



**STUDY ON THE IMPLEMENTATION OF PROJECT
MANAGEMENT SYSTEM IN THE EXECUTION OF FUEL
RETAIL OUTLETS**

BY

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**A DISSERTATION REPORT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR**

**MBA IN OIL AND GAS MANAGEMENT
OF**

**CENTRE FOR CONTINUING EDUCATION
UNIVERSITY OF PETROLEUM & ENERGY STUDIES,
DEHRADUN, INDIA.**

2019

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Yours Sincerely

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Further, I certify that the work is based on the investigation made, data collected and analysed by him and it has not been submitted in any other University or Institution for award of any degree. In my opinion it is fully adequate, in scope and utility, as a dissertation towards partial fulfilment for the award of degree of MBA.

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ABSTRACT

Oil and gas (O&G) industry contributes to the economy as one of the most important sectors as being the most demanding, challenging and exciting engineering and technological advances which interests the engineers at large. As the O&G industry has become financially attractive yet risky to be implemented, it is important to look into the effective way of managing the O&G projects. Hence, via literature review, this paper is emerged with the aim of reviewing the project management in O&G industry by determining the O&G execution phase as well as examining the O&G project management approach based on the typical O&G platform development stage. It is found that in the O&G project execution, a systematic for project management is developed with the aim to improve the decision-making process and overall project execution, where typically, the systematic project management consist of four main phases, mainly

- A. Appraisal;
- B. Selection and Definition,
- C. Planning Phase
- D. Execution.

The project management approach is also found to be executed in the typical O&G development stages, namely:

- A. Conceptual design;
- B. Front End Engineering Design (FEED);
- C. Detailed design;
- D. Procurement of long lead equipment;
- E. Construction/fabrication;
- F. Pre-commissioning;
- G. Hook up and commissioning prior to handover to end user.

This project report will explain and provide a clear picture and understanding on how the O&G downstream project should be effectively managed via proper approaches of project management.

Project Management Systems (PMS) are expected to help project managers and the team members to manage their projects more effectively.

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1. INTRODUCTION

1.1. BACKGROUND OF THE STUDY

In today's world, the most common point of contact of customers with Oil Industry is the Petrol Pump. In Oil Industry parlance, Petrol Pumps are referred to as Retail Outlets (ROs).

Looking at the huge future potential in the fuel marketing segment, a number of global players have evinced interest to enter the Indian fuel retail segment. BP has secured a licence to open 3,500 retail stations. These players can develop a sizeable customer base, with their aggressive marketing, branding and international quality of services.

Existing private players - RIL, Essar Oil and Shell – have aggressive expansion plans as well. RIL plans to restart all its pumps and expand thereafter; RIL has a licence to operate 5,000 pumps. Also, Essar Oil, which have announced takeover deal with Rosneft, plans to expand its network significantly. The company has a licence to operate 5,000 outlets. Further, Shell has a licence to open 500 outlets.

All in all, private players (existing and upcoming) are expected to add 6,000-8,000 outlets by 2020-21. This will enable them to garner a market share of 12-15% in terms of outlets and 13-16% in terms of volume of fuel sold as they continue to focus on high throughput areas. During the period, we expect PSU OMCs to add ~9,000 retail outlets. The relatively slower pace as compared to private players is because PSU OMCs have already increased their outlets significantly over the last 10-12 years, and if they continue expanding rapidly it will severely impact their average throughput. Hence, their focus has shifted to increasing volume sales, enhancing customer experience and increasing their brand reach.

As per the Indian Government policy, Petrol Pumps can be set up by Public Sector Oil Companies as well as Private Sector Oil Companies dealing in storage and distribution of petroleum products as per guidelines. Presently, the Oil Companies engaged in retail business of automotive fuels are IOC, HPC, BPC, NRL, MRPL, ONGC in public sector and RIL, Essar and Shell in private sector.

Recently as a push to the infrastructure and the job creation, government has

made rules easy to open a retail outlet for the private players. This will result many small private players to come in picture to open the retail outlets.

Considering the number of fuel outlets coming in operation it is very essential for all the players to consider the execution of a retail outlets from conceptualization stage to project handover stage with a smooth flow. Project management system implementation will be crucial in this regard; This will not only help to complete the project in time but to complete the project with all the measures as per client requirement (i.e. quality, time cycle, budget, brand reputation etc.). Failure of any of these requirements will directly impact on the business, safety and image. As per current market scenario the same cannot be taken for granted.

An important consideration while execution of a retail outlet is implementation of a proper project management system, which will help for executing the project with better quality, limited resources and less chances for over estimation/spending.

Considering the business growth and revenue generation as the Retail outlet are majorly on the side of main road or tend to be in the crowded area, Hence the chances for the hazard and accidents are more. Due to this importance of Project management system implementation will play key role for entire project cycle (from project concept finalization to handover to the client).

However, risks related to asset damage, business interruption, pollution, injuries to people, and damage to properties are inherent in normal oil and gas related activities. In this dissertation, a typical study is carried out for execution of a small retail outlet with the help of proper project management and quality management system. The project can be executed with minimal risk and more efficiency can be achieved.

Hence Project management system will be very important tool for project managers who are executing the project in a retail fuel outlet program will helpful which is explained in brief in this project report.

1.2. PROBLEM STATEMENT

In the petroleum industry, managing projects in a global environment is becoming increasingly complex. Considering these project management in the execution of

the retail outlet is less complex but cannot be ignored.

An important consideration in execution of the project with proper sequence and procedure as all the process are dependent on their succeeding and preceding events; Retail of alternative fuels like CNG, LCNG & EV is also challenging due to design & regulatory framework currently existing in India.

The project phases described below shows how project management system is used from concept to operation, through a stage gated approach, ensuring relevant preparation and planning and appropriate assurance in execution and delivery.

The above phases give the detail for the approach of the project execution. whose phases and minimum assurance requirements will be explained in more details in other sections.

It is an irrefutable fact that proper project management increases the value of companies and may reduce operational distress. Time and Money are the most important assets for any execution of the project to make it viable and profitable. We need to identify a number of different types of flaws which can be eliminated by following the proper project management and quality management from the planning to execution phase for any Retail outlet.

1.3. NEED FOR THE RESEARCH

Recent development happened in the Indian business environment for the petroleum product selling is going to attract a large number of private players who became eligible to take license to start the fuel retail outlet. Also, Big private players (i.e. Essar, Reliance, Adani, Shell etc) will also try to get more benefit for these opportunities by opening as much as possible retail outlets in the growing area where the profits and revenue can be generated for further growth of these companies. To achieve this will minimum investment, time and resources. Capable Project Managers in a huge number with hands on experience for the Proper project management system will be essential. Project management refers to a systematic approach to the execution of any project in today's time. Proper project management will lead to the efficient execution with limited resources, time, manpower and better quality. This will ultimately lead the execution with

proper quality as per the project requirement and with minimum of deviation from the standards and procedures.

Important need for this research is to obtain understanding and agreement around what the risks really can be avoided by implementation of proper project management system. Also, this will help to understand how they will be managed to improve performance, increase the value of firms and reduce operational distress in retail outlet.

We use primary and secondary data in the analysis, and it identifies the proper project management from the conceptual stage to the execution stage, quality management, risk and safety, environmental impact for the execution of execution of retail outlets for petroleum products.

- ✓ India is second largest energy consuming country in Asia Pacific; Over past 15 years India has shown sustained growth in energy consumption with Energy consumption ~701Mtons per year which is also at average growth rate of 5% (3rd highest after China and Vietnam).
- ✓ India is expected to be the 3rd largest passenger vehicle market (from 2.6 million units per year in FY 14 to 4.7 Milling units in FY21) after China and USA by 2021; this will impact demand of HSD and MS. India is expected to be fastest growing market in this segment.
- ✓ MS and HSD demand in India is expected to be increased at the average annual rate of 6.3%. as per details as on Jan-2019 India's MS and HSD demand stands @ ~192 MMT.
- ✓ Rise in competition, entry of new players, and the decline in fuel margins is driving many players out of business and leading to market consolidation
- ✓ Cumulative growth in sales of passenger vehicles (3.7%) and 2-wheelers (8.1%) respectively is continuing to push MS consumption, which for seventeen months in a row recorded a positive growth of 13.2% during the month and a cumulative growth of 8.2% for the period April 2018-January 2019 as against April 2017-January 2018.
- ✓ Improved road connectivity and economic prosperity in rural as well as urban areas leading Growth in sales of automobiles and movement by

roads is increasing at a rapid rate leading to continuous growth in petrol sales. This will attract the private players and PSU's to increase their reach to customer by executing more and more retail outlets.

- ✓ Compared with global peers, though, the average throughput per retail outlet is much lower at ~160 klpm. The same in US would be 210-220 klpm. This is because, globally, retail outlets have consolidated (Between 1994 and 2015, the number of retail fuelling sites in the U.S. fell from 202,800 to 150,000). Higher cost of running petrol pumps as well as newer models of selling fuel has led to the consolidation of pumps in developed countries like the US. So, in India, there are more retail outlets to service the cars compared to that of developed countries such as the US.
- ✓ However, in India, the outlets are concentrated in a few areas with higher vehicle penetration. The other areas (mainly rural areas and certain locations along highways) have relatively less number of petrol pumps. With rising two-wheeler population in rural areas and increasing fuel demand, more petrol pumps will be needed in such areas for easy access of fuel to customers. Hence, there is a need for better dispersion of the fuel retail network.
- ✓ While PSU OMCs are expected to focus on expanding into rural segment along with expansion of network along the highways, private players are expected to concentrate majorly in the highway segment. As a result, PSU OMCs will continue to dominate the rural segment with 99% of the total outlets in this segment. Private players' share in the highways segment is expected to move up to 25% by 2020-21 from the current 13%.
- ✓ The three public sector oil marketing firms -- Indian Oil Corp (IOC), Bharat Petroleum Corp Ltd (BPCL) and Hindustan Petroleum Corp Ltd (HPCL) -- in November 2018 advertised to open 78,493 more petrol pumps in the country. This on top of 64,624 fuel retail outlets currently operating in the country. Apart from expansion spree by public sector OMCs, private players are adding fuel retail outlets as well. The joint venture between Reliance Industries Ltd and BP Plc, and Nayara Energy Ltd (formerly Essar Oil Ltd)

have plans to add 2,000 pumps each in the next three years, whereas Royal Dutch Shell Plc is slated to add 150-200 petrol pumps over the period as well.

1.4. OBJECTIVES OF THE STUDY:

Study of Project Management system to implement opportunities, from concept to realization, through a stage gated approach, ensuring relevant preparation and planning and appropriate assurance in execution and timely delivery along with quality.

The process is broken down into five phases following the life of a project from opportunity identification to new assets start-up. They are organized as follows:

- A. Initiate,
- B. Plan and Approve,
- C. Front End Development,
- D. Execute,
- E. Close of Project.

1.5. RESEARCH METHODOLOGY:

Research methodology is imperative for researchers with the goal for them to do research in a way that highlights and gives fundamental preparation needs in collection of material and masterminding and assembling it for doing research. There are two fundamental ways to deal with research; qualitative research and quantitative research. For this research qualitative research is connected. The definition and portrayal of qualitative research is clarified in detail as takes after.

'Qualitative research is the accumulation, analysis and elucidation of data that can't be genuinely measured in numbers'. Qualitative research fundamentally relies upon the social occasion of qualitative data. Qualitative research is a research that focuses on a multi technique approach that incorporates an interpretive and naturalistic perspective of its topic.

1.6. SOURCES OF DATA:

One of the most significant steps in writing a report is the collection of data or information. Because the report depends on the quality of the data collected, the report will be good if the data collected is good. When collecting data in research it

is important to consider, what type of data is to be collected and what method of data collection is to be implemented. Data collection can be expensive cost wise but depends on the nature of the project.

1. Primary data: Data is gathered for the first time for a particular completed project. Primary data is that collected through first-hand experience. Primary data can be gathered by applying either of the two basic research methods, qualitative or quantitative.
2. Secondary data: Data that has been formerly gathered by other researchers for other reasons. Secondary data results from reading what others have observed and experimented. In addition to these, secondary data is simpler and has lower cost to develop and to use than primary data which might mean interviewing large groups and distributing questionnaires.

1.7. SAMPLING:

For this dissertation, convenient sampling will be used to select the individual units for better effectiveness of the questionnaire. Total samples taken for the study are 2 no. of executed projects with implementation of proper project management system from conceptual study to execution stage. All the process applied in the execution of these projects are mentioned in sub-sequent clauses.

1.8. EXPECTED OUTCOME OF THE STUDY:

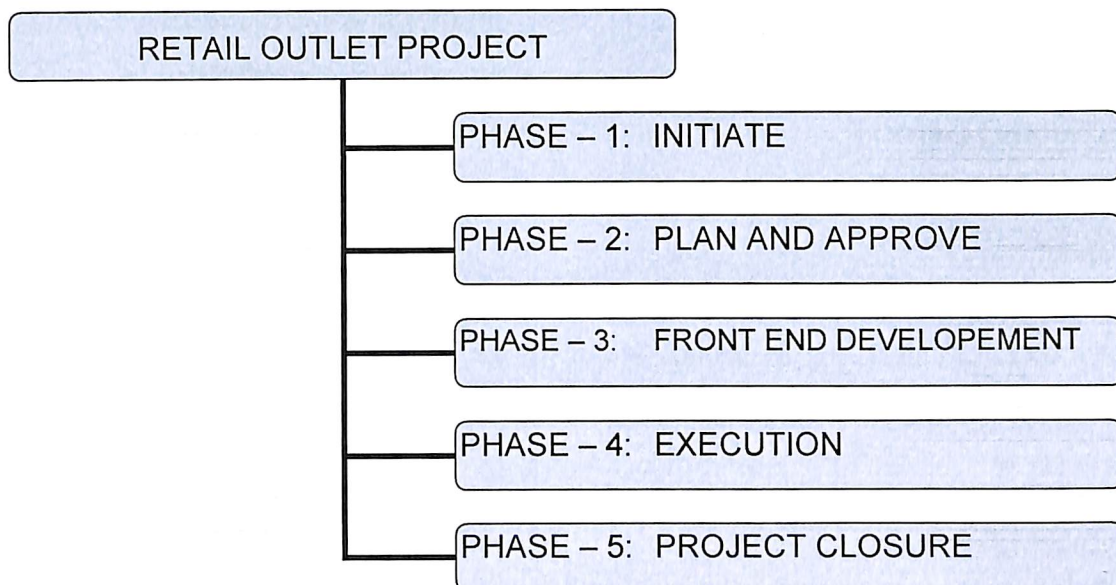
Considering the future growth for the retail outlet business, this study will demonstrate the importance of project managers and project management system in this field. Based on the experience in the executed project with proper implementation of project management system the output in terms of financial savings, risk reduction, saving in the Man, Money and resources with time to be achieved. Also, this study will explain the proper stages to be followed as a part of project management plan for execution of the project where different type of front is required (such as authority approval, local statutory body approval, quality control checks, planning, project closure, etc.)

2. LITERATURE REVIEW

2.1. PROJECT EXECUTION PHASES:

Considering the sampling taken for a reputed Oil and Gas downstream market player for their already executed 2 no. of projects. Here onwards the same will be termed as “Client”. The responsibility of the project manager who will be using a tool “Project Management System” will be termed as “EPCM Consultant”.

As mentioned in the Clause 1.4 any project is broken in 5 phases;



2.2. COMMON PROJECT FAILURE ELEMENTS

Common reason due to which a project may fails are as follows;

PHASE 1 : INITIATE

This is a first phase for any project to start, common mistakes done in this phase due to which chances of project failure is increased are as follows;

- Unrealistic Plan
- Unrealistic Budget
- Too much optimistic forecast
- Lack of understanding of stakeholder's aspirations;

PHASE 2 : PLAN AND APPROVE

- Lack of Adequate analysis of potential solutions
- Inadequate Risk Management
- Low Standardization and High Degree of Complexity

PHASE 3 : FRONT END DEVELOPMENT

- Scope Clarity Not defined
- Lack of Adequate resources and skills
- Incomplete and/or Incompliant design
- Passive management of Permitting
- Wrong Contracting / construction strategy

PHASE 4 : EXECUTION

- Poor HSE Management
- Poor Design Specification
- Poor Construction or Commissioning Plan
- Lack of Adequate Change Control
- Lack of Quality Control
- Incompetent Contractors

Any of the above reason can result in the failure of the project. Here Project Management System Tool works. A good project manager with proper implementation of Project Management System tool can avoid the failures in advance by putting a systematic approach.

3. PROJECT MANAGEMENT SYSTEM : DETAIL FRAMEWORK

Project Manager must follow the basics of Project Management System (PMS) tool since the initiation stage to ensure compilation to support Risk mitigation and avoid project fail.

Each requirement in project is a specific barrier. Project Manager (PM) must understand them consistently and efficiently.

3.1. OBJECTIVE OF PMS

PMS must be followed with minimum following objectives

3.1.1. *Optimise the Value*

➤ **Create the condition for a good opportunity framing**

PM must identify key value drivers, critical success factors and Major risk in a retail outlet

➤ **Develop Good Project Definition**

PM must develop a clear and robust design combining innovation, Global design standards and respect to Client's requirements

➤ **Adhere to Business Objective**

This is related to Client decisions however PM must develop an approach such that it will enable the fast decision making and it will control the adherence to business objectives.

For Project Manager the above objective in a simpler term can be defined as;



3.1.2. *Compliance and Safe Execution*

➤ **Conformity**

It is PM's responsibility to make sure that the respective technical team is conforming to technical assurance (Global standards), legal and Client's HSSE Frameworks

➤ **Safe Execution**

PM must prepare and track the Risk register covering the construction techniques, sequencing, permitting, contractor management and commissioning.

Project Manager must ensure the above and this will deliver safe execution which can be termed as;



GOAL ZERO & COMPLIANCE

3.1.3. Project Control

- Deliver safe, customer friendly, reliable and performing assets
- Manage changes during planning, design and execution.
- Monitor adherence to Cost, Schedule, Design Specification and quality and other project management parameters
- Planning and Running of Commissioning for safe and efficient start-up
- Financial Close out
- Measurement of effectiveness of overall project management through specific indicators covering performance and Value improvement

This can be termed as ;



DO THE PROJECT RIGHT

As a part of this study all the above objectives were used in the execution of 2 projects where the work was completed within the time limit, budget and resources.

In further detailing all the phases are explained in detail as given below which need to be considered by PM for successful completion of the project from conceptualization to handover of the petroleum downstream project.

3.2. PROJECT EXECUTION PHASES

Project execution process is broken down into five phases following the life of a project from opportunity identification to new assets start-up. They are organized as follows:

- Initiate,
- Plan and Approve,
- Front End Development,
- Execute,
- Close of Project.

3.2.1. INITIATE

3.2.1.1. Objectives and Outcomes

The Initiate Phase is an early identification and assessment of a network requirement.

The objectives of the Initiate Phase are the following:

- ✓ To identify the assessment of each network requirement, which can be linked to asset integrity (risk driven requirements), care and maintain (efficiency driven) and Growth opportunities,
- ✓ To develop a 1st scope and cost assessment for the potential project and plan resources for the approved program.
- ✓ To support along the year a continuous selection and “allocation” of a sufficient number of viable projects to cover the business priorities.

The expected outcomes of the Initiate Phase are the following:

- ✓ A shared Network Development Program,
- ✓ “Allocated” Projects,
- ✓ Budget estimate to cover Pre-IP works (before the approval of the investment proposal) with Opex.

3.2.1.2. Description of activities and minimum requirements

Project manager must be responsible to provide followings;

- ✓ A scope definition and a 1st costing at +/-25% for each potential project.

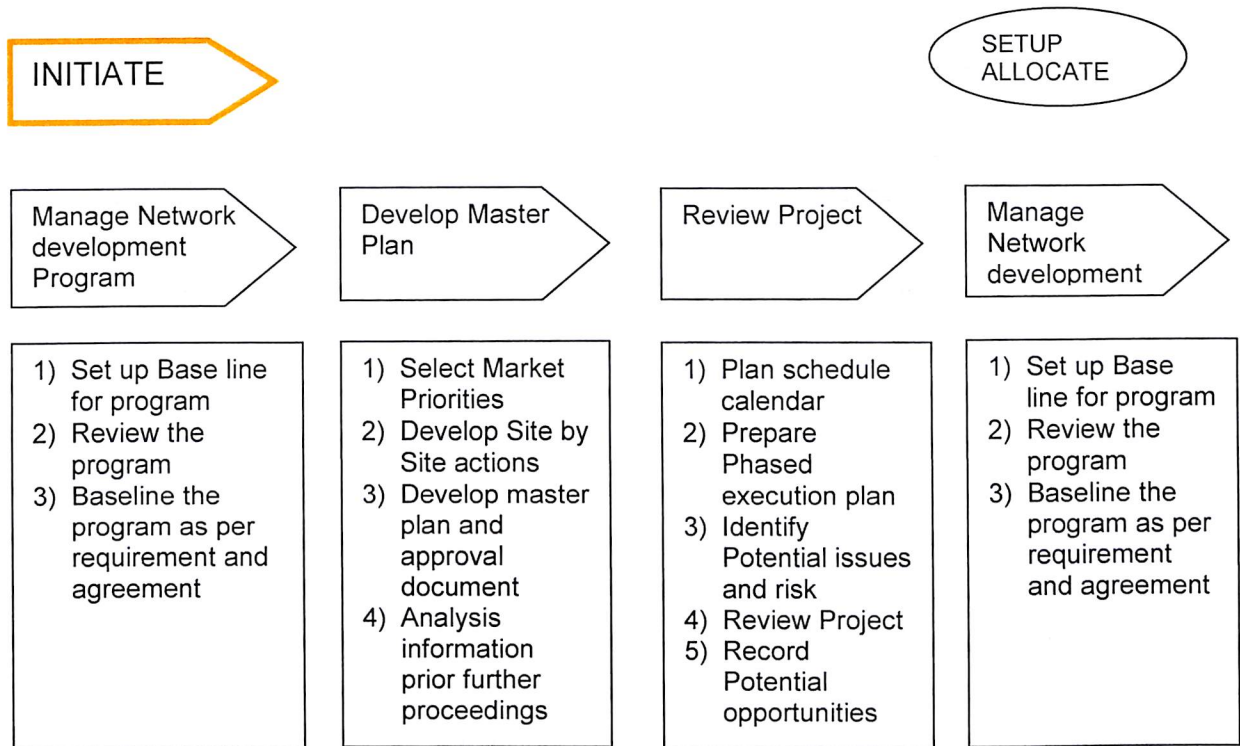
- ✓ Start preparing and evaluating the need in resources and a potential phased execution plan (this work will be iterative to adjust the plan to the requirements and budget constraints),
- ✓ Develop a 1st risk register for the program.

Stage Gate Set-up: Project allocation

This stage gate is managed by the Client, who will propose and get approval to allow each project with a good potential to move to the Plan and approve phase for a confirmation of the business case.

As mentioned in Clause 2.2, to avoid the failure of in the project at the initiate stage proper steps mentioned above can be considered such that any failure can be avoided.

This can be done in stage gate approach which is mentioned below for better clarity.



By following above step it will be ensured that any failure for the project during initiate stage can be avoided.

3.2.2. PLAN AND APPROVE

3.2.2.1. Objectives and Outcomes

The Plan and Approve Phase is the 1st design phase aiming the delivery of a feasibility report with a cost estimate +/-10% of the opportunity, which is a key input to the Investment Proposal (IP) and therefore to the investment decision.

3.2.2.2. Description of activities and minimum requirements

Initial User Specifications

The Initial User Specifications is the client specification and is a brief summarizing the scope of the project. Its preparation is coordinated by the Retail Fuel outlet Client's Planning department and the Client's EPCM manager.

It will summarize the input from the different functions of client in a standardize format covering the Site design and layout, the Fuel system design and sizing, the shop design and format, the RVIE SIGNAGE.

An important specification is also the NERA ranking, which is key to determine the level of process safety barriers to be applied to mitigate the risks of product leaks and if available at this stage the Environmental Report both prepared by the Soil and Ground Water.

Purchase Order – confirmation of Services

This Purchase Order will formally allocate Opex budget to cover the Feasibility costs.

This is key to allocate enough budget to complete a quality feasibility study in order to avoid late changes in specification during the Front-End Development phase, which would result in higher variations.

Feasibility Study and Site Layout

The feasibility document is typically based on a site layout combining legal and site-specific requirements with the Fit for Purpose Client's Design Standards.

It is important to get this lay-out supported by the different parties involved in the Initial User Specifications definition to avoid misalignments and late corrections.

All branding elements shall be controlled and approved by the Retail Brand Check Service Signage.

All specific design elements driven by site complexity or legislation requirements and which wouldn't be defined as a standard in the Initial User Specifications will need to be clearly listed with design specifications.

Project Schedule

The project schedule called level 1 with timing for the main phases and the main mile stones and a reference to key resources to be issued.

Project schedule at level 1 will contain:

- ✓ The anticipated duration of the main project phases (Feasibility, front end development and the construction) & the tentative milestones (Start and End date for the design, Start and End date for the execution, start-up)
- ✓ This should ensure transparency: is it doable and realistic? Is it in line with the stakeholder's requirements? This will also give a 1st indication to support the phasing of the resources and project execution within the overall program.

Remark: for the programs, the expectation is to propose a typical sub-project duration and the anticipated phasing principle.

Design Risk assessment and confirmation of the technical standards

The Design Risk Assessment, (Mandatory Technical Assurance Control) will be carried out using the GDS template to confirm that the relevant design principles have been applied to the HSSE critical equipment.

The Design Risk Assessment is a set of questions covering the generic risks related to a design changes at a Client's Retail Site.

- ✓ Design Risk Assessment is based on Client's historical engineering expertise.
- ✓ Helps identifying none compliance to GDS mandatory requirements,
- ✓ Helps detecting typical design gaps creating unacceptable risks on Process, People and Environmental safety.

An outcome of the Design Risk Assessment should also be the list of confirmed GDS standards linked to HSSE critical equipment and applicable to the project.

It is a good practice to complete this list with a reference to the other standards (Fit for Purpose Standards and local standards) to be applied during the projects and

to share this list with all project involved parties. This will help ensuring alignment and transparency around all relevant design, installation and commissioning requirements. This publication can be easily simplified if a general technical standard list is maintained by the EPCM reflecting all the standards typically applied to capital projects in the Market.

Please note that in any cases, the most stringent requirement shall be applied when facing contradictory legal country specific requirements and Client's standards.

Risk register

It is also recommended to issue and maintain a risk register specific to the project. This aims assessing all risks, which might affect the good execution of the business opportunity and related to design, HSSE, permitting, resources, cycle time, Cost, weather, political climate etc

The risk register will be updated along the project cycle with the confirmation that relevant mitigations are in place.

Contracting strategy

It is recommended to agree a contracting strategy and determine any early involvement of specialized company for the Front-End Development phase or of construction companies through already approved Framework Agreements.

The list of contractors proposed for an early selection (availability of a frame agreement or specific requirement) and involvement in the design phase shall be endorsed in any cases by the Client's EPCM manager.

Remark: typically, this requirement is a simple application of the approved annual contracting strategy, which lists the main available contracts and how they will be applied to the different types of projects over the annual execution of the annual capital program.

Cost Estimating

Based on the Initial User Specification and the Feasibility report, a first cost estimate at +/-10% accuracy will be issued.

Depending of the market and the level of repeatability of projects design, the Cost Estimate accuracy can be made more stringent than +/-10%, which is the minimum requirement of client as an input to an Investment Proposal.

Target KPI

At this stage of the project, the performance targets for the project should be finalized, agreed and approved by Client.

They will be consolidated with the feasibility outcomes and will be the original reference for the calculation of the project performance. They will be reviewed at the end of the next phase to consider potential scope changes.

Value Engineering

A value engineering session will be run to assess and document all opportunities to optimize the value.

Design Assurance Review 1 on Feasibility package

A review will be conducted by Client's EPCM manager on the feasibility package to confirm compliance to both Process and technical assurance and formally support the use of the cost estimate and other project deliverables in the Investment Proposal.

This list of documents is called Feasibility Package

- ✓ Initial User Specifications
- ✓ Feasibility Study and Site Layout
- ✓ (Term of reference with scope made site specific for programs).
- ✓ Project Schedule – level 1
- ✓ Main milestones and phases duration
- ✓ Design Risk assessment
- ✓ Risk register
- ✓ Contracting strategy
- ✓ Cost Estimating
- ✓ Value Engineering

The Feasibility package is to be shared and signed-off by the Market Retail Management Team to ensure that each key function gave support to the design before moving to the IP approval.

Stage Gate 1: IP Approval (Investment Proposal where in budget is freeze)

Network Planning and Real Estate (for Growth projects) or the Client’s Engineer (for all other projects) will coordinate the preparation of the Investment Proposal (IP) and will seek for internal approval in order to proceed to the next project phase. In case of rejection, the project will be stopped.

Final User Specification

The Initial User Specification amended as per the changes resulting from the IP approval process becomes the Final User Specification and is the Client’s brief for the Front-End Development. Any modifications to the Final User Specification must follow the Change Request process.

Issue PO

The approved IP and the Final User Specification will be the basis to issue the Purchase Order (PO) in the Client’s / EPCM contractor’s system.

This will allocate the necessary and approved budget and officially authorize EPCM company to start the Front-End Development phase.

All the details mentioned above can also be understood by the flow chart given below.

PLAN AND APPROVE	
1	STAGE GATE - 1 Assign Sponsor Team <ul style="list-style-type: none">• Assign PM• Confirm Project Data• Set-up Project
2	Create Project Hierarchy <ul style="list-style-type: none">• Prepare Acquisition Plan• Plan execution of stage gate reviews
3	Create WBS <ul style="list-style-type: none">• Create Project WBS
4	Refine Estimate <ul style="list-style-type: none">• Engage Seller• Review Site for Project Cost• Update Project Cost WBS
5	Conduct Stage Gate Review <ul style="list-style-type: none">• Determine if the project cost will meet the project mandate and if the investment proposal to be prepared for Go/No Go Criteria

6 Manage Commitment

- Remove Commitment
- Terminate Project

7 Update Project Premises

- Prepare Investment Proposal
- Manage Support

8 Define Initial Business Case

- Classify Investment Type
- Classify Investment as per CAPEX / Opex
- Identify Benefits, location and timelines
- Identify Activities, Asset components and timeline
- Feed and run data in client's business model

9 Stage Gate 1

- Obtain IP approval as per the approved manual of authorities

By following above step, it will be ensured that any failure for the project during planning and approval stage can be avoided.

3.2.3. FRONT END DEVELOPMENT

3.2.3.1. Land Securing Stage

Client will secure the land on which the site will be built: purchasing or leasing contract with the land owner.

3.2.3.2. Objectives and Outcomes

The Front-End Development is the 2nd design phase aiming the delivery of a permitting and design package with a cost estimate +-3% of the opportunity, which is a key input the final support for execution.

A special focus will be required concerning country specific requirements in term of design and permitting process.

3.2.3.3. Typical Detailed design activities

Stage Gate 2: Final Support for Execution

This gate is completed when the final purchase contract or new lease contract has been formally signed by both Client and the Seller/Landlord. This will officially confirm that Client has the legal right to access the site and allow contractor to work on Client's behalf.

The Real estate report to be shared and joined to the Design report.

Final User Specifications

The Final User Specification is the client specification to the project and is an input to this phase together with the feasibility report and the IP.

Specifications are frozen at this stage and any modification driven by legal requirement or others has to strictly follow the Management of Change process (MOA) since their impact on the project costs and its viability is very high at this stage.

Other than this, following activities are also to be considered as a part of PMS;

Environmental Plan

EPCM Consultant supported by the Soil and Ground Water department is responsible to develop an approved an environmental plan, which will explain how to assess the site underground conditions and how to determine and execute the required actions to remediate none compliant findings as per regulation or Client's guidelines.

It is key to run all those investigations and approve the environmental plan as early as possible in the design phase because of their high implication on the cost, on the design and on construction strategy.

The Environmental Services consultant will typically have detailed specific recommendations on how to determine the location and level of ground contamination and what actions will be required to assess, monitor, treat and dispose. This will include a cost estimate for soil treatment and /or removal of polluted soil. All remediation and disposal costs will be included in the cost estimate.

This environmental plan will be confirmed by the Client's EPCM manager and the EPCM consultant who will coordinate the execution of agreed actions.

The environment plan will also include a Waste Disposal Plan.

Geotechnical Soil Survey

A geotechnical soil condition survey is mandatory for project including excavation, new building or asset static modification. This can be combined with the environmental investigations if making sense from a cost perspective but this fall under the direct responsibility of EPCM contractor to coordinate.

It is always recommended to run a geotechnical soil survey if such a survey has never been done for this site or is not available in the technical documentation. This may be the case for old sites or for sites recently acquired from competitors.

Design Documentation and Site layout

Client provides site Layout guidance (including forecourt, building and facilities), reference drawings, as well as specific core requirements regarding the layout of the Retail Site.

The general site design shall be developed in compliance with the mandatory Standards, which have been referenced as being applicable to the project.

The site lay-out will be made specific based on the outcomes of the detailed Plot survey covering existing structures, access and utilities and based on authority requirements agreed during the permitting process.

All specific points of designs related to the project will need to detail with clear specifications and if in contradiction with Client's requirements, a formal derogation will be need.

It is also recommended to develop a three-dimensional computerized view of the site to help the design review and especially the aspects linked to accessibility, ergonomic, traffic, visibility and design.

Permitting process and register

It is mandatory to develop a permitting plan and define with competent 3rd party support what is the scope of the permitting in the specific country.

Permitting should typically cover (but is not limited to): Building construction permits, tank- farm and fuel system permits, connections to the roadway permits, signage permits, specific environmental permits etc

The permitting strategy shall cover:

- ✓ Permitting plan with requirement, relevant authority and contact details, general permitting review process and duration and expected deadline to fit with the project schedule,
- ✓ The permit document preparation: List of all required documents as per country specific standards to obtain the different permits and program to

carry out any special study required to obtain approvals to execute the project,

- ✓ An application strategy with action log, schedule and tracking for each permit,
- ✓ A register containing all obtained permits.

The permitting activity is critical in delivering the opportunity value and should be treated with high care.

Project schedule

The project schedule – level 2 will be issued with an update of the timing and critical resources.

It will contain the list of all changes contained in the design with the main activities for each of them.

The schedule will show a duration and tentative milestones at least at "changes" level and if possible, at activity level.

Level 2 Schedule means:

- ✓ The next level of Breakdown listing main execution activities (Mobilization, Execution, Commissioning, Start-up) and the main changes with phasing (activities, Tank installation, Shop & canopy construction etc...)
- ✓ It will give a duration & the milestone for those activities and changes
- ✓ It will indicate the main interdependencies: "what shall happen before"; "what could be done in parallel" etc...

Design Risk Assessment

The Design Risk Assessment (Technical Assurance Control) will be reviewed.

If it has been decided to maintain a risk register covering all project risks and mitigation actions, it will be reviewed at this stage to confirm that risks are managed at a level as low as reasonably possible (ALARP).

HSSE plan

Prepare HSSE requirements for construction and commissioning based on the general HSSE plan and made specific to the project based on the risk register main findings.

It is important at this stage to review the construction strategy and confirm that the constructability is at a reasonable complexity level and that all safety risks are covered to ALARP (As Low as Reasonably Possible).

Cost Estimation

Based on the design specifications, a cost estimate at $\pm 3\%$ accuracy will be issued. Desktop estimate $\pm 3\%$ with a breakdown at level 2:

- ✓ Cost by Projects for program,
- ✓ By phases – level 1: Design & Execution,
- ✓ and breakdown by asset or activity – level 2.

The tool can also be used to show the level 3 breakdown (i.e. equipment or sub-activities level) with an indication of the cost estimates for each line as being a function of unit rates and quantities. (if agreed with Client it is also possible to add an escalation to each line considering a typical inaccuracy on the quantity estimation.

In any cases and if the level-3 functionality is not used, it is recommended to use another cost estimate tool in complement in order to show the cost estimate breakdown with this level of transparency. This supports the transparency of the cost estimate but is also a key input to any benchmarking.

Contracting and Tendering Strategy

Confirm the contracting strategy for the project and get the endorsement from EPCM management with the support of Contract and Procurement.

This strategy will cover:

- ✓ The options for each identified requirement: single sourcing, use of the Global Supplier Agreements, call-off against other existing Framework agreements, full tender,
- ✓ A schedule and action log to deploy the strategy (tender document preparation, screening and technical and HSE qualification assessment if needed, tendering and awarding),

Mandatory Global Supplier Agreements (Also called Red Segments) are made mandatory as long as an exception has not been approved for the market.

Target KPI Statement

The specific indicators (Key process Indicators, KPI) and the targets approved for the projects will be adjusted and approved by Client.

They will be the reference for the performance measurement in the scorecard.

Value Engineering

A 2nd value engineering session will be run to assess and document all opportunities to optimize the value.

Design Assurance Review 2 on Design and Permitting Package

A review will be conducted by Client's EPCM manager on both the design and the permitting package to confirm compliance to both Process and Technical assurance and formally support the use of the cost estimate and other project deliverables for the GO/No GO decision relates to the Decision Gate 3 – Initiate Execution.

This will cover:

- ✓ Design documentation (drawings, specifications, etc),
- ✓ Construction drawings,
- ✓ Permitting register – all permits up to final construction permits and status,
- ✓ HSSE plan,
- ✓ Design Risk Assessment and risk register,
- ✓ The project Schedule,
- ✓ The contracting strategy,
- ✓ Final Design Estimate –Estimate No. 2 (3% accuracy).

This list of documents is also called Design and permitting package

- ✓ Real Estate Report
- ✓ Final User Specifications – Final User Specification
- ✓ (can be Initial User Specification if no design changes)
- ✓ Approved GDS derogations
- ✓ Approved Change Requests
- ✓ Approved Environmental Plan
- ✓ Geotechnical soil survey

- ✓ Full design documentation and lay-out aligned with project final specifications (Final User Specification)
- ✓ (Detailed scope made site specific with typical drawings for programs) .
- ✓ Three-dimensional computerized view
- ✓ Permitting process & register up to date to allow construction start
- ✓ Project Schedule – level 2
- ✓ (Duration & milestones at change level at least)
- ✓ Design Risk assessment
- ✓ Risk Register
- ✓ HSSE plan with project specifics
- ✓ Cost Estimate
- ✓ Confirmation of the contracting and Tendering Strategy
- ✓ Target KPIs adjustment
- ✓ Value Engineering

It is good practice to have the Feasibility package shared and signed-off by the Market Retail Management Team to ensure that each key function gave support to the design before moving to the IP approval.

Tendering and receiving Quotations

After sign-off EPCM contractor will run the agreed Contracting and tendering strategy and obtain all quotations to order the project:

- ✓ Call-off from local Contract framework agreements (FIDIC etc.)
- ✓ Call-off from Global Supply Agreements, Long term Supply Contracts
- ✓ Tender out for other activities not covered:
 - Supplier screening and technical and HSE qualification if still needed (should be anticipated),
 - Creation and publication of the tender package,
 - Reception and assessment of bids as per the agreed awarding criteria,
 - Awarding.

At this stage it is possible to confirm the Confirmation of the cost estimate.

It is therefore important to agree clear principles and how it will apply in the annual Procurement Strategy and in the manual of Authorities.

Stage 3: Initiate Execution

This stage gate is to give a formal authorization for contractors to start execution. This approval will be given by the Engineering manager.

PO adjustment

The Process Order in the Client's ERP system (GSAP) will be reviewed to adapt the overall project budget with the scope of work as per the design package and cost estimate.

This will officially authorize the EPCM to start the construction phase.

All the details mentioned above can also be understood by the flow chart given below.

FRONT END DEVELOPMENT	
STAGE GATE - 2	
1	Updating Project Premises <ul style="list-style-type: none">• Notify all the stack holders• Completion of Purchase Agreement• Performing of Contractual due diligence• Identification of Contractual Condition• Review of Project Cost• Review of Business Case
2	Conducting Stage Gate 2 Review <ul style="list-style-type: none">• Completion of Final Support Form• Determine recycle or project termination
3	Execution of Transaction <ul style="list-style-type: none">• Execution of transaction per purchase agreement or lease and as per legal guidelines• Hand-off to the Engineering
4	Setting up Property Abstract <ul style="list-style-type: none">• Completion of property abstract• Setting-up accounts payable as per Client's system requirement• Setting up accounts receivable in Client's system• Updating Project milestones and Budgets
STAGE GATE -3	
1	Complete Project Design, HSSE ad Permitting package <ul style="list-style-type: none">• Review Design Risk Assessment• Change required client's design standard derogations and get change request approved

- Approve Environmental Plan with actions and Costs
- Get approval from Client for HSSE plan covering general standards and project specifics
- Carryout full design documentation and layout as per project final specification
- Obtain permit / regulatory approvals to start construction and plan to obtain final licence to operate
- Agree with client for procurement strategy to select contractor through agrees method when design approved.

2 Refine Estimated Schedule

- Refinement and Updating project tasks which refers to the changes in action and responsibility of project actions
- Refinement and updating project schedule based upon information known to the project scope including complexity of permits or construction execution
- Refinement and updating resources and cost estimate with accuracy of +/- 3% which will reflect scope of work and over all cost to complete works

3 Update Project Documentation

- Updatation of the WBS with new information derived from revised estimate
- Update project schedule up to level 3
- Update project's revised scope and design
- Updating permit status
- Updating revised cost information
- Revision of Schedule
- Other all information which will assist the stage gate reviews

4 Stage Gate Approval-3 (Initiation of Execution)

- Review of design package which includes;
 - Full design documentation and layout alignment with project final specification
 - Cost planning and schedule which can be considered to complete work
 - Availability of Permits to process the works
 - Contracting and resources strategy
 - Risk assessment to be carried out on intended activities

By following above step, it will be ensured that any failure for the project during Front end development stage can be avoided.

3.2.4. Execute

3.2.4.1. Mobilization and detailed Engineering before Construction Start

The Project Manager is to be responsible to:

Contractor competency and fitness at work.

This is an essential control, which will greatly support the quality of the construction but also the contractor safety.

The Contractor statements of fitness consists in checking that

- ✓ All involved Contractors have the right technical and HSSE competence,
- ✓ They conform to the HSSE requirement for crane & under artificial respiratory support works
- ✓ They have all technical accreditations and the right experience (and training) to run a successful construction
- ✓ Also, that the right resources and management are in place to ensure an efficient and safe coordination of the scope of work.

The poor management of this control and the presence of contractors never assessed and far from being at the right level of fitness to execute the tasks safely and at the right level of competency has been raised as a root cause for many major HSSE incidents and fatalities during execution.

This control needs a special focus and shall be carefully documented.

Detailed construction Schedule

The EPCM shall prepare a detailed construction schedule together with the suppliers and contractors, which will cover

- ✓ All critical tasks related to HSSE, Quality, Delivery of equipment, Constructability and Commissioning
- ✓ The interdependencies between the different construction work streams and the critical project path (most critical tasks, whose sequencing is a bottleneck for the project, and which would reduce in a later start-up is delayed).
- ✓ It will give a transparent and clear schedule with a duration and a Start and End date for each execution activity and all identified critical tasks.

This schedule shall be based on the Method statements and HSSE plan developed by each contractor in charge of a specific construction work stream and clearly showing a good comprehension of the design, the constructability strategy and the responsibilities in term of quality, cost and time.

Contractor HSSE Plan

Each of the contractor involved in the construction needs to produce a HSSE plan explaining how they want to manage all HSSE aspects of their work stream in the context of the overall project and the agreed construction strategy.

This will contain but won't be limited to:

- ✓ Confirmation that they will conform to the general HSSE requirements detailed in the HSSE plan shared by the L2 – this shall contain all HSSE requirements.
- ✓ HSSE training of staff,
- ✓ HSSE coordination,
- ✓ Risk assessment for high risk activities (Lifting, excavation, work in height, hot work, confined space entry etc..) and measures to keep their risk ALARP,
- ✓ These activities will be collected in a High-Risk Activity log and will be made visible on the project schedule to ensure a good coordination and anticipation by all parties,
- ✓ Confirmation of equipment types and tools to be used with appropriate certificates,
- ✓ Confirmation of staff resources and level of competency / accreditation.

Finalization of pre-execution tasks

It is important to finalize any specific study, which would be still running and are required before starting: soil stability check, soil pollution check, static, preparation of document to obtain permits etc.

Any delays or proposal to finalize a critical review while construction is ongoing shall be made visible in the detailed construction schedule and in the risk register.

If the risk is significant, it should be submitted to Client's EPCM manager for approval.

Confirm contractor mobilization

It is important to monitor the reality of the contractor preparation and mobilization against the schedule.

Any delays or proposal to finalize the mobilization while construction is ongoing shall be made visible in the detailed construction schedule and in the risk register.

If the risk is significant, it should be submitted to Client's EPCM manager for approval.

Permit availability

It is critical to update the permit register and confirm that all permits are ready to start construction but also to enable the operation start as per schedule.

Any delays or proposal to finalize the permitting while construction is ongoing shall be made visible in the detailed construction schedule and in the risk register.

If the risk is significant, it should be submitted to Client's EPCM manager for approval.

Commissioning Plan

The testing and commissioning is part of the construction and is as critical as the design and the installation in providing safe, good quality, reliable and efficient assets.

The project manager shall (mandatory requirement) ensure a full compliance of the commissioning plan to:

- ✓ Legal requirements and license to operated related inspection and tests,
- ✓ GDS requirements on critical equipment contained in the mandatory procedures like but not limited to the GDS (Global Design Standard) "Equipment Integrity Testing Standards for Retail UPSS" and the Critical Equipment inspection list, which provides the list of the main initial Inspections and tests to be included,
- ✓ A specific commissioning plan shall be approved,
- ✓ GDS requirements on none HSSE critical equipment: requirements linked to branding and other customer value proposition.

The commissioning Plan should (recommended) also reference the different commissioning tests agreed with all contractors for the non GDS relevant equipment:

- ✓ Inspection, Site acceptance tests and certificates for GSA equipment,
- ✓ Inspection, Site acceptance tests and certificates for other assets.
- ✓ Specific performance tests.

It is a good practice and therefore recommended to

- ✓ Develop commissioning check lists and a sign-off principle to keep track and give evidence of the completion of all agreed commissioning tasks.
- ✓ Use a commissioning register containing a reference to all commissioning checklists and signed by the project manager as an input to the handover.

Construction Readiness Review

During the Construction Readiness Review, the EPCM project manager will review the construction readiness package developed by the contractors and get assurance the construction can start without risk,

- ✓ Verify compliance of HSSE and construction plan before construction start,
- ✓ Document completeness of contractor mobilization and readiness for a safe execution,
- ✓ Approve construction start.

This review is seen as HSSE critical and is on critical barrier to ensure that the project is ready to manage the project construction to an ALARP risk level (As low as reasonable possible).

The EPCM project manager and Client's EPCM manager shall feel strongly empowered to delay the construction start if the risk is assessing as being too high or if any clear evidence are missing to conclude that the overall risks is not ready to be managed to ALARP.

This list of documents is also called Construction readiness package

- ✓ Contractors certificates covering competency & fitness at work
- ✓ Detailed construction schedule covering all critical tasks
- ✓ HSE Plan for each contractor

- ✓ Up-to-date Permitting register (Approved Permits to build + plan to get the license to operate)
- ✓ Commissioning plan

Minimum requirement for construction coordination

During the Construction Phase, the following activities will be covered by the EPCM Project manager responsibility:

- ✓ Adhere to HSSE control framework procedure: Permit to Work, Job Hazard Analysis for with contractors before starting any specific risk activities, Personal protective safety, Minimum requirements around contractor safety,
- ✓ Run HSSE activities: regular on-site safety inspections, regular safety talks with contractors, reporting and reporting and root cause analysis for each HSSE Incident, potential incident or Near misses, regular meeting to anticipate any medium or high risk activities before they start and run a risk assessment to put in place the right mitigation measure,
- ✓ Control competence and level of accreditation of all new contractors and confirm their fitness, special focus will be made for contractor involved in high HSSE risk activities.
- ✓ Develop and run a detailed quality control and assurance plans to ensure construction to design specifications,
- ✓ Control and monitor the execution of construction and contract management plans as per time schedule and budget,
- ✓ Document the overall performance through dash boards and project indicators,
- ✓ Monitor the execution and document all activities related to the commissioning: legal inspection, quality tests and acceptance tests.

All those activities and the specific operational controls will be described in the operational Assurance system of the EPCM.

Set-up of the Project Execution File

The Project Execution File is not an additional set of documents but a folder collecting all existing documents and some key control lists, which will be relevant for the project execution.

This is as such not an additional document but more a way to keep a strong reference to the approved project specification and on the key deliverables:

- ✓ Contains all background information:
 - Design package, Cost Estimate, Updated L2 and L3 project schedule covering L3 detailed engineering, procurement, construction, system testing, commissioning and start-up,
 - Defines how the project will be executed covering tendering, L3 construction and HSSE plan, construction management, commissioning and start-up.
 - Contains the Operations implementation plan,
- ✓ Contains all key project registers and reporting kept up-to date:
 - Permit, Risks, GSD derogation, MOC and Quality check registers,
 - Project KPIs and finance reporting,
 - Project detailed schedule with up-to-date tracking.

This folder is called Project Execution File

- ✓ Design Package
- ✓ Construction Readiness Package
- ✓ Up to date Permitting register
- ✓ Up to date Commissioning register covering legal, CEI and UPSS testing requirements.
- ✓ Up to date Risk register
- ✓ Up to date Construction Quality list (also refer to section 2.7.1)
- ✓ Project detailed schedule and tracking
- ✓ Project KPIs and finance reporting
- ✓ New GDS derogation
- ✓ New MOC requests

Proceed to hand-over

The move to Handover will be generated by the EPCM project manager after support from the Client's EPCM Manager and confirm the mechanical completion and the start to final the handover.

All the details mentioned above can also be understood by the activities which can be carried out in systematic manner to achieve success.

EXECUTE & HANDOVER

1 Planning of Construction activities and preparation of Construction Readiness Review

- Preparation of detail project plan for onsite activities agreed and specific to each contractor to include
 - Critical HSSE Points
 - Specific Inspection and Check points on quality
 - Progress review milestones
 - Communication points with other functions

2 Execution of Onsite construction work

- Carrying out the site construction activity in line with the detail designs, permits and schedules
- Updating Permitting register with all certificate to obtain the license to operate
- Updating Commissioning register
- Maintaining construction quality list
- Tracking of project detailed schedule and tracking

3 Carry outside HSSE activities

- Implementation of Permit to Work Process (Refer Flow chart given in Clause 3.4)
- Conducting detail and ad-hoc HSSE audits
- Conducting specific HSSE requirements identified (i.e. tank installations)

4 Carryout site commissioning

- Construction Quality Check
- Commissioning test
- Obtaining all certificates as per applicable legislation
- Performance tests

STAGE GATE -4 – Proceed to Closure

1 Pre-handover (3 weeks ahead)

- Confirming the readiness of station for fuel delivery
- Planning of delivery
- Running Final inspection of tank readiness
- Informing relevant authorities for final certification

2 Pre-handover (2 weeks ahead)

- Preparation and submission of ne asset register template with description of assets which need to be decommissioned, modified, added or removed

3 Pre-handover (1 week ahead)

- Carrying out final inspection
- Reviewing of all commissioning certificates covering legal inspection, quality tests and acceptance tests

- Preparation of snag list of defects as per Client's standards templates if available
- Rectification of all defects.

4 Handover and Start-up review

- Execution of start-up review on the handover package with EPCM manager;

5 Stage Gate-4 Review (Proceed to Closure)

- Carryout specific stage gate review to confirm project closure status as "Technically Closed" in SAP or Client's system. This review shall be carried out by project manager and Client's manager

By following above step, it will be ensured that any failure for the project during Handover stage can be avoided. Also, this will help the operation team to get the details for future reference in term of as built.

3.2.5. Handover

3.2.5.1. Objectives and outcomes

The handover is a transfer of responsibility of the site for the construction project team to the operation team and aims confirming the readiness of the site to go live through a physical inspection and the review of prepared documents related to the commissioning activities.

The handover process covers all preparation activities bringing to the hand over itself and the decision to start operation.

The deliverables are:

- ✓ Hand-over completed and signed off by FMC, EPCM, retailer and Client's EPCM or EPCM manager,
- ✓ Snag list completed,
- ✓ Financial and post hand-over activities finalized.

3.2.5.2. Description of activities and minimum requirements

Pre-hand-over activities

In order to prepare the site handover (work finish), the project manager will schedule the following activities:

- ✓ 3 (Three) weeks before handover date, organization of the First Fill Process, which means to assess and confirm the station readiness for a 1st fuel product delivery, plan the delivery, run final inspection of tank readiness (drain water etc), coordinate L3's presence and complete the reception.

- ✓ 2 (Two) weeks before hand over date: Prepare the new asset file with description of the assets that are decommissioned, modified, added or removed. This file should be sent 2 weeks before hand-over by the Facility management company (FMC) in charge of the asset management on behalf of Client. At least the cells highlighted in yellow in the document will need to be filled and sent back to the FMC before the handover date.
- ✓ 1 (One) week before hand over date: A pre-handover meeting shall be organized with all contractors to review the availability of all commissioning certificates covering legal inspection, quality tests and acceptance tests and to identify the remaining HSSE, quality and other gaps to completion which need to be solved before start-up. Any gaps will be listed in a draft hand-over check-list called "snag list".

Start Up review, SUR - Hand-Over to Client

The handover package will be reviewed and sign-off to give technical and project assurance to the stage gate approvers and support operation start.

The objective is to

- ✓ Check evidence of the mechanical completion and get documented confirmation that commissioning, and testing activities have been finalized,
- ✓ Verify availability of As Built documentation, manuals and warranties,
- ✓ Give documented confirmation of successful handover and readiness to start-up.

The minimum mandatory requirement in term of As-built Drawings is the availability of the Fuel System schematic and a lay-out showing all classified Hazardous areas.

The main document to run the process is the "Hand-over checklist", which will help detecting, and assessing the remaining gaps and proposing and documenting the appropriate countermeasures:

- ✓ The document lists up the critical equipment which are important safe guards for the safety, the environment protection, the license to operate or any other reputation aspects but also the key equipment related to the customer experience,

- ✓ In case of remaining high findings (construction, conformity or Quality gaps) on a critical equipment, the site cannot be started-up and a new SUR needs to be planned after rectification,
- ✓ All other minor findings (called "snags") are recorded in the Hand Over checklist with a countermeasure, owner and completion date.

SUR -Sign off by Client EPCM or Client's EPCM manager

- ✓ Completed Project Execution File with finalized
 - Construction Quality List
 - and commissioning records (Legal, CEI and fuel system)
- ✓ Hand-over checklist
- ✓ Statutory and Regulatory Certificates, all licenses to operate
- ✓ Mandatory As-Built drawings (As Built drawing on Fuel System schematic and lay-out showing all classified Hazardous areas) completed with Design Drawings
- ✓ Snag list
- ✓ Site keys
- ✓ Operation training certificates- Can be treated as a snag if not completed for the handover but becomes mandatory for the project close-out
- ✓ Operating manuals
- ✓ List of new assets with mandatory information for maintenance management accepted by the FMC

Stage Gate 4: Proceed to Closure

This gate is sign-off by the Planning representative assigned by to the project.

This is conditioned by a successful handover and the aim is to officially confirm that the site can go-live and that post-handover activities can start.

Post-hand-over activities

The EPCM has two months after Hand Over to finalize the post-hand-over activities:

- ✓ Complete minor findings rectification (Snags),
- ✓ Complete and confirm all actions in GSAP (receipts registration, activation etc...),

- ✓ Complete and confirm all invoices payment,
- ✓ Project documentation and all other deliverables handed over and stored as per Documentation Management System,

3.2.6. Close Out

3.2.6.1. Financial close out

AUC, Acquisitions and Retirement of replaced assets

Once the project is completed and is ready to be put into use, Project Manager (PM) shall provide the list of assets installed as well as replaced to Client's Finance Operations (Fixed Assets Team) to make sure that either assets are added to ERP Fixed asset register or removed (if it is a replacement project) at the same time of acquisition per Group Guidelines, unless there are local requirements per entity that state otherwise.

For process assurance, the list of assets (to acquire or remove) should be delivered through proper asset acquisition forms during project handover and is part of the handover project documentation. EPCM Contractor shall provide the confirmation from Client's Finance Operations – Fixed Asset Team to EPCM (Client's Project Manager) that the asset list has been delivered, partially capitalized and/or pending for cost transfer from AUC to final assets.

For ongoing projects as well as overdue projects, 3rd party engineering is responsible for providing quality comments on the project status per the timeline set in the Global Guidelines on the AUC process.

Invoicing and Final cost transfers to Final assets

A financial close out shall be done in the Client's ERP System. At this stage, all assets which have been acquired and created during the project handover stage are capitalized and the costs are transferred from AUC to final assets per the proper cost split, the ordinary depreciation start date is set correctly per group as well as local requirements and the depreciation or amortization begins.

The EPCM monitors, checks and approves Contractor and Supplier invoices for payment and finally payment shall be made to the Contractors.

The EPCM activities in the payment process include but are not limited to: ensuring that invoices comply with the original order, including any agreed

changes or deviations in the course of the execution of the project. The activities include as well:

- ✓ Query and resolve any incorrect invoices.
- ✓ Submit correctly formatted invoice for payment.
- ✓ Confirm EPCM costs with all relevant supporting documentation.
- ✓ Coordinate the payment of suppliers and sub-contractors.
- ✓ Provide a thorough reconciliation of all receipts.
- ✓ Input the required information into Client's system and verify that work orders are closed.
- ✓ To provide asset request forms (acquisitions, Retirements) to Fixed Assets Team (Client's Finance Operations) in conjunction with 3rd party engineering.
- ✓ Break down the total project cost into costs related to the fixed assets of each entity.
- ✓ Prepare project details for input into the fixed asset register. Allocate components according to Client's accounting guidelines and local tax regulations and provide a cost breakdown to allow performance benchmark.
- ✓ Notify cost over-runs and under-runs to the Budget Coordinator. Seek necessary approvals for additional funds in the event of cost over-runs.
- ✓ Prepare the financial close out forms.

The ERP financial close out is done when all potential financial negotiations have been finalized and invoices have been paid. The aim (Target 1) is to complete in 3 months after preliminary acceptance (mechanical completion), but it should happen (Target 2) after 6 months at the latest. The "life" of a project ends with the financial close out in ERP.

If an on-site remediation system is kept operational after the site has been mechanically completed, Client shall take responsibility for this system.

3.2.6.2. Project KPI close-out

At this stage, the final performance scores for the projects shall be calculated by the EPCM and submitted the Client's EPCM manager for approval.

3.2.6.3. Manuals and Training

The project manager shall ensure any new/updated Operation manuals/information for the project scope is provided to the relevant Area Operator Trainer allowing sufficient time for update of the Operating procedures prior to Start-up.

The Project manager shall liaise with the relevant Area Operator Trainer to ensure adequate training is provided to Operations (including Emergency response operators as required), for the project prior to Start-up.

The Project manager shall ensure of all equipment Maintenance manuals are passed onto the Inspection Department, the relevant Maintenance Manager, and the Project file for filing.

The Project manager shall liaise with the relevant maintenance Manager to arrange required maintenance training prior start-up.

3.2.6.4. Pre-Commissioning, Handover, Commissioning and Start-Up

Pre-Commissioning, Commissioning and Handover are conducted according to the Operations Readiness Plan (ORP) for the Project. This plan is gradually prepared in more detail over the FED and Execution phases of the project by the Operations Focal point for the project, with the assistance of the Project Engineer. Cooperation and assistance of all parties is key to a successful project start-up.

The Project manager shall check that all HAZOP actions have been completed and obtain approval of this from the Area Manager and HAZOP leader.

The Project manager shall ensure any new/updated Operation manuals are provided to Operations.

Punch List Items can be one of three Categories:

A - Items: Items which have been designated necessary for completion prior to the hand over to Operations of the project (or section of the project).

B - Items: A limited number of items designated as not essential to be completed by the stage of Mechanical Completion but can be completed at the first available opportunity. These are

required to be completed before the Defects/Omissions and Client Acceptance form can be finally signed off.

C - Items: Rejected as being outside the agreed scope of the project.

The Project Engineer/ Construction Supervisor arranges completion of the "A" punch list items, including completion of all Hydro testing and Non-Destructive Testing (NDT). When all punch list items required for start-up (the "A" punch list items) are completed, the project is ready for start-up (RFSU). The Project manager shall coordinate handover of systems to Operations.

When all project systems in the project are ready for start-up, Certificate of Mechanical Completion & Care. Custody & Control is raised by the Project Engineer. Approval of this form by the relevant Area Operations Manager constitutes formal Handover of the overall project scope to Operations.

Following Handover, Commissioning and Start-up occurs under the control of Operations, with PIMS arranging site acceptance testing of instruments and the DCS. Project manager and Construction Supervisor to assist only as the need arises.

The Project Engineer/ Construction Supervisor arranges completion of the remaining 13" Punchlist items as soon as practical after handover, allowing first priority to commissioning and start-up activities. Once all punch list items have been completed the Project Engineer/Construction Supervisor arranges for Operations to make the final sign-off of completion documents.

3.2.6.5. Project Closure check

This control is under the responsibility of the Client's EPCM Manager. The aim is to officially confirm that all post-handover activities have been finalized by the project lead.

It is not a new set of documents but a confirmation that all handover documents and actions have been completed.

Availability and conformity controlled by Client's EPCM or Client's EPCM manager

- ✓ Finalized Project Execution File
- ✓ Hand-over checklist signed,
- ✓ Statutory and Regulatory Certificates, all licenses to operate,

- ✓ All As-Built drawings,
- ✓ Snag list completed,
- ✓ Site keys
- ✓ All Operation training certificates,
- ✓ All Operating manuals,
- ✓ List of new assets with all requested information for maintenance management accepted by the FMC,
- ✓ Project documentation stored as per Documentation Management System
- ✓ Financial Close Out in ERP supported by Finance team
- ✓ Project KPIs close out

3.2.6.6. Post construction review

The Post Construction review: Focus on project archives and 1st year performance indicators to confirm project quality and technical success,

- ✓ Review implementation strategy and efficiency,
- ✓ Capture lessons learnt for CI.

Technical focus, Approved by Client's EPCM or Client's EPCM manager

- ✓ Design Package
- ✓ All As-Built drawings
- ✓ Breakdown profile after 1 year
- ✓ 1st Year performance indicators
- ✓ Breakdown profile after 1 year
- ✓ 1st finding post "Critical Asset Inspection"

The target is to raise the overall fulfilment of the business case and can lead to root cause analysis in case of serious discrepancy between the observed performance and the plan with the objective to drive continuous improvement in our understanding of the success factors driving the business opportunity realization in each of our markets.

All the details mentioned above can also be understood by the activities which can be carried out in systematic manner to achieve success.

PROJECT CLOSEOUT

1 Post-handover Activities

- Completion of minor rectifications (snags)
- Submission of Full project documentation as per DMS (Document Management System)

2 Settlement of outstanding variations and Costs

- Approval of final account for project submitted by EPCM

3 Confirmation on Closure of WBS

- Closure shall be done in timely manner. Project manager shall confirm closure of the WBS following settlement of all outstanding requisitions
- Finance to run the report on inactive projects to prompt closure

4 Return of Unspent funds

- Once project is closed, and all settlement are done funds shall be returned to the related investment if any balance

5 Creation of Assets

- Carrying out the asset creation / disposal process at close of project

6 Archiving or deletion of Project documents

- Based on Client's policy archiving or deletion of the project document to be carried out as per agreed requirements
- It shall be ensured that the documents are retained under legal requirements and the same are correctly managed.
- If the documents are achieved, it must be taken care that the same is available if the same is required post implementation.

7 Post Implementation Review

- Based on the discussion and agreement with the client post implementation review shall be planned to focus on the performance on the key deliverables from initiate through to closure.

8 Closure of Project

- Based on the approval and decision from Client project shall be closed and the status to be updated on the project definition.

9 Documents Project Learning

- Based on the lessons learnt during all the phases, document named as lesson learnt shall be forwarded to design team for taking care in future projects.
- Project Manager shall distribute the document to all the concerns for achieving zero failure in future projects

By following above step, it will be ensured that any failure for the project during closeout stage can be avoided. Also, this will help the EPCM contractor and client to get the lesson learnt during all the phases to avoid the same in future.

3.3. CONSTRUCTION PLANNING

3.3.1. *Planning Ahead*

A Good Project manager must follow to convene and chair a series of workshops with Client to develop a comprehensive and detailed annual Construction Plan for the following year. The Construction Plan shall include appropriate contingency sites to ensure that we are able to meet Client's business objectives. At this time a preliminary cost plan also shall be developed.

A series of confirmation workshops shall be held to confirm the Construction Plan and make any adjustments including bringing forward contingency sites. The Construction Plan shall be finalised and "locked-in" as soon as possible. At this time, a risk review shall be undertaken and the cost plan, ceilings / budgets for the coming year shall be confirmed.

The construction plan shall be principally, broken down into two main sections; Capital and Growth with the flexibility to include other business categories should the need arise. The construction plan shall identify each project to be started in the year, key milestones, stage gates, deliverables and responsible party.

Project Manager shall lead the construction planning process and shall be responsible and accountable for the development and updating of the annual Construction Plan to meet Client's business objectives.

This strategy of careful advanced construction planning will enable EPCM contractor to hit the ground running with the commencement of projects at earliest each year and will give Client greater speed to market, less downtime and the ability to commence or resume earning revenue at the earliest possible opportunity. Commencing works as early as possible in the year will aid in the management of resource and resource levelling. Locking-in works contractors' resources early in the year will reduce Client's reliance on a limited pool and will put Client well ahead of their competition.

The annual Construction Plan as mentioned above will form the basis of the following strategies and key deliverables:

- ✓ Assist with future network planning and network requirements.
- ✓ Cost planning:
 - Development of each Project and Program budget and by extension, the overall annual cost plan;
 - Confirm whether or not the construction plan is in line with Client's cost ceilings and whether or not appropriate contingencies have been included to increase ceilings and/or increase the number of sites to be delivered;
 - Identify potential cost savings and where these cost savings can be reinvested back into the Program to create new or additional opportunities.
- ✓ Development of procurement strategies. Advanced construction planning will identify the scale and scope of each Program, which in turn will inform the form of procurement required for each Program. Strategies such as bundling, framework agreements and other incentive contracts can be employed to create savings for Client. These cost savings can then be reinvested back into the overall Annual Program to create new or additional opportunities.
- ✓ Surety of cost – Locking-in the Construction Plan as early as possible will enable EPCM contractor to apply a greater level of cost reliability to each of Client's projects and programs. This in turn, will give EPCM contractor the ability to identify cost savings opportunities as early as possible in the program timeline which will translate to cost savings for Client which can be reinvested back into the overall annual program to create new or additional opportunities.
- ✓ Advanced statutory planning to secure a "pipeline" of available projects. Historically, one of the key risks to securing the scope of work and commencing working on site is statutory planning.

- In accordance with the priority identified in the Construction Plan, EPCM contractor shall commence the preparation of Development Approval documentation and the lodgement of Applications as early as possible. Generally, we have targeted this activity to be 75% complete before mid-December in the year before;
- EPCM contractor has pre-existing relationships with many local municipalities. We will use these relationships to campaign on Client's behalf to reduce the turnaround time for planning approvals.
- ✓ By identifying the sites as early as possible (with the completion of the construction Plan in the year before), EPCM contractor shall also be able to undertake the following activities as early as possible in the program timeline:
 - Advanced site investigations, preparation of concept designs and undertake functional planning to identify possible issues;
 - Advanced integrity testing;
 - A preliminary risk assessment that will identify likely risks associated with operations and logistics, buildability, statutory planning and other authority restrictions and approvals, availability of trunk infrastructure, environmental hazards and likely impact, design risk and construction risk;
 - Advanced site investigations including integrity testing will identify as early as possible whether or not a site is feasible. As a result, Client may choose not to proceed with a site, and it can be removed from the pool as early as possible saving Client's time and cost associated with further development or protected negotiations
i.e. avoid wasting time on a site which is likely to be unfeasible and quickly move onto more viable opportunities;
 - The preliminary risk assessment will inform Client's investment strategy and may lead to a revision of the Construction Plan and the substitution for contingency sites.
- ✓ Advanced construction planning will lead to better resource management.

- Advanced construction planning shall flatten the overall program delivery schedule and minimises compression toward the end of the year. By commencing works as early as possible, we can better manage our resources and the resources of the works contractors and suppliers under our management;
 - Early development of the Construction Plan shall also enable EPCM contractor to identify resource gaps and investigate new entrants to the retail fuel sector. EPCM contractor shall allocate low risk projects to new entrants to control HSSE risk and to take advantage of market competition;
 - Cost saving opportunities. Procurement strategies such as bundling, and incentive contracting shall be used to encourage cost effective pricing from the contractors. This opportunity would not normally be available when awarding one-off contracts on a site by site basis;
 - Early development of the Construction Plan shall also enable EPCM contractor to better manage and level EPCM contractor's internal management and design resources. This shall result in EPCM contractor being able to provide more efficient and responsive Services.
- ✓ Advanced construction planning shall lead to better management of long lead-time items such as tanks, UPP, dispensers, ATG and signage.
- Immediately a site or a program of work is locked into the construction plan, EPCM contractor will place orders for all plant and equipment required for the site or a program. EPCM contractor shall prepare a procurement plan which will identify goods to be held in warehouse by the contractor or supplier until they are required on site. Certain goods such as UPP, dispensers, ATG and signage shall be rotating stock while site specific-stock such as tanks shall be procured and scheduled based on lead-time requirement. If a site is replaced by a contingency site, the stock shall be adjusted to suit;

- As far as practical, EPCM contractor shall advance order, purchase and warehouse critical long-lead-time items;
- Advanced construction planning shall support the establishment of national supply agreements which in turn, shall lead to greater cost competitiveness and consistency in HSSE, quality and reliability;
- Advanced construction planning shall reduce the risk of unavailability of stock and the impact that this has on the individual project or program.
- The Construction Plan shall include a number of contingency sites or contingency programs.
 - i.e. the pipeline shall be greater than the available budget. In the event that a site is delayed or cancelled, a contingency site can be substituted in. Likewise, if additional funds should become available, contingency sites or programs of work can be brought forward. Having a number of contingency sites or programs shall give EPCM contractor the ability to quickly respond to delays such as delays in statutory approvals or protracted negotiations with owners or leaseholders or changes to Client's business objectives.
- ✓ Value adding opportunities can be identified, tested and proven as early as possible in the program timeline including construction methodology, environmental options, operational requirements and opportunities for additional revenue streams (e.g. sub-tenancies).

3.3.2. Required Information & Visibility

In order to achieve the program delivery targets being proposed by Client, Client must provide to EPCM Contractor's approvals and release of funding in a timely manner strictly in accordance with the program delivery plan.

As far as possible, EPCM Contractor shall develop an annual Construction Plan with a rolling two-year pipeline of sites. This approach shall dovetail into the procurement strategy which relies heavily on this advanced planning and purchasing for resource management, time savings and cost savings opportunities.

3.3.3. Project Implementation Program

For each project or discrete program of work, Project Manager shall prepare a detailed implementation program based on the work breakdown structure. The implementation program shall include hold points, key milestones and a critical path. The start and finish dates and project phases shall be linked to the detailed annual Construction Plan.

Project manager shall use Microsoft Project to prepare detailed implementation programs.

PM shall normally report on the progress of each project or discrete program of work at the annual Construction Plan level only.

PM shall also investigate options on how procurement and construction timeframes can be reduced to increase the speed of achieving Client's fuel sales to its customers.

- ✓ Where it is safe to do so, Project Manager shall schedule the work such that the site remains operational.

Where it is not possible to keep the site open and trading, Schedule of the work to be done such that site closure is kept to an absolute minimum.

Where a site is closed, EPCM contractor shall liaise with Client's Marketing and Client's alliance partner to ensure all required directional and marketing signage is safely displayed on site (e.g. information banners advising closest alternative store).

- ✓ Development and "lock-in" the Construction Plan in the year before to enable the earliest possible start on site in the program year.
- ✓ Preplanning of as many sites as possible (statutory and implementation).
- ✓ Investigate the works permitting system to understand the level of impact on project delivery timeframes.
- ✓ Pre-ordering equipment (tanks, UPP, turbines, dispensers, signage).
- ✓ Stock management through contractors / suppliers.
- ✓ Better knowledge of existing conditions.
- ✓ Environmental management and initiatives to reduce timeframe for stock held on site.

- ✓ Optimising project management, engineering design and construction methodologies in regard to below-ground works.
- ✓ Modular construction technologies, particularly for above ground works (e.g. prefabricated buildings and canopies built off-site and lifted and assembled on-site, single-skin canopies).
- ✓ Better integration of the environmental works to gain a better understanding of the management options to reduce delays.
- ✓ Avoid undertaking disruptive construction works during high-volume trading periods such as long weekends, Easter and Christmas to minimise disruption to trade.

3.4. HEALTH, SAFETY, SECURITY & ENVIRONMENTAL MANAGEMENT

3.4.1. Purpose

This section sets out the plan for Health, Safety, Security and Environmental (HSSE) management for the Project. HSSE involves determining the standards and methods required to minimise the likelihood of accident or damage to people, equipment, property, or the environment.

This involves ensuring that such standards and methods are respected and achieved in operation and reviewing them to ensure their continued validity. It also entails proper appreciation of the legal and corporate environmental control and reporting procedures required for the Project.

Project Manager is committed to get it delivered the Project in a manner which is in line with Client's HSSE policy or as per local government norms of:

- ✓ Pursuing the goal of no harm to people;
- ✓ Protecting the environment;
- ✓ Using materials and energy efficiently to provide our products and Services;
- ✓ Developing energy resources, products and Services consistent with these aims;
- ✓ Publicly reporting on performance;
- ✓ Playing a leading role in promoting best practice in our industries;
- ✓ Managing HSSE matters as any other critical business activity;

- ✓ Promoting a culture in which all Client's employees share this commitment; and
- ✓ Creating a secure business environment that minimizes economic loss and business disruption, safeguarding Client's people, integrity and reputation. In this way we aim to earn the confidence of customers, shareholders and society at large, to be a good neighbour and to contribute to sustainable development.

3.4.2. Health Safety Policies

Different Health safety Policy shall be introduced during the course of project execution. These policies are as follows;

- ✓ Policy for covering the risk caused by use of Alcohol and Drugs
- ✓ Policy to manage risk associated with exposure of Asbestos and Refractory Ceramic Fibres
- ✓ Policy on Fitness to work to reduce the risk of Injury, Illness or Incidents be evaluation of fitness to work
- ✓ Policy on Health Risk Assessment to avoid harm to people due to Health Hazard
- ✓ Policy on Hearing Conversion to prevent Noise Induced Hearing loss at Workplace
- ✓ Policy on Legionella to manage risk associated with exposure to legionella in workplace where water systems are a potential source
- ✓ Policy on Malaria
- ✓ Policy on Occupational Exposure Limits to manage health risk due to exposure to chemical and physical agents
- ✓ Policy on Asset Integrity / Process safety Management to prevent incidents resulting from unintentional release of energy of hazardous substances;

however, based on Client requirement the additional policies also can be introduced;

3.4.3. Personal Safety

As a part of Project Management System, Project Manager must Ensure policies on Personal safety to avoid any incidents at working sites while execution stage;

- ✓ Policy on Design for Safety covering HSSE issues, together with other design criteria such as time, cost, quality, etc. will also be fully considered and reviewed during Risk and Value Engineering Workshops in order to produce an optimised design satisfying the project objectives;
- ✓ Policy for working in confined space;
- ✓ Policy on Electrical Safety;
- ✓ Policy for safe Excavation;
- ✓ Policy on performing Hot work to manage risk of ignition of flammable material during hot work;
- ✓ Policy to manage the risks of lifting and hoisting operations
- ✓ Policy to use PPE (Personnel protective Equipment) to safeguard the working peoples at site;
- ✓ Policy for Safe Isolation – (Lock out- Tag out (LOTO))
- ✓ Policy for preventing falls and reducing consequences while working at height.

3.4.4. *Project Risk and Management*

3.4.4.1. Purpose

Risk has to be defined as any event that may or may not occur and which would adversely affect a project's HSSE, quality, cost or time objectives. Ultimately the effect of any risk on quality and time can be converted into a cost penalty to the project. An awareness of the critical risks will enable the project team to take steps to avoid the risk or positively manage it. The uncertainty associated with risks highlights the importance of quantifying unknowns as early as possible within a project. This reduces the uncertainty and clarifies the maximum potential risk.

Value Management should be employed at appropriate stages of the project to reduce risks and/or to provide the greatest level of worth (TCO, function, durability, etc....) against unit cost.

3.4.4.2. Risk Management

As a part of Project Management system, Project Manager shall be towards risk avoidance. Strategies for risk identification, minimisation, alternative solutions and

risk management shall be developed much early in the project or program timeline focusing on design, construction, operational and HSSE.

Risk management workshops to be done at a number of key stages throughout the project or program. A risk registers and a risk management plan shall be produced for all projects.

Risk Management process shall be regularly upgraded throughout the life of a specific program or projects.

3.4.4.3. Roles & Responsibilities

The Project Manager shall be responsible for the identification, documentation, assessment, management and mitigation of all identified project risks.

The identification of risks is the joint responsibility of all project stakeholders.

Risk Management actions may be assigned to functional managers involved with the project, but the responsibility for ensuring actions are taken effectively shall rest with the Project Manager.

3.4.4.4. Risk Analysis & Management Process

The Risk Analysis and Management Process will follow the phases of:

- ✓ Identification;
- ✓ Assessment;
- ✓ Management; and
- ✓ Reviews.

Risk Identification

With the participation of the Project Manager, the design consultants and Client's senior staff, the risk identification process will commence with a facilitated workshop session, using structured question-sets, prompt lists and what-if scenarios as a catalyst for identification.

Risk Assessment

The Project Management Team shall conduct a Risk Assessment to analyse the identified risks, group them and then identify the critical areas for resolution. Risk Assessment criteria - in terms of consequence appropriate to the Project and Client - will need to be agreed, these should cover:

- ✓ Financial;

- ✓ Project;
- ✓ Health, Safety & Environment; and
- ✓ Publicity / Reputation; etc.

Risk Management

Risk Management shall then take place to reduce identified and analysed risks to an acceptable level. Risk Management will involve mitigation through the following;

- ✓ Transfer
- ✓ Design out;
- ✓ Insure;
- ✓ Contingency Planning;
- ✓ Accept.

All identified mitigations shall be recorded in the Risk Register and the residual risk shall then be reviewed and assessed;

- ✓ Risks remaining at Extreme level should be reported to Client for joint resolution;
- ✓ Those at High level should be managed by the Project Manager; and
- ✓ Those at Moderate and Low level will be managed by the design team as part of the ongoing work.

