



نيوم NEOM

ENGINEERING PROCEDURES
PROGRAM, PLANNING AND CONTROL MANUAL

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Prepared by		Approved by
Name	Dr. Abdullah AlOmani	Saad Al Sheikh
Job Title	Engineering Manager - ESCD	Executive Director - ESCD



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1. Content Brief

This Program Planning and Control (PP&C) manual encompasses all the procedures related to Program, Planning, Control, Monitoring and Measurements, etc. which are explained exhaustively in this document and its related procedures. These procedures are as follows:

1.1. Procedure NEN-PRC-023: Program Management Procedure

Program Management will help in coordinating component priorities and dependencies related to the development and delivery of NEOM's Assets in order to:

- Manage benefits and ensure early benefit delivery.
- Identify the shortest path to deliver results.
- Achieve the program's vision and ensure it is sustainable.
- Remain aligned with strategy.
- Manage organizational change.
- Ensure program success (program satisfies the needs and benefits).

Projects within a program are managed independently by project managers to realize a benefit or deliverable for the program as a whole.

As per NEOM's Plan of Work, this Program Management Procedure is intended for implementation in the following 5 stages: Stage 1 (Strategic Definition), Stage 2 (Master Planning & Asset Brief), Stage 3 (Design & Tendering), Stage 4 (Construction, Handover & Close-out), and Stage 5 (Operation & Maintenance).

1.2. Procedure NEN-PRC-026: Key Performance Indicator Procedure

KPIs will highlight the results that will enable NEOM to determine if Consultants and Contractors are performing or not. If NEOM determines that Consultants and Contractors are not performing then the KPI results will enable NEOM where to focus the attention. No matter what KPIs measure, the aim of any KPI is to bring about improvement and identify areas where KPI goals are not being achieved.

As per NEOM's Plan of Work, this KPI Procedure is intended for implementation in the following 5 stages: Stage 1 (Strategic Definition), Stage 2 (Master Planning & Asset Brief), Stage 3 (Design & Tendering), Stage 4 (Construction, Handover & Close-out), and Stage 5 (Operation & Maintenance).

1.3. Procedure NEN-PRC-028: Risk Management Procedure

Risk management is a continuous, forward-looking process that is an important part of business and technical management processes. Risk management should address issues that could endanger achievement of critical objectives. A continuous risk management approach is applied to effectively anticipate and mitigate the risks that have critical impact on the project.

Effective risk management includes early and aggressive risk identification through the collaboration and involvement of relevant stakeholders. Strong leadership across all relevant stakeholders is needed to establish an environment for the free and open disclosure and discussion of risk.

Although technical issues are a primary concern both early on and throughout all project phases, risk management must consider both internal and external sources for cost, schedule, and technical risk. Early and aggressive detection of risk is important because it is typically easier, less costly, and less disruptive to make changes and correct work efforts during the earlier, rather than the later, phases of the project.

As per the NEOM Plan of Work, this Risk Management Procedure is intended for implementation in the following 5 stages: Stage 1 (Strategic Definition), Stage 2 (Master Planning & Asset Brief), Stage 3



(Design & Tendering), Stage 4 (Construction, Handover & Close-out), and Stage 5 (Operation & Maintenance).

1.4. Procedure NEN-PRC-027: Earned Value Management Procedure

Earned Value Management (EVM) helps project managers to measure project performance. It is a systematic project management process used to find variances in projects based on the comparison of worked performed and work planned. EVM is used on the cost and schedule control and can be very useful in project forecasting. The project baseline is an essential component of EVM and serves as a reference point for all EVM related activities. EVM provides quantitative data for project decision making.

As per NEOM Plan of Work, the Earned Value Management Procedure is intended for implementation in the following 5 stages: Stage 1 (Strategic Definition), Stage 2 (Master Planning & Asset Brief), Stage 3 (Design & Tendering), Stage 4 (Construction, Handover & Close-out), and Stage 5 (Operation & Maintenance).

1.5. Procedure NEN-PRC-024: Design and Procurement Schedule Management Procedure

The purpose of this Procedure is to outline the requirements for procurement schedule management and control in the development and delivery of NEOM Assets. This Procedure is for design consultants, and contractors with design responsibