemption	Programme
				Name of Subject Designed/Revised
55			Determining Curricula Revision	Date of Revision
				Department
56			Credit Exemption	Degree Level
				Degree Title
57			Determining Curricula Revision	Programme

				Semester
				Subject
				Type of Credit Exemption
				No. of Students
				Date of Implementation
45			Choice of Electives	Department
				Degree Level
				Degree Title
				Programme
				Semester
				Elective Name
46			Innovative Methods of Student Evaluation	Department
				Degree Level
				Degree Title
				Summative/ Formative
				Methods of Evaluation
				Frequency
47			Teachers Appraisal by Students	Department
				Degree Level
				Degree Title
				Programme
				Frequency of Appraisal
				Mode of Appraisal
				Accessability of Appraisal Results
				Utilization of Appraisal
				No. of Teachers in department
				No. of Teachers Appraised
				No. of Students Participated
				No. of Teachers Counseled
				Date of Appraisal
48			Revision/Restructuring Programme	Department
				Degree Level
				Degree Title
				Programme Name
				Programme Type
				Date
49			Innovations in Teaching/ Learning Processes	Department
				Degree Level
				Type of Innovation

				Date of Introduction/ Commencement
50			Continuing Education and Allied Programs	Programme Title
				Mode of Learning
				Start Date
				End Date
				Target Audience
				Intake Capacity
				Actual Enrollment
51			Collaborative Arrangements	Name of Collaborating Body
				Industry/Institute
				City
				Country
				Date of commencement of Collaboration
				Area of Collaboration
52			Training Need Assessment	Date of TNA From
				Date of TNA To
				Whether Conducted Internally
				Whether Conducted External Body
				External Body
53			Inviting Industry Experts	Name of the Expert
				Expert's Organisation
				Expert From
				City
				Country
				Topic of Lecture
				Date of Visit From
				Date of Visit To
54		Academic Support	Academic Support to Weak Students	Department
				Degree Level
				Degree Title
				Programme
				Semester
				Academic Support for
				Date From
				Date To
55			High Intensity Training	Department
				Degree Level

				Degree Title
				Finishing School Established (Yes/No)
				Established Date
				Training For
				Skill Name
				Date From
				Date To
56			Method of Addressing Weak Student	Methods of Addressing Weak Students
				Reviewed (Yes/No)
57		Financial Autonomy	Delegation of Financial Powers	Functionary
				Unlimited Financial Power (Yes/No)
				Limit for Consumables (Rs.)
				Limit for Non Consumables (Rs.)
				Limit for Hiring Services (Rs.)
				Date of Circular/Notification
				Upload Circular/Notification
58		Administrative Powers of Functionaries	Administrative Powers of Functionaries	Activity
				Approving Authority
				Date
				Upload Circular/ Order
59		Managerial Autonomy	Managerial Autonomy	Name of Committee
				Broad Functions
				Name of Chairman
				Date of Constitution
				Accessibility of MOM
				Upload Circular/Notification
60		BOG Meeting	BOG Meeting	Purpose of Meeting
				Type of Meeting
				Date of Meeting
				Meeting Agenda (Upload)
				Minutes of Meeting (MoM)(Upload)
61		Block Grant Fund	Block Grant Fund	Funds Received in Block Grant Pattern (Yes/No)
				Financial Year
				Annual Estimate Cost (Rs)
				Annually/Half-Yearly/Quarterly

				Current Installment Amount (Rs)
				Current Installment Receiving Date
				Non Salary Portion (Rs)
				Salary Portion (Rs)
				Matching Grant Receive (Yes/No)
				Matching Grant (Rs)
62		Four Funds	Four Funds	Select Financial Year
				Whether Four Funds Established? (Yes/No)
				Financial Quarter
				Fund Name
				Amount
				Recurring Expenditure For (Apr-Jun) (Rs)
63		Internal Revenue Generation	Internal Revenue Generation	Total Expenditure For (Apr-Jun) (Rs)
				Financial Year
				Annually/Half-Yearly/Quarterly
				IRG Name
64		Incentives To Teachers	Incentives To Teachers	Amount(Rs)
				Whether Policy on Faculty Incentives Exists (Yes/No)
				Date of Implementation
				Description
				Upload Circular/Notification
				Incentive Type
				No. of Teachers Aailed Incentive

6.6.6.4 Request and Queries

Institutions may submit any requests or queries to SPIU or NPIU under this section. Any response from the SPIU or NPIU with respect to the queries may also be seen here.

The background is a complex digital collage. It features a central, glowing wireframe globe with a grid of latitude and longitude lines. Surrounding the globe are various elements: binary code (0s and 1s) scattered across the scene, some appearing as if they are floating or falling; abstract, translucent geometric shapes in shades of blue, green, and purple; and a sense of motion conveyed by blurred lines and light streaks. The overall color palette is dominated by cool tones, with bright highlights and deep shadows creating a three-dimensional effect.

Data Architecture

7. Data Architecture

The data architecture of the PMSS and Academic MIS shall be as per the details mentioned in the [Business Architecture](#) for various participating entities in the respective modules,

1. NPIU
2. SPIU
3. Institutions

The data shall be maintained for all the types of procurement methods as mentioned in the Business Architecture for the respective entities mentioned within this document. This shall include,

Data Migration

Data Migration includes the following:

- Extraction of existing data from the legacy systems
- Cleansing and formatting of data extracted from the legacy systems
- Creation of new/additional data mandatory in the new system covering the past years.
- Uploading of these data to the new system

The background is a complex digital collage. It features a central, glowing wireframe globe with a grid of latitude and longitude lines. Surrounding the globe are various elements: binary code (0s and 1s) in different colors and orientations, some appearing as if they are floating or falling; abstract, translucent geometric shapes in shades of blue, green, and purple; and a sense of motion and depth created by overlapping layers and light rays. The overall color palette is dominated by cool blues and greens, with some warmer tones like reds and oranges visible in the lower right and bottom sections.

Application Architecture

8. Application Architecture

8.1 Web Portal Enterprise

The application architecture of the PMS shall include the following functional modules in the web portal enterprise,

For PMSS (Procurement Management Support System)

- e-Dashboard
- Procurement
- PMSS MIS
- Request & Query
- Configuration

8.1.1 e-Dashboard

The dashboards are required for the three basic entities working on PMSS for the monitoring purpose. The details of dashboards is given in the [Business Architecture](#) in this document.

8.1.2 Procurement

Procurement of various goods and services using different prescribed methodologies as per the [Business Architecture](#) of PMSS shall play a vital role in the application architecture of PMSS. The respective process flows for different types of procurement is captured in the [Business Architecture](#) of this document.

8.1.3 PMSS MIS

All the modules in the modules in the PMSS should support various types of MIS that should be generated from the software. There should be an option to the administrator to select the attributes for the different MIS's as the custom reports for the ease of business. The details of the same are captured in [Business Architecture](#) of this document.

8.1.4 Request & Queries

A module to raise a request and provide the feedback should be a part of the PMSS application. All the entities may be able to send or receive and reply to the request and queries as per the workflow.

8.1.5 Configuration

Respective entities should be able to configure the respective details in PMSS. Respective configuration details are captured in the [Business Architecture](#) of this document.

For Academic MIS

- e-Dashboard
- MIS
- Entries
- Request & Query

- Configuration

8.1.6 e-Dashboard

The dashboards are required for the three basic entities working on Academic MIS i.e. NPIU/SPIU/Institutions for the monitoring purpose. The details of dashboards is given in the [Business Architecture](#) in this document.

8.1.7 MIS

MIS for the data entered by the SPIU's and Institutions in different sections and respective sub-sections shall be displayed in the form of MIS as per the [Business Architecture](#) of Academic MIS. The MIS format may be designed as per the requirement.

8.1.8 Monitoring Indicators

Various parameters as defined in the [Business Architecture](#) in this document shall be allowed to enter by the respective entities.

8.1.9 Request & Query

A module to raise a request and provide the feedback should be a part of the Academic MIS. All the entities may be able to send or receive and reply to the request and queries as per the workflow.

8.1.10 Configuration

Respective entities should be able to configure the respective details in Academic MIS. Respective configuration details are captured in the [Business Architecture](#) of this document.

The background is a complex digital collage. It features a central, semi-transparent globe with a grid of latitude and longitude lines. Surrounding the globe are various elements: binary code (0s and 1s) scattered throughout, some appearing as if they are floating or falling; abstract, flowing lines in shades of blue, green, and yellow; and a sense of motion and depth created by overlapping planes and perspective. The overall color palette is dominated by cool blues and greens, with some warmer tones in the lower right.

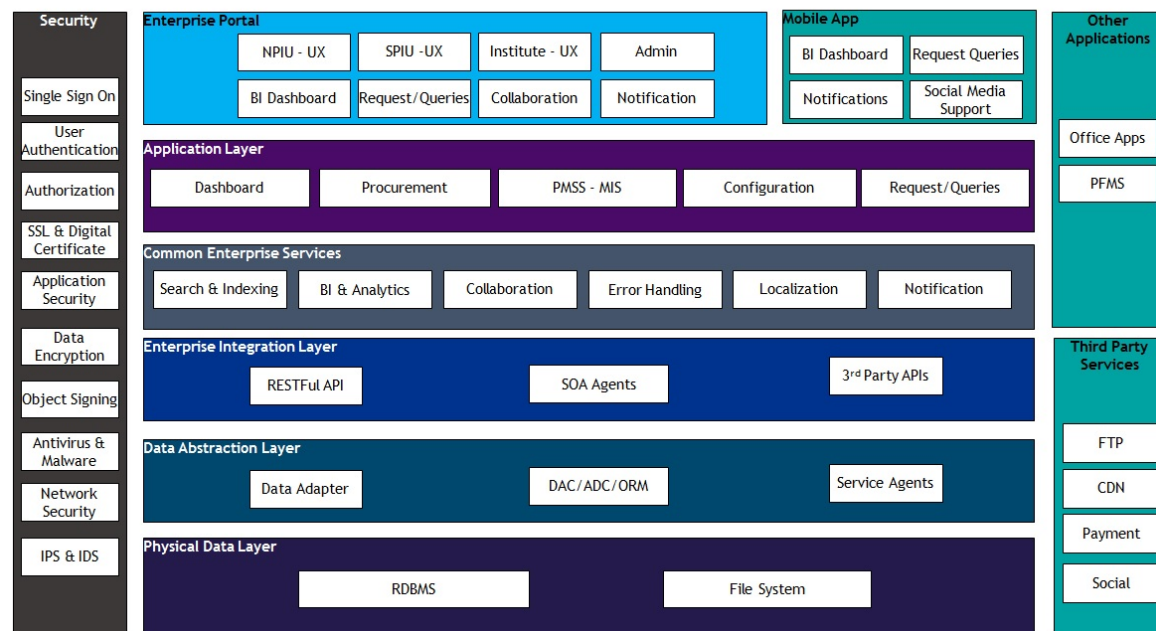
Technology Architecture

9. Technology Architecture

From the technical architectural perspective the proposed system solution should have 6 distinct layers. These 6 layers will be governed by infrastructure related to Audit & Security:

- i. **Enterprise Portal:** The Enterprise Portal forms Presentation Layer along with the Web Portal & Mobile Apps for EDCIL. However at present only Enterprise Portal is within the technical scope of work.
- ii. **Application Layer:** The functional module layer contain all the functional modules mentioned in the functional requirement.
- iii. **Common Enterprise Services:** This layer will contains all the common enterprise services which can be leveraged by all the applications in the upper layer.
- iv. **Enterprise Integration:** This layer provide framework, protocol as well technology to integrate all the functional modules. The same layer provide inter-operability with the 3rd Party & Work station applications & services as well.
- v. **Data Abstraction:** this layer will provide abstraction to the physical data layer there by ensuring technology independence from the RDBMS, file storage etc.
- vi. **Physical Data Layer:** this is the physical layer where RDBMS, File storage etc. are handled.

NFAI-ES Portal



The above architecture is designed keeping in mind EDCIL functional requirement as well as best practices with respect to open standard. However the same is indicative. MSIs are free to propose amendment or suggest different architecture with technical feasibility details with respect to parameters like performance, scalability, manageability etc.

9.1 General Requirements

The Proposed Enterprise Portal is going to be the gateway through which all the users will be accessing the underline services. Two other such gateways will be the Web Portal and Mobile App. Functionalities of these two are off course limited compared to the functionalities envisaged for the Enterprise portal. Following are the technical requirements with respect to the Portal:

- i. Proposed portal will be single integrated user interface for all stakeholders. Backend COTS/ bespoke applications will be exposed through Portal console using single-sign on.
- ii. Portal should enable personalization and configuration at user level. The portal should be capable of directing relevant content and information to individual users/roles, and provide end user customization.
- iii. Portal should enable content publishing within portal framework. It should support or should be capable of integrating with an advanced content management solution. Portal should enable content publishing within portal framework.
- iv. The portal should support workflows (linear/parallel/branching).
- v. The portal should not allow concurrent sessions for same user. The system should automatically log out a customer in case of session breakdowns (e.g., communication failure, high inactivity period - these should be parameterized)
- vi. The portal should implement security features, such as configurable password complexity, configurable automatic blocking (temporary/permanent) of user logins after given number of unsuccessful login attempts (should be parameterized), controlled access to content stored on the portal and logging of security incidents through user role management module. It should by its own or through an integrated Identity Management solution be capable of managing security rights and privileges by individual, group and role, and should support Single Sign On.
- vii. Portal should support HTTPS protocol on Secure Socket Layer (SSL).

- viii. The portal should support the leading web browsers such as Internet Explorer, Firefox, Chrome etc. including standard backward compatibility.
- ix. The portal should be able to expose/publish functional applications seamlessly
- x. The portal should provide search engine with advanced full-text search capabilities. The search engine should be able to search for requests within the portal.
- xi. Should provide support for comprehensive audit trail features such as:
 - Daily activities log should be merged into the history log files
 - Date, time and user-stamped transaction checklist should be on-line generated for different transactions
 - All transaction screens should display system information
 - Daily activity reports should be provided to highlight all the transactions being processed during the day
 - Unsuccessful attempts to log-in to the system should be recorded
 - Logs should be secured such that only authorised users can view the same. No logs should be allowed for adding/editing/deleting in terms of record or the file is stored in files.
- xii. Portal should be compatible to mobile devices
- xiii. Portal should be interoperable with industry standard databases (Oracle, DB2, Microsoft etc.)
- xiv. Portal should be capable of Supporting Multilingual content capabilities
- xv. In addition the portal should provide the following capabilities
 - Should have multilingual capabilities with regional, localization and Unicode support.
 - Should be able to integrate with common office application
 - Should authenticate users from Active Directory/LDAP, claim based authentication
 - Should support web services APIs, BLOB Storage, custom code solutions, REST, WSRP
 - Should support virtualization
 - Should support customization of Look and feel of the portal

- Should support a broad range of standards, preferably open standards. Some examples are DOM 1.0, HTML 5, HTTP, HTTPS, MathML, ODBC, ODF (IS26300), Open XML (IS29500), OpenSearch, OpenType, PDF 1.7, PDF/A, RTF, RSS, ATOM, SOAP, SVG, REST, UDDI, Unicode, URI/URN, W3C XML Schema, WCAG 2.0, WebDAV, WSDL, WSRP, XHTML, XML, XML Web Services, XMLDsig, XPATH, XPS, XSLT
- Should be able to connect to mobile devices.
- Should integrate with email servers
- Should integrate with instant messaging services
- Should integrate with any other portal products through open standards such as HTML, XML, RSS, web services, and WSRP.
- Role Based Access
- Should support encryption and compression feature
- Should support multiple roles with associated access controls.
- Should support upload, store, organize and share documents
- Should support Podcast Publishing, Rich media streaming and transcoding, Rich media search and organization
- Should preferably be XHTML 1.0/WCAG 2.0 AA compliant
- Should have content authoring capabilities
- Should have workflow capabilities with regard to the content approval/publishing process
- Should support Publishing content in web viewable formats
- Should provide multi-channel output capabilities
- Should support editions (versions/rollback) of the web site managed
- Users should be able to upload documents in multiple formats
- Users should be able to upload multiple files at the same time
- Should support 'Drag-and drop' file upload
- Should be able to 'send' documents to a project or group area by email

- Should be able to have embedded viewers for accessing documents in multiple formats without requiring other applications
 - Should support creating and editing rich documents inside the browser
 - Should have multi-user editing the same document.
 - Should support version control, change tracking and comments in these documents
 - Should support approval workflow
 - Should support check In/check Out capabilities
 - Should support version Control Capabilities (the number of major versions supported, minor versions, and branching)
 - Should support document linking capabilities (static, dynamic, and/or other)
 - Should supports the import of content into the repository
 - Should support document and text indexing capabilities
 - Should have offline capability for uploading content
 - Should support image indexing capabilities
 - Should be able to support to store and manage documents in the same repository
 - Should Support Managed Metadata
 - Should support Records Management
 - Should support Document Sets
 - Should support content archiving capabilities
 - Should Support Digital Asset Management
 - Should be able to add Site Feeds within a portal
 - Should support federated search
 - Should be able to customize search
 - Should be able to perform read/write/update data to other RDBMS
 - Should provide offline support for forms
- xvi. Should provide support (out-of-box) drag and drop of documents directly from File Manager/Windows Explorer to Browser for upload of documents in a document library.

- Availability of document metadata when offline
- Should support creation of ad hoc query by users
- Application forms should be created as templates and data could be stored separately.
- Data entry for E-forms could use a common office interface
- Data could be collected in an offline manner; no connectivity to capture data should be required.
- Bulk update of data should be available to any data source
- While the bulk data is getting uploaded it should also tell for errors if it encounters any.

The above mentioned features are indicative and not an exhaustive list.

9.2 Application Layer

Functional requirements for all the functional modules are mentioned in detail in the functional requirement chapter. However there are few technical requirements which all the functional modules fulfil. Those requirements are as mentioned below:

- i. All the Application Modules should be designed and developed based on Service Oriented Architecture.
- ii. All the Application modules should preferably be developed using one single robust Enterprise Application Development Framework.
- iii. All the applications should ideally be developed on same development platform ideally based on an open stack like Enterprise Java, MEAN Stack, Dot Net or similar.
- iv. In case Same Framework or Development Platform for all the application module as mentioned above is not technically feasible the applications should still be developed in such way to optimize infrastructure requirement and should integrate with other modules seamlessly using efficient and robust APIs.
- v. Interoperability for all the contents in repository (digital assets & other contents) should be ensured using industry standard protocol like CMIS
- vi. User Interface of all the applications should be available through the portal.
- vii. An Enterprise grade Application Server should be used for deployment.

All the application modules should seamlessly leverage the services provided by the common enterprise service layers. This will reduce building common functionalities for each and every application modules.

9.3 Common Enterprise Services

These services will be leveraged by all the functional modules across the proposed application PMS (Project Management System). Technical requirement specific to each block is mentioned below:

9.3.1 Search & Indexing

- i. Should be able to support both structured and unstructured data, and a combination of them.
- ii. Should support summarized/contextual search.
- iii. Should support search and contextualize results based on user profiles and roles.
- iv. Should be able to search information from all possible data sources present in the ecosystem which includes but not limited to internal and external data sources such as portal, integrated content management system, databases etc. The solution should be capable of making content from multiple enterprise-type sources, such as databases and intranets, searchable to a defined audience
- v. The solution should be capable of searching in external data repositories (of both structured and unstructured data) which will have interface with the solution
- vi. The search solution should support automatic spelling checks, query suggestions.
- vii. The solution should support dynamic result clustering.
- viii. The solution should index data and documents from a variety of sources such as: file systems, intranets, document management systems, e-mail, databases and other integrated external systems.
- ix. Preference will be given to
 - Enterprise search platforms with futuristic capabilities like context based search, machine learning and natural language processing capabilities, content analytics and searching with subjective questions or phrases etc.

- Enterprise search platforms should have the capacity of searching but not limited to all types of structured, unstructured, semi-structured, social media, web content, enterprise systems etc.
- The search platform must be scalable to search billions of records.
- The search engine should have the ability to securely search internal, external systems or applications preferably without needing to index them at all times.
- The search should show results to the user based on the authorization and authentication of the user.
- Security profiles of the underlying systems should be respected so that users can only see the information for which they are authorized.
- The search platform should preferably provide a platform that is easy and quick to customize. A web-based intuitive administrative interface is preferred.
- The search platform should be able to handle industry specific taxonomies and ontologies, as may be required during the course of operations.
- Search users should be able identify and extract specific entities relevant to their interest area fairly easily and quickly.
- The search platform should have the ability to showcase the relevant information to the user in a context to create a 360° view of an entity available in PMSS and Academic MIS framework.
- The search platform should support dynamic categorization of results in order to accelerate searching process.
- The search platform may automatically identify and cluster related information to achieve better user satisfaction.
- The system must be able to search, filter and publish results in various formats and on multiple parameters like student demographics, education levels, interest areas etc.
- The proposed system must have a search feature which should be capable of including full word matches, partially matching words, misspelt words and different tense of words in the result
- The proposed system should have capability of crawling different structured and un-structured data sources

- The system should be able to extract and combine data into a single unified analysable view from different source systems like transactional systems (RDBMS), NoSQL, csv files, DOC files, excel files, PDF files, DBF files, emails, XML files etc.
- The proposed system should allow the business users to run tagging and text enrichment from the front end himself
- The proposed system should have an in-built thesaurus which should be referenced by the search feature for finding similar meaning words from the database and including those records in the search results

9.3.2 BI & Analytics

All the application modules are expected to come with a finite number of Out of The Box (OOTB) reports. However the system should also have a separate BI & Analytics Module which is able to provide insight to all the application's data. Following are the key technical requirements:

- i. **Executive dashboards:** Personalized Dashboards should be available to deliver relevant, easily understood real-time data to business leaders. EDCIL BI users should be able to access to personalized dashboards that deliver easy-to-understand KPIs and summary information on a regular, scheduled basis. Additionally, exception reporting should alert the users to unexpected events and scenarios that require action. Eg. The dashboards should be able to display customized data and reports as per user requirements from time-to-time.
- ii. **Location Intelligence:** The proposed BI & Analytics Module should provide Location Intelligence thereby providing the ability to map and visualize data in geographical formats.
- iii. **“What if” analysis:** “What if” analysis allows businesses to assess the potential effects of critical business decision before they're actually made. Using existing data, users can formulate strategies to achieve business targets and avoid the default “hit and miss” approach. This helps management undertake accurate strategic planning. The proposed solution should have “What if” analysis capability. Eg. Query driven reports with appropriate filters to be made available while representation of data.
- iv. **Interactive reports:** Interactive reports help users convert data into knowledge. They allow users to better understand the analysis within reports, and the underlying data those reports are based on, to support better decision-making. User should be able to:
 - Drill down and through reports
 - Conduct slice and dice OLAP analysis

- Apply analysis such as moving averages and regression to highlight trends in data
 - Use time-series zooming to scan large data sets to understand anomalies in their data
 - Use conditional formatting to set data alerts which highlight data exceptions
- v. **Metadata layer:** A metadata layer should be designed in such a way to make reporting easy and eliminate the need for coding and SQL, allowing users and report writers to see and access information in simple business language. Users should be able to solely interact with data at the metadata level without having to comprehend the complexities of the underlying data or database.
- vi. **Ranking reports:** This solution should allow the user to create reports that order specific categories of information, from across multiple dimensions, by selecting specific criteria.

9.3.3 Collaboration

Following are the collaboration functionalities available in the system:

- i. **Wikis:** Each user group should have its own Wiki with its own set of authorizations. Anyone with editing rights can quickly contribute information to these online topical encyclopedias
- ii. **Message Board:** Message Boards are a perfect solution for facilitating conversations around shared ideas within a department or project team, or for capturing and sharing the tacit knowledge of the workgroup.
- iii. **Blogs:** The application should allow users to convey information and facilitate conversations around blogs directly in the context of a website, intranet, extranet, or social network.
- iv. **RSS:** Users should be able to subscribe to frequently read RSS feeds from message boards and blogs within the portal.
- v. **Instant Message:** The IM should be available out of the box. A friends list automatically displays the names of all other logged-in portal users.
- vi. **Email:** There should be integration with the existing EMAIL system.
- vii. **Shared Calendar:** There should be a Community-based calendars that allow users to create, manage, and search for events. Events can be shared across communities, and event reminders can be set up to alert users of upcoming events by email, IM, or SMS.

9.3.4 Audit Trail

An audit trail (also called audit log) is a security-relevant chronological record, set of records, and/or destination and source of records that provide documentary evidence of the sequence of activities that have affected at any time a specific operation, procedure, or event. In a computerized

system an audit trail ideally tracks the addition/modification/deletion of data in a data repository. The proposed solution should provide Audit Trail as part of the common service.

- View or create a report of all newly created/amended/deleted records
- View or create a report containing the contents of all deleted records
- View or create a report of all changes to a given record
- View or create a report of all user access profiles
- View or create a report of all user id login and logout times over a specific period
- View or create a report of functional usage by user ID of system activity over a specific period, e.g. list the number of times each type of system activity (report, query, accession, etc.) was accessed on a certain day by a user
- View or create a report by system activity on user access over a specific period, e.g. for each system activity (report, query, accession, etc.) list each user who accessed on a particular day
- View or create a report of the queries performed by users

9.3.5 Localization and Internationalization

In software application, where internationalization and localization are means of adapting computer software to different languages, regional differences and technical requirements of a target market (locale), the proposed application should be able to support the same. The proposed application should support Internationalization, where the process of designing a software application is so that it can potentially be adapted to various languages and regions without engineering changes. It should also support Localization where the process of adapting internationalized software for a specific region or language by adding locale-specific components and translating text. Localization (which is potentially performed multiple times, for different locales) uses the infrastructure or flexibility provided by internationalization (which is ideally performed only once, or as an integral part of ongoing development).

9.3.6 Notification

Following are the requirements as far as notification services are concerned:

- The system should have a comprehensive logging / audit and exception handling mechanism
- The proposed solution should have the ability to show recent faults and errors and be able to display recent error messages and exceptions handled
- The proposed solution should integrate with the “Logging Engine / audit engine” and the “Exception Management” components
- System should have event processing capabilities, on various system interruptions.
- System should be able to generate alerts and email notifications to select groups.

- System should have email integration capabilities and shall accommodate event or criteria driven email notification to select user group.
- System should support configurable email notifications in case events like document deletion, document access removal, documents submission for approval.
- System should support generation of predefined alerts and notifications for various business activities

9.4 Enterprise Integration Layer

Considering the PMSS and Academic MIs, it has to seamlessly inter operate with EDCIL Web Portal and may need to offer integration with other 3rd party apps in future, a SOA based architecture is envisaged for the same:

- i. The solution should support static/deterministic routing, content-based routing, rules-based routing, and policy-based routing, as applicable in various business cases related to the applications.
- ii. The solution should have capabilities to receive input message in heterogeneous formats from various different systems, interpret those messages, process and transform those messages to generate output and feed them to various different clients as per formats applicable.
- iii. The solution should have features to communicate across different services, process them and expose as single aggregate service to facilitate business functionality
- iv. The solution should have facility to run validation rules on input messages before beginning transformation and processing. On validation failure, system shall be able to generate meaningful error codes which can be passed back to the invoker.
- v. The solution should support message queuing, synchronous and asynchronous processing, fall back options in case upstream and downstream systems become unavailable temporarily.
- vi. The solution should provide option to enable WSS (Web service security) of various kind (Token based, certificate based, mixed-mode) from web service exposure interface. The enablement shall be configurable using web based administrative interface.
- vii. The solution should have event processing capabilities, on various system interruptions. System shall be able to generate alerts and email notifications to select groups.
- viii. The solution should support standard message exchange patterns, JSON, RESTFul, web services, SOAP/HTTP, SOAP/HTTPS standards.

- ix. The solution should have various adaptors to connect and communicate across heterogeneous external systems. The adaptors shall support secure communication, error handling for exception scenarios, transformation capabilities.
- x. The solution should have provisions to manage priority of messages in queue and switch the priority of messages at run time. System shall also be able to configure parallel message processing.
- xi. The solution should support delayed message delivery in case of transmission failure. It shall support putting failed messages in redelivery queue for retransmission.
- xii. The solution should not operate in single point of failure (SPOF) mode. It shall be load balanced to make sure high availability and minimal time lag in message processing and output transmission.
- xiii. The system should integrate with SMS Gateway, Email Gateway, Social media etc.
- xiv. The system should be compliant with Content Management Interoperability Service(CMIS)
- xv. The system should be able to integrate with Content Delivery Network (CDN).

9.5 Data Abstraction Layer

Data abstraction leads to the ability to leverage physical data, no matter how it's structured, as new, logical schemas that exist only in middleware(in this case the Enterprise Integration Layer) creating a common data layer that architects can restructure as needed, rather than making costly changes to the physical database or core services. Data abstraction hides the complexity of data by letting the solution architect define a new, better organized structure that exists only in the middleware. The result is that an application (or another service) can request the data in a well-organized, logical format, without having to worry about its actual physical layout. As an example, an application may request a customer record from the data abstraction layer. Data is fetched from potentially many data sources, transformed into the agreed logical structure, and returned to the calling application. PMS should be designed with a robust & scalable Data Abstraction layer to accomplish the following:

- The common enterprise services should be Database agnostic.
- All the functional modules should be able to leverage a database even the database technology is changed (i.e. a RDBMS platform is replaced by another).
- All the API (RESTFul or other) should be function in database agnostic manner.