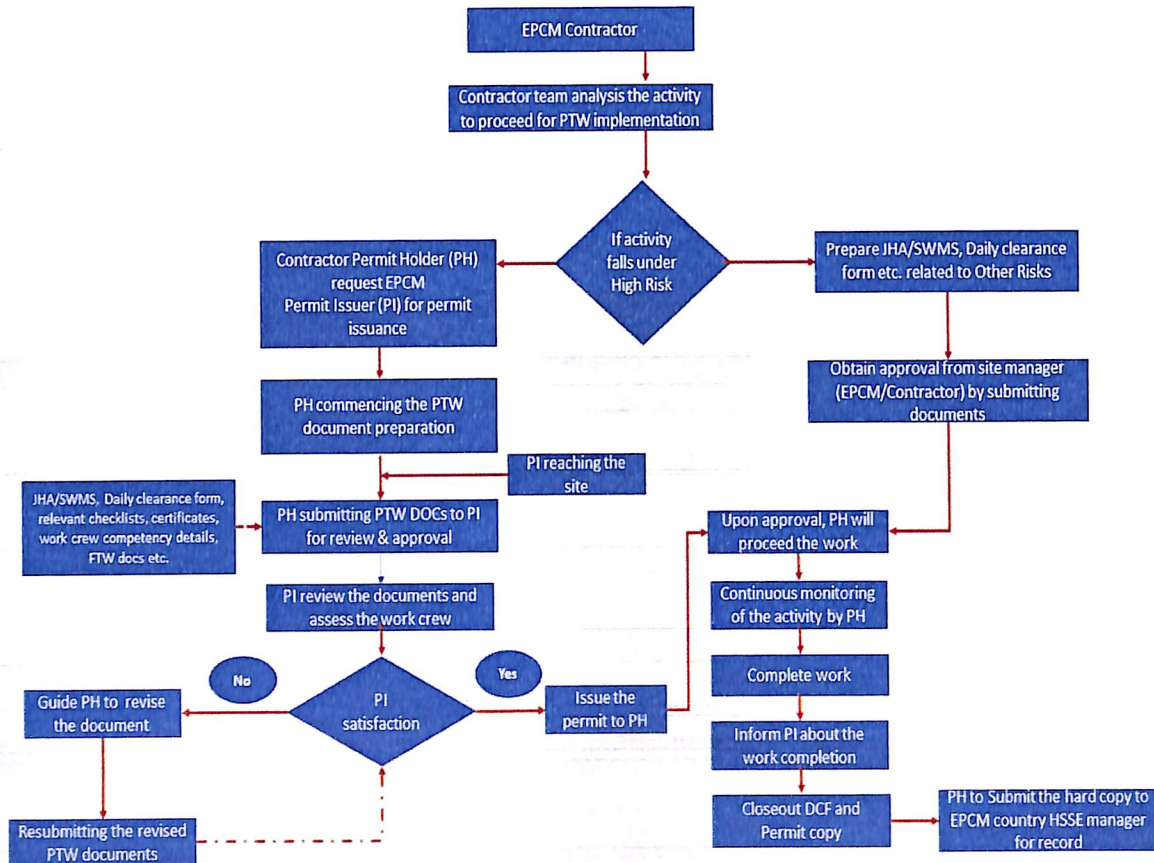
The status of Extreme and High risks should be included in the regular progress reporting.

Risk Documentation

A Risk Management Plan will be produced to show the status of the risk activities and should include, as a minimum:

- ✓ Risk Management Process
- ✓ Risk Assessment Criteria
- ✓ Risk Register
- ✓ Action Plan

Following Flowchart can be referred for the implementation during execution stage called as permit to work process flow to identify the loopholes well in advance to avoid any HSSE Risk;



3.5. PROJECT CONTROLS

All projects are subject to strict controls in terms of:

- ✓ Scope
- ✓ Cost/Budget
- ✓ Schedule
- ✓ Quality

This process is about limiting any scope changes after IP approval and the negative consequences on the project cost and time.

In order to keep a right level of discipline during the project execution, any change will be carefully assessed in order to determine the risks related to the change and to quantify both the gain and the impact on budgets approved and delays in project delivery.

A formal approval will be needed after a submission using the standard MOC form.

3.5.1. *Scope Management*

After the Basis of Design (Initial User Specification (IUS)) document is approved at the end of Select Phase the scope is fixed.

From the end of Select Phase, the project team shall apply strict scope management, commensurate with the level of design detail achieved, in order to safeguard the schedule, the cost and the quality of the project. Late changes lead to unacceptable risk to project cost, schedule and quality.

At the same time, it must be realised that applying a no change philosophy, in which rigorous project management rejects all changes in the lifetime of the project, may be counterproductive with regard to the life cycle cost of the project.

Note; for projects of sufficient size or complexity, technical design changes in addition to those classified as Project scope changes should be separately listed and tracked by the project team.

3.5.1.1. Overview

Proper project scope definition is the foundation of project success. The Project Scope is defined as being the planning and implementation of the delivery of the New to Industry Client's Service (NTI) stations throughout the country.

3.5.1.2. Scope of Services

Scope of EPCM contractor's Services include:

- ✓ HSSE Management;
- ✓ Project Management;
- ✓ Design Management;
- ✓ Architectural Services;
- ✓ Civil and Structural Services;
- ✓ Mechanical, Electrical and Specialist Services;
- ✓ Quantity Surveying Services;
- ✓ Management of the procurement of Geotechnical Services; and

Management of the procurement of Land Surveying Services; The main activities for the Project in general will be as follows:

- ✓ Provision of technical advice;
- ✓ Provision of benchmarking costs, cost controls, overall expenditure monitoring and advice;
- ✓ Manage and report on cost reduction initiatives;
- ✓ Establish, control and monitor quality standards and provide related advice;
- ✓ Develop, control and monitor a detailed project programme;
- ✓ Preparation of safety training materials and provide leadership for a culture of safety;
- ✓ Manage weekly programming meetings with implementation contractors;
- ✓ Manage monthly progress meetings with the Client;
- ✓ Provide the project team with weekly reports on:
 - Costs.
 - Supplier performance.
 - Progress;
 - HSSE;
 - Improve quality of implementation; and
 - Materials order and delivery.
 - Coordination of all activities undertaken in shop works.

The main activities for each site will be as follows:

- ✓ Detailed site survey – management / execution;
- ✓ Detailed site conversion design solution for NTA signed off by Client;
- ✓ Initial site cost estimate;
- ✓ Manage supply chain from order placement to site delivery (site specific requirements);
- ✓ Detailed site implementation program;
- ✓ On site work inspection and sign off (including HSE audit);
- ✓ Maintain a weekly progress record (including KPIs) covering cost, time, HSSE, quality, snags and deviations;
- ✓ As built drawings and a site folder with all site-specific records and information gathered

3.5.1.3. Project Scope Management

Changes in Project Scope identified during the project period should be formally agreed between Client and EPCM, along with the impacts on the contract and the necessary changes to the budget and schedule projections for the Project.

Changes in Scope should be controlled using the Change Management process set out below.

3.5.1.4. Scope Change Procedure

The scope change procedure is designed to assist the project team in executing professional scope management.

The impact of the requested change must be assessed against the current project specifications:

- ✓ Schedule and budget,
- ✓ Losses linked to a delay in going live,
- ✓ Potential lower value generation with new design,
- ✓ Potential HSSE or Quality risks.
- ✓ Unsafe
- ✓ Inoperable
- ✓ Contrary to statutory regulations

Any material changes of scope from that agreed and approved at the end of SELECT PHASE is regarded as a Project Scope Change.

A material change is defined as any of the below;

- ✓ A change which has a cost impact greater than:
 - +/- \$10k, or +/-5% of total project value, (whichever is the greater)
 - which has a schedule impact of more than +/- 1 week
- ✓ A change in technology option chosen
- ✓ A change in premise and/or key deliverables
- ✓ The scope change originator (Consultant, Contractor, Client) must forward advice and justification to the Project Manager for review and approval.
- ✓ Where the scope change has an impact on the project headline cost or on a specific contract value refer to Section Project Variations.
- ✓ The Project Manager's cost impact assessment shall include CAPEX/REVEX budget implications.
- ✓ The Project Manager must record all scope changes in Central Scope Change Register
- ✓ All Project Scope Changes require approval prior to Inclusion in the project.
- ✓ Approval is required from the Client's EPCM Manger or nominated client stakeholder.

Change Requests raised against the project initial or Final User Specifications (FUS) needs to be recorded and logged along with all necessary details, estimated impact and final decision (approval or rejection).

MOC have to be approved by the Client's EPCM Manager if not impacting the IP deliverables and by the original IP approvers if changing the business case.

3.5.1.5. Field Change Process

During Execution. Emergent/Latent works arise (e.g. due to design errors or undocumented underground Services), which do not constitute a scope change but still have an impact on cost or schedule. These changes need to be recorded through Field Change Process. A field change is defined as any change initiated during execution.

When a field change is required that has a cost and/or time impact to the contract, the Project Manager or Construction Supervisor shall issue a Construction Advice

Notification (CAN) to communicate and record the field change. The CAN is recorded on the Contract Variation Control Register.

If any field change results in the total Contract Value exceeding the ACV, approval must be gained from the Client's EPCM Manager, prior to the Field Change being approved

At the completion of each project the Contract Variation Control Register will be reviewed, and the root cause of the field changes identified. If the field change is caused by deficiencies or errors in the contract documentation, design or drawings, these issues should be fed back to the relevant responsible party (often in the form of a non-conformance report) to enable the process of continual improvement. Additional lessons learnt from the field changes shall be captured in the Project Lessons Learned Log and this fed into the EPCM Projects team.

3.5.1.6. Cost Control

Project/Program budgets and costs must be controlled in strict accordance with the Cost Control Procedure.

Cost control is to be used as a pro-active project management tool to manage, control and forecast project expenditure. The Overall Cost (Forecast to Complete - FTC) template is used uniformly for all projects & program for this purpose.

The Project Manager is solely accountable for the Project Budget and Cost Control.

The EPCM Project Manager shall advise the Client's Engineering Finance Department of any required accruals when value of work done at the month-end cannot be captured in the GSAP system due to special Circumstances.

3.5.1.7. Project Variations

Where project Scope Changes, Field Changes or other factors cause a project's latest estimate (LE or FTC) to exceed its approved budget, the relevant approvals must be obtained, and authorisation given for the overspend as per the Manual of Authorities prior to any further commitments being made. Also, if the project's latest estimate exceeds its individual Capex or Revex budget allocations. This will require a new IAF (Remandate) form as a minimum (refer to Finance Department).

3.5.1.8. Contract Variations

Where project Scope Changes, Field Changes or other factors cause a specific contract latest estimate (LE/FTC) to exceed its Authorised Contract Value (ACV), approval from the relevant contract board must be received PRIOR to any further commitments being made under the contract by the company.

3.5.1.9. Schedule Control

Every project requires a project schedule to be developed for the overall project (overview level— Level 1) together with a fully detailed end resource loaded schedule (Level 3) for the current and next project phases.

The project schedules are developed managed and updated in strict accordance agree standards.

3.5.1.10. Quality Control

All Projects are required to develop a quality plan as part of the Project Execution Strategy (PES)/ Project Execution Plan (PEP). This will include, but not be limited to an Inspection and Test Plan (ITP), which must align with Client's Engineering Assurance guidelines.

Any quality incident or deviation for the approved quality plan on a Project should be recorded as a Quality non-conformance on the Projects Quality Assurance Log. Non-conformances may be raised for internal or external quality incidents in design, engineering, construction, etc.

All Quality non-conformances require follow-up and investigation per a safety incident. In addition, any findings and learnings should be recorded on the project Lessons Learned Register.

A Projects Quality Assurance Log is to be maintained and shall hold records of the following;

- ✓ Actions from Project Customer Feedback forms
- ✓ Actions from the Projects Quality Management Review meeting
- ✓ Actions arising from the Client Feedback form

Projects QA log actions are to be kept until signed off on the action record as completed by the relevant EPCM/Client's Engineering representatives.

The Projects QA log shall be reviewed at the completion of Programs as part of the Post Implementation Review (PIR) process. by the EPCM Projects Leadership Team.

Internal Project compliance audits shall be conducted on a regular basis on selected projects to drive compliance to project quality & assurance processes.

A Customer Feedback Survey (CRMM) shall be issued by the Project Manager at the end of each project. The Questionnaire will generate an action recorded on Projects Quality Assurance Log and require formal follow up by the relevant Projects Team representative. Results of the Questionnaire will also be discussed to share learnings and highlight good practices.

3.5.1.11. Monthly Reporting

All projects are required to have a monthly project status report.

For Large projects the Monthly project status report must be completed and forwarded to the Programme Director. The PD will provide guidance and templates for the completion of these reports.

For all projects/programs a Monthly Construction Status Report (single page format) is to be shared with Client's Engineering, ahead of participation in a monthly status review meeting/teleconference. This report is to be completed prior to the end of every month. This report provides a one-page summary of project budget, schedule with key milestones, HSSE risks, progress and activities completed in the past month together with a look ahead at activities for the coming month.

In addition to the monthly Projects Status Reports, all Project Managers are required to update their Project Schedule and Cost Control (FTC) with a minimum frequency of monthly (although often it will be more frequent than this) in line with the relevant procedure.

3.5.1.12. Project Document Transmittal

All project documentation and deliverables must be accompanied by an EPCM Document Transmittal Form when passed or received from external parties.

All drawings required from the Design Office must be "locked out" by the Design Office Administrator via the managing software. Upon drawing "lock out" a

document transmittal is to be generated, a copy of which must be forwarded by the Drawing Office Administrator to the appropriate Stakeholders/Project Mangers/Project manager/delegate for inclusion in their Transmittal Register. As part of Project Close Out, all applicable drawings must be returned to the Drawing Office for "unlocking" and updating of the drawing records to "as built". The will then be uploaded to Client's Engineering Document Management (EDM) System.

3.5.2. Project Time Management

3.5.2.1. Project Planning

As a part of project management system, planning starts from first principles; what needs to be done and who needs to do it.

The Site-Specific Project Implementation Program broadly follows the process indicated below:

- ✓ Develop Generic Programs
- ✓ Client to Identify Site
- ✓ Preliminary Site Investigation / Audit
- ✓ EPCM consultant's Advice Likely Duration
- ✓ Approval by Client's Network Planning
- ✓ Project Planner to Confirm Possible Target Start Dates & Develop Site - Specific Program
- ✓ Program Reviewed Based on Contract Program Provided by Building Works Contractor
- ✓ Program Control & Reporting Based on Implementation Contract Program

It is critical that ownership of the program and the detail of the sequence and duration of activities reside with the Contractor carrying out the work. To achieve this, the tender documents will include only a start date and a finish date. Tenderers will be required to submit a detailed Project Execution/Delivery Program with their tenders.