- Any data accessed should be through the Data Abstraction Layer only.

9.6 Physical Data Layer

PMS will have different type of data which consists of documents like pdf, xls, doc files, images, metadata as well as transactional records. To manage different data types the proposed system will have two different types of data stores i.e. RDBMS for structured data (transactional records), and File System for documents & image files. Technical requirement for these two different data stores are mentioned below:

9.6.1 RDBMS

- i. Database should have perpetual and enterprise wide licenses. They should have proven scalability credentials to cater to any system load.
- ii. It should provide Unicode support.
- iii. It should support User-defined Data Types & User-defined Functions.
- iv. The database should support database encryption, backup encryption and support for external key management.
- v. Database should support advanced data compression, self-healing and deployment in various cluster topology.
- vi. Database should support multiple languages such as English, Hindi and other Indian languages.
- vii. Database should be compatible for hosting on various industry standard platforms such as Windows, AIX, UNIX, LINUX etc.
- viii. The database platform should support enhanced configuration and management of audits.
- ix. The database platform should support Failover Clustering and disaster recovery solutions.
- x. It should support online indexing operations and parallel indexing operations
- xi. Database should support Schemas, Roles Based Privileges & Authentication.
- xii. The data platform should support policy-based system for managing one or more instances across enterprise
- xiii. It should provide a scripting shell that lets administrators and developers automate server administration
- xiv. Other than built in database access logic in application, a separate database security layer will be required to control direct access to database server by any unauthorized user.

- xv. The database platform should support defining resource limits and priorities for different workloads, which enables concurrent workloads to provide consistent performance
- xvi. Database security should provide different layers of database users with overall control of database security administrator, only authorized database administration users with assigned privilege should be allowed to access database.
- xvii. A separate audit trail should be maintained for any direct modification, deletion and addition in RDBMS database in database structure or records. User, even the database administrator should not be allowed to tamper with audit log. Database server should support most granular column encryption to encrypt sensitive data.
- xviii. The selected RDBMS should have abilities for fault tolerance, linear scalability, mixed workload capability
- xix. Database should support option of different partitioning schemes within the database to split large volumes of data into separate pieces or partitions, which can be managed independently. It should support physical columns. The partitioning should enhance the performance, manage huge volumes of data and should provide foundation for Information Life Cycle Management.
- xx. The RDBMS should preferably provide options for Automated/manual performance analysis with diagnosis of the cause of performance related issues with possible resolutions.
- xxi. RDBMS should allow storing scanned images, text documents, XML, multi-media inside the tables. It should be part of the basic database distribution without any additional cost to the organization.
- xxii. RDBMS should provide strong encryption capabilities within database for stored information in the tables as well as the information transmitted over network.
- xxiii. RDBMS should support the separation of security functionality from application functionality and database administration functionality.

9.6.2 File System

- i. The proposed file system should be able to work with latest Cloud File Systems available with leading Cloud Providers
- ii. The File System should be scalable so that it can accommodate the physical available storage capacity under one volume

- iii. The proposed file system should be compatible with all industry standard file sharing protocols like SMB/CIFS, NFA, AFP, FTP, WebDAV etc.
- iv. The proposed file system should be able to leverage all the technical features and functionalities offered by the underlying storage infrastructure in terms of I/O Ops, Replication, Backup, security etc.
- v. The proposed file system should be able to serve all the file related functionalities required by the application & common services layers above it.

9.7 Security

Security is one of the utmost important aspects envisaged in the entire solution design of PMS. All key dimensions like, authentication, sessions management, context sharing and role based access control, should be an integral part of the PMS architecture.

The key security requirements are mentioned below:

9.7.1 Identity & Access Management

The key requirements for Identity and Access Management are mentioned below:

- i. The solution should be capable of uniquely identifying all users of the system and their activities
- ii. The solution should have the capability of providing user access rights to system and data which will be in line with the defined functional requirements
- iii. The identified solution should support both on premise and cloud implementation, or a hybrid of the two.
- iv. The solution should be a directory based solution supporting LDAP
- v. The user account management component of the solution should address requesting, establishing, issuing, suspending, modifying, and closing user accounts and related privileges, with a proper approval process
- vi. The system should be able to perform regular audits and management reviews of all accounts and related privileges
- vii. Should provide Single Sign-On facility
- viii. Should support Mobility
- ix. Should have Fraud Prevention/Detection capabilities

9.7.2 Access Control

- i. PMS must ensure that the access rights of all stakeholders and users to information and information processing facilities shall be removed upon termination of their employment, or adjusted upon change.
- ii. The system should have single profile/user database which will act as a master source to provide role based access to the all users.
- iii. All the modules and the connector/plugin required should be provisioned and supplied as part of the solution.
- iv. The solution should also have risk based and knowledge based authentication. The solution should be able to generate additional challenge response scenario based on the change in behaviour.
- v. Solution should have the capability to define access based on time of day, day of week or by group or user defined access
- vi. The solution should have the capability to delegate the role if required for a set of specified user as decided by EDCIL during the course of the project.
- vii. The solution should be able to deploy and configure password policy as approved by EDCIL.
- viii. All the user activities should be recorded in the system. The system should provide the feature to configure the logs as and when required.
- ix. The solution should have the option of blocking multiple sessions for the user.
- x. The application should support role based access control to enforce separation of duties.
- xi. The application should display the last login status (successful/unsuccessful, time) to the user.
- xii. The application shall limit more than one session per user or process ID.
- xiii. The application should not store authentication credentials on client computers after a session terminates.
- xiv. MSI shall also deploy solution to manage administrator access the components deployed such as operating system, network, database etc.
- xv. Users should not be able to browse past their user role rights. User should not be able to access an unauthorized page by entering the location into the URL.
- xvi. Users' activity should not be cached when handling sensitive information.
- xvii. The user must be made aware of and agree with the use the application will make of cookie sessions. Any information stored within the cookie must not be disseminated to third parties without the users' consent.