Activities in the Project Management Plan and Project Program are broadly grouped under the following stages:

- ✓ Feasibility Study
- ✓ Program Set Up

- ✓ Project Pre-Construction:
 - Initial Site Identification.
 - Client's Due Diligence.
 - Design & Planning Approval.
 - Documentation.
 - Tender and Award.
- ✓ Project Construction
- ✓ Project Post Construction Completion

The site-specific programs will be prepared by collaboration between the Project Managers, contractors, designers and programmers. They will be updated under the control and direction of the Project Manager as work progresses and the input from others becomes fully known. Site specific programs will be refined by reviewing the roll-out of the site at the conclusion of the works. This review will form the basis of continuous improvement for project delivery.

Progress of each site will be monitored, and the status will be reported in the Monthly Status Report (summary report) as a percentage complete.

3.5.2.2. Milestones / Deliverables

Milestones for the Feasibility Study & Program Set Up Phases of the Project shall be defined clearly in the schedule of target dates in Project Management Plan.

Key milestone deliverables include:

- ✓ Define the overall scope of the Project and the Project deliverables;
- ✓ Develop resources schedule / plan;
- ✓ Source / identify / obtain all relevant Client's information and documents relating the Project;
- ✓ Identify local government requirements;
- ✓ Develop cost model;
- ✓ Develop HSSE management plan;
- ✓ Prepare of standard designs;
- ✓ Prepare standard tender and contract documents;
- ✓ Compile suite of standard tender and contract documents; and
- ✓ Prepare QA/QC documents.

3.5.2.3. Start / Finish Dates

The start and finish dates for specific sites will be determined when Client's Property and Real Estate identify and release the sites to EPCM contractor for construction. Site-specific programs will not be developed until after sites are released after the conclusion of the Program Set Up Phase.

3.5.2.4. Estimated Durations

Estimated Durations for each activity are based on experience gained in similar work and in similar locations. Historical data is used to estimate durations and hence drive resource planning.

Estimated durations will be shown in the Project Program. Historical data will be obtained from Client and key members of the Project Team.

3.5.2.5. Internal Monitoring & Tracking

The progress of pre-construction activities (internal program monitoring) will be achieved using the site-specific program and monitoring each activity against the current date, identifying those activities that are behind and implementing corrective action.

3.5.3. ***Schedule Control***

Review Schedule of Project

The project schedule should be reviewed during all phases, and at the frequency that is required to properly monitor progress. At a minimum, the schedule should be reviewed once a month during the Plan and Approve and Front-End Development phases, and once a week during the Execute phase.

Stakeholders should be informed of any changes in the schedule which were identified during the reviews.

3.5.4. ***Quality Control***

Construction Quality Control

The construction quality control is a very critical activity, which will ensure that all construction activities are done in line with the project specifications and the approved technical standards and that the assets will run as per design with the right efficiency, reliability and life expectation.

On top of the Quality plan and controls described in its project management system, the EPCM shall fill the construction quality check list available in the Client's GIDS. (Global Integrated Design Standard)

It is recommended to require pictures of the assets at the key phases of the construction from each contractor in order to document the compliance to the installation standards. This approach is especially relevant for fundamentals, structures and underground assets, which won't be accessible during the handover.

These pictures are an excellent and simple tool to drive discipline and transparency but also to run root cause analysis in case of problem during the operation phase.

3.5.5. *Monthly Reporting*

Update Value of Work Done

Estimating the Value of Work Done during spending phase and at month end:

- ✓ Estimate of work done by Contractors
- ✓ Identification of materials received but not recorded
- ✓ Identification of any additional costs.

Update of Latest Estimate

Requirements are the following:

- ✓ Updating the latest estimate in order to complete a project and to determine whether necessary funds are available for completion of the project.
- ✓ Escalating the requirements for additional fund with sufficient notice

3.5.6. *Project Action Tracking*

Each Project shall have a rolling actions and Incidents list (RAIL) to keep track of the project progress.

3.6. PROJECT CHANGE MANAGEMENT

3.6.1. *Introduction*

This section describes how all Project Changes are identified, quantified, assessed, and documented to ensure that the full effects of any changes are considered, controlled and recorded.

3.6.1.1. Definitions

Project Changes include:

- ✓ Changes to the Project Brief;
- ✓ Changes to the scope of the Consultant's Services as defined within the Consultancy Agreements;
- ✓ Changes to the agreed Project Design as defined in the current approved reports and design documentation.

3.6.1.2. Change Control

A Change Control System has been set up to define how project deliverables and documentation are controlled, change and approved. Project Changes must be notified to the Project Manager for action. They will be documented using a sequentially numbered Change Order Notification form, identifying:

- ✓ Scope of Change;
- ✓ Reason for Change;
- ✓ Initiating Party;
- ✓ Estimated Cost and Time Impacts; and
- ✓ Estimated Benefits.

The Project Manager will then review the proposed change with Client and will agree to incorporate or discard the change as soon as practicable. Identified Project Changes will be reported as part of the regular progress reporting. This ensures the necessary audit trail on Project Changes (both adopted and rejected) is maintained.

All potential changes are assigned an X number for tracking, whether potential change to Consultancy or Works Contract. All time spent by staff on Design Change shall be separately recorded on timesheet. The register of Design Changes shall be included in Monthly Progress Report. Disciplinary Project Leader shall verify inclusion of Design Change within deliverable on completion of the changes.

3.7. PROJECT QUALITY MANAGEMENT

3.7.1. Purpose

The purpose of this section is to document the Quality Management System for this project.

Content in this section will be further elaborated into a Quality Assurance Plan. The Quality Assurance Plan will set out specific quality practices, resources and sequence of activities relevant to this particular project and will be based on EPCM's currently adopted ISO 9001:2000 Quality Management System.

Sub-consultants will document their procedures for the standards control, production, checking, reviewing, coordination, distribution and acceptance of project deliverables in their Quality Manuals and Quality Assurance Plans which should be aligned with EPCM's Quality Assurance Plan.

3.7.2. Quality Planning

Design and project management criteria are to be identified and means to satisfy them are to be determined and documented in the Project Quality Plan which includes:

- ✓ Scope of Work
- ✓ Project Team Structure
- ✓ Project Contacts
- ✓ Design Input & Output
- ✓ Project / Design Schedule
- ✓ Design Review (Technical and Management Review) Schedule
- ✓ Design Checking System
- ✓ Internal Quality Audit
- ✓ Corrective Action Procedures
- ✓ Project-specific Quality Objective
- ✓ Project Filing
- ✓ Project Archive

3.7.3. Project Filing

Filing for the Project will be in hard-copy and/or electronic format. The filing system and hierarchy will be the same for hard-copy and/or electronic filing.

3.7.4. Quality Assurance

Quality audits in respect of design and/or project management will be carried out when necessary and in accordance with EPCM Consultant's Quality Management System. The Project Manager will arrange these as necessary, utilising EPCM Consultant's in-house dedicated Quality Management Team.

3.7.5. Non-Conformance Control and Corrective & Preventive Action

Non-Conformances can be identified either as a result of internal audits or Client's feedback. Any non-conformance identified during the verification process is reported and where appropriate a meeting arranged to review the non-conformance and authorise its disposition. The Project Manager has the authority and responsibility for the method of disposition of non-conformance.

Records of all non-conformances reported, and their disposition shall be kept in /QA file. When a non-conformance recurs the Project Manager shall be responsible to ensure an investigation is carried out to determine the underlying cause. Records of the implementation of all corrective action shall be kept on file.

3.8. PROJECT CLOSEOUT

Detailed financial transaction linked to the project management execution can be managed by EPCM consultant in its own system.

However, Client may expect a reporting in his own ERP system if any which may have to be followed by Consultant.

4. CORRECTIVE ACTIONS FOR PROPER PMS IMPLEMENTATION

Based on the above all procedures and processes mentioned in brief in clause 3 following actions must be taken for proper PMS implementation to have proper utilization of resources, time. It will also be helpful in identifying the individual assignments for different leads. These processes will help controlling compliance and safety, reliability of plan and adherence to the client's specification.

For each phase of the project preliminary deliverables, benefits and key elements are mentioned below;

4.1. INITIATE

4.1.1. Deliverables as a part of EPCM contractor

- ✓ Multi Year plan covering all the identified business requirements
- ✓ Scope definition and Cost estimate for each project with margin of +/-25%
- ✓ Preparation of Strategic Plans : Early resource plan, phased execution plan and Mapping of Risks

4.1.2. Deliverables from client

- ✓ Confirmation on the plan submitted by Contractor and final Budget Approval.

4.1.3. Benefits

- ✓ Predictability (in term of Cost and Time)
- ✓ Quality, Scope clarity and Value improvement
- ✓ Safety and Conformity

4.2. PLAN AND APPROVE

4.2.1. Deliverables as a part of EPCM contractor

- ✓ Preparation of the supporting document for authority approval and statutory approvals
- ✓ Verification of Design conformity to the project specifications and technical standards
- ✓ Accurate Cost estimation in range of +/-10%
- ✓ Compliance of the documents for the Process assurance to support the clients Investment proposal approval

4.2.2. Deliverables from client

- ✓ Confirmation on the Investment proposal approval.

4.2.3. Benefits

- ✓ With proper planning and approval process, cost estimates will be coming near to the actuals where the margins are optimised
- ✓ Contracting strategy can be easily fixed
- ✓ Good basis and platform to prepare the actual project schedule for Client's further approval
- ✓ Will allow to revise the design risk assessment at the planning stage to avoid later stage risks
- ✓ Base for the preparation for Risk register

4.3. FRONT END DEVELOPMENT

4.3.1. Deliverables as a part of EPCM contractor

- ✓ Deliverables with more accurate design and specification to do final cost estimate in range of +/-3%
- ✓ Contracting package phasing and finalization of the contractors to go on ground
- ✓ Value Engineering on the previous planning and approvals
- ✓ Preparation and submission of various plans (HSSE Plan, Quality plan, Confined Contracting strategy, Level 2 Project Schedule)

4.3.2. Deliverables from client

- ✓ Land approval and Site finalization
- ✓ Environment Plan

4.3.3. Benefits

- ✓ More accurate Cost estimate
- ✓ Detailed Project schedule
- ✓ Fixed and Locked Scope for further processing
- ✓ Detail specifications in line with the Client's standards and requirements
- ✓ Approved Permits for further execution
- ✓ Details Risk assessment and Risk register

- ✓ Approved Environment Plan to avoid later stage hinderance due to environmental issue.

4.4. EXECUTE

4.4.1. Deliverables as a part of EPCM contractor

- ✓ Execution package documents
- ✓ Project Execution strategy
- ✓ Basis for the Project handover process
- ✓ Safe Execution supported with documents and procedures
- ✓ Delivery of Assets based on the agreed design specification, quality requirement, and business case objectives
- ✓ Regular Checking for HSSE, Risk assessment to avoid any delay in project timelines
- ✓ Detailed Construction Schedule
- ✓ Commissioning Plan

4.4.2. Benefits

- ✓ Control on the Schedule from day 1 to avoid any project delay
- ✓ Control on Cost by day to day monitoring
- ✓ Monitoring of Construction Quality checklist
- ✓ Control of execution against scope

4.5. CLOSE OF PROJECT

4.5.1. Deliverables as a part of EPCM contractor

- ✓ Project Completion report including the invoicing, payments, process order management, over/under spend notifications, UpToDate fixed asset register to support project capitalization.
- ✓ Delivery and Sign-off of outstanding post-handover items including technical documentations (As-built), Warranty information for all the covered parts
- ✓ All the operating manuals and operation training certificates
- ✓ *Confirmation on the handover checklist from client*

4.5.2. Deliverables from client

- ✓ Sign-off on the final scope and project completion certification

- ✓ Sign-off and agreement on the closure of the financial activities for particular project.

4.5.3. Benefits

- ✓ Review of the post investment and execution against the planned investment
- ✓ Trade-off in the schedule and actual execution timelines
- ✓ Lesson learning for the new project to avoid the future issues;

5. CONCLUSION

As on today in absence of proper project management Approx. 70% of the projects are getting delayed or end up funding more resources and money due to inability of identifying the failures at early stage.

Also due to implementation of the project management system we can estimate more accurately considering the past experience and lesson learnt which will some time result making the project viable where the CAPEX is driving factor.

As mentioned in Clause 1.3 there is a very huge potential in near future for the retail market and if proper project management is not developed or implemented it will be backdrop for the sector as well as the country considering the inflow of Private and foreign players in market.

All the above points briefed in clause 3 & 4 will be indicating that to meet the market demand and execute all the outlets in time the important tool in the project is project management system implementation which will help to complete the project Intime, in budget with limited resources in increase the profitability and ROI for particular client.

All the reason which are mentioned in clause 2.2 can be addressed before they are arise with proper usage of PMS tool. Project manager using the proper methodology as per Project Management system will identify the failures in advance and hence proper steps can be taken well in advance to avoid the same.

ABBREVIATIONS AND ACRONYMS

AI	:	Asset Integrity for project related to a conformity to Asset Integrity / Process safety or legal requirements
AI/PS	:	Asset integrity / Process Safety
ALARP	:	As Low As Reasonable Possible
C&M	:	Care and Maintain for projects related to the replacement of obsolete or underperforming assets
CRR	:	Construction Readiness Review
DCAF	:	Discipline Controls and Assurance Framework
DRA	:	Design Risk Assessment
EDMS	:	Engineering Document Management System
EPCM	:	Engineering Procurement and Construction management, contract type
RP	:	Enterprise Resource Planning,
FMC	:	Facility Management Company
GDS	:	Global Design Standard
HSSE	:	Hygiene Security Environmental
MOC	:	Management of Change
NTI	:	New to Industry (New site construction)
PEF	:	Project Execution File
PMS	:	Project Management System
RVIE Signage	:	Retail Visual Identification evolve
SUR	:	Start Up Review
VE	:	Value Engineering
VOWD	:	Value of Work Done

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