- xviii. PMS should be able to deploy and configure password policy as approved by EDCIL. The password policy should include the complexity requirements, password expiry, masking of password when typing, authentication for password reset etc.
- xix. PMS should lock out the user account upon defined number of failed login attempts. Account shall be locked out for defined duration before providing as option to unlock.
- xx. PMS should ensure secure session management in the application – invalidating session when user logs out, session time out, placing logout on all links that require authentication, protecting session ID, changing session ID etc.

9.7.3 Authentication, Authorization and Single Sign-on

There should be a provision of logging into the system through Internet. PMS should comply with all requirements of security, reliability and non-repudiation as per the government of India guidelines. There has to be provision for authentication using digital certificates as per the government of India guidelines. EDCIL will however reserve the right to procure digital certificate for the end users whenever required.

- i. Users must be provided ‘single sign on’ functionality for the entire PMS and module deployed.
- ii. Once the users enter their login credentials, the user credentials from the user authentication server database must be verified and then only the access should be granted inside the PMS modules. The personal ‘Dashboard’ facility should be available for all the users after successful login as a first interface within the application. The type of information and content, to be displayed on the personal ‘Dashboard’ of Users should be dynamically controlled through the Access control module/Admin Module. However, it should be noted that for each user there should be only one session at a time should be maintained i.e. when one User logs-in to the application using his/her own credentials, then the same credentials must not be allowed to be used for logging into the application through same or different computer.
- iii. The logged in users with the adequate privileges, as granted through the ‘Admin’ module, should be able to access the modules in PMS. The external Users (if granted access through well-defined registration process) should be able to register grievances, track the status and resolution, as well as provide feedback/suggestions on services, facilities, etc.
- iv. The system should provide the single sign-on facility i.e. once any Users credentials are verified, he/she should be able to navigate through all the modules and functionalities of the integrated application, to which that User is authorized to access.

- v. The portal security solution must examine all traffic to all resources of PMS and all access attempts to the portal or directly to any resource managed/access by the portal, should be intercepted by the security solution, and examined for authentication and authorization requirements defined for the resource.
- vi. Any access to end users to database should only be via application/portal authorization
- vii. The portal should also provide a dashboard to the EDCIL users and other Government officials to display a summary of course content pending approval, list of course providers, course takers and examination agencies pending for verification and authorization.
- viii. Solution should allow a user to access various functions, forms, screens, sub modules, information, etc. as per the authorization and user role permitted by the portal administrator as per available guidelines and policies.
- ix. Public user can browse the portal with rights to view public content available on the website, remaining all types of users shall enter the solution using appropriate secured authorizations.
- x. The proposed solution shall support flexible definition and modification of authentication, authorization, encryption, and data integrity assertions and requirements for each security policy
- xi. The solution should support multiple authentication methods such as Username password, two factor authentication, digital certificate and Biometric based authentication. The MSI along with EDCIL shall roll-out strong authentication for users in phased manner.
- xii. The solution should have the functionality to provide authentication based on the role.
- xiii. The application should not store authentication credentials on client computers after a session terminates.
- xiv. Portal should validate the mobile number and email address provided by each registrant by means of sending confirmation passwords via both SMS and email.
- xv. Should support authentication – SMTP AUTH, POP before SMTP, File system, Database, LDAP etc.
- xvi. Authentication should be done for all valid Users. A valid User for this application should be the one who has been set-up in the application such that he/she can access the application and perform tasks as per assigned roles and responsibilities as well we access rights within the system. Authorized Users should have to access the login screen for authentication.
- xvii. The application should have a configured directory of all authorized Users.

- xviii. User Management should be a management and authentication feature within the application that should provide administrators with the ability to identify and control the state of users that should have right to log into the “PMS” and take or provide services through it.
- xix. Through the User authentication server ‘Rights Management Services’ (RMS), there should be a form of User authentication functionality that should allow various users to access the “PMS” and work as per their defined Roles and Responsibilities. Rights Management Services should be used for restricting access to rights-protected content/sections/modules/screens/Fields, etc. to authorized users only. Rights to all active users should be granted based on their hierarchy and level in the organization, designation, assigned roles and responsibilities, location etc. among other parameters. It is also proposed that the new rights can be created through the Rights Management UI interface as well as existing rights be managed through the same. The access to the section of the application should be strictly based on “Role Based Access Control” (RBAC) for the Administrator(s) only as defined in the ACCESS Policy. The details of any change in the module should be captured in the Audit Trail of the application. Also there should be facility to assign/modify/deactivate/delete rights globally for the desired Groups within the system.

9.7.4 Application Security

- i. PMS must comply with the Application Security Plan and security guidelines of Government of India as applicable
- ii. MSI will define and follow the secure coding guidelines. Secure coding guidelines shall include controls against SQL injection, command injection, input validation, cross site scripting, directory traversal, buffer overflows, resource exhaustion attacks etc.
- iii. MSI should incorporate validation checks into applications to detect any corruption of information through processing errors or deliberate acts.
- iv. MSI should shall validate the data output from an application to ensure that the processing of stored information is correct and appropriate to the circumstances
- v. Should implement secure error handling practices in the application
- vi. PMS should have Role based access, encryption of user credentials. Application level security should be provided through following security controls:
 - Prevent SQL Injection Vulnerabilities for attack on database

- Prevent XSS Vulnerabilities to extract user name password (Escape All Untrusted Data in HTML Contexts and Use Positive Input Validation)
- Secure Authentication and Session Management control functionality shall be provided through a Centralize Authentication and Session Management Controls and Protect Session IDs from XSS
- Prevent Security Misconfiguration Vulnerabilities (Automated scanners shall be used for detecting missing patches, misconfigurations, use of default accounts, unnecessary services, etc. maintain Audits for updates)
- Prevent Insecure Cryptographic Storage Vulnerabilities (by encrypt off-site backups, ensure proper key storage and management to protect keys and passwords, using a strong algorithm)
- Prevent Failure to Restrict URL Access Vulnerabilities (By providing authentication and authorization for each sensitive page, use role-based authentication and authorization and make authentication and authorization policies configurable)
- Prevent Insufficient Transport Layer Protection Vulnerabilities (enable SSL for all sensitive pages, set the secure flag on all sensitive cookies and secure backend connections)
- Prevent Invalidated Redirects and Forwards Vulnerabilities
- For effective prevention of SQL injection vulnerabilities, PMS should have monitoring feature of database activity on the network and should have reporting and mechanism to restrict or allow the traffic based on defined policies.

9.7.5 Information Security Management System (ISMS) – ISO 27001:2013

It is required that the security management system should be designed, established and implemented based on ISO 27001:2013 standards. The key activities for the MSI are mentioned below:

- i. Should prepare information security policy and supporting procedures for ISO 27001:2013 certifications. The policy and procedure should be submitted prior to Go-Live of business critical services.
- ii. Should perform Risk Assessment and Risk Treatment Plan for the application and infrastructure based on the approved Risk Assessment Methodology

- iii. Should implement all the controls as identified during the Risk assessment and treatment plan as per the agreed timelines
- iv. Must ensure that the policies and procedures should be aligned with EDCIL policies (if any) and also comply with CERT – IN guidelines.
- v. Will ensure that all the observations highlighted during the audit are tracked to closure
- vi. Should support/provide information/documents for conducting information security audit on a periodic basis through a third party/nominated agency identified by EDCIL.

9.7.6 Data Encryption, Object Signing & Database Roles

- i. All the interfaces between various applications and user are encrypted using appropriate protocols (such as HTTPS, IPsec etc.), algorithm and key pairs.
- ii. PMS should support 128-bit encryption for transmission of the data over the Internet.
- iii. Object signing and encryption of attachments (documents) shall be compliant to published MeitY standards.
- iv. Proposed solution must be secured to both internal and external parties (such as through password encryption)
- v. The Network/Transport level should include Network Link Encryption (IPSEC) and encrypted HTTP session using SSL (HTTPS)
- vi. PMS should use audit controls, electronic signatures, data encryption and other methods to assure the authenticity of transaction and other relevant data
- vii. PMS should treat the following events as security incidents: unsuccessful log-on, intrusion detection, malfunctioning of encryption facility, etc.
- viii. Database server should support most granular column encryption to encrypt sensitive data
- ix. The system will maintain logs include at least the following:
 - Authentication and Authorization events – logging in, logging out, failed logins. These should include date/time, success/failure, and resources being authorized, the user requesting the authorization and IP address or location of the authentication attempt.
 - Logs of all administrator activity
 - Logs for deletion of any data
 - Logs of modification to data characteristics: permissions, location, field type
- x. MSI will develop a procedure for archiving the log files and ensure security of the log files
- xi. MSI will maintain separate environment for production, test and development to reduce the risks of unauthorized access or changes

- xii. PMS should have the functionality to record all the administrator, user level activities including the failed attempts
- xiii. Should protect logging facilities and log information against tampering and unauthorized access
- xiv. MSI will prepare the information security baseline document for all the infrastructure components such as database, operating system, router, switch etc. based on CERT-In technical guidelines and best practices.
- xv. MSI should make provisions for secure content management on the portal.

9.7.7 Privacy Policy & Notice

- i. There should be a privacy policy to be posted on the web portal. Privacy policy should be in line with the Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011
- ii. Privacy policy should include at least the following:
 - Clear and easily accessible statements of its practices and policies
 - Type of personal or sensitive personal data or information collected under rule 3 of the above Information technology rules, 2011
 - Purpose of collection and usage of such information
 - Disclosure of information including sensitive personal data or information as provided in rule 6
 - Reasonable security practices and procedures as provided under rule 8
- iii. There should be a provision for user consent on the privacy policy before the personal data or information is collected from the user. Consent should be in the form of opt in

Annexure

I. Glossary

EdCIL	Educational Consultants India Ltd.
CPSE	Central Public Sector Enterprise
MHRD	Ministry of Human Resource Development
PMC	Project Management Consultancy
DPR	Detailed Project Report
DFR	Detailed Feasibility Report
TEQIP	Technical Education Quality Improvement Program
PMSS	Procurement Management Support System
NPIU	National Project Implementation Unit
LIS	Low Income States
ToR	Term of Reference
TNA	Training Needs Analysis
ATU	Affiliated Technical Universities
NBA	National Board of Accreditation
AICTE	All India Council for Technical Education
IIT	Indian Institute of Technology
IIM	Indian Institutes of Management
UT	Union Territory
MOOCs	Massive Open Online Courses
PDT	Professional Development Training
PT	Pedagogical training
PDTC	Professional Development Training Centres
UGC	University Grant Commission
IOC	Incremental Operating Cost
CFI	Centrally Funded Institutions
NSC	National Steering Committee
NEC	National Evaluation Committee
EAP	Equity Assurance Plan
MIS	Management Information Systems
SPIU	State Project Implementation Unit
SPFU	State Project Facilitation Unit
CPA	Central Project Advisor
IDP	Institutional Development Proposal
NPD	National Project Director / National Project Directorate in DHE of MHRD
EMF	Environment Management Framework
DMF	Disclosure Management Framework
SWOT	Strengths, Weaknesses, Opportunities and Threats
M&E Unit	Monitoring and Evaluation Unit
FMR	Financial Monitoring Report
NOC	No Objection Certificate

SSC	State Steering Committee
BoG	Board of Governors
SPC	State Project Coordinator
DGS&D	Directorate General of Supplies and Disposal
NCB	National Competitive Bidding
ICB	International Competitive Bidding
LIB	Limited International Bidding
QCBS	Quality and Cost Based Selection
FBS	Fixed Budget Selection
SSS	Single Source Selection
IPD	Institutional Project Director
IPC	Institutional Project Coordinator
LCS	Least Cost Selection
CQS	Consultant Qualification Selection
GRN	Good Receipt Note
PO	Purchase Order
PMS	Project Management System

II. Various Formats used

1. Audit Report Format



Audit
Report_1.1.xlsx

2. FMR Report Format for TEQIP 2



FMR Monthly
formats_TEQIP 2_1.1.

3. Procurement Figures (State wise/Institution wise)



Procurement
Figures.xlsx

4. Other Report Formats

Same as that of existing formats.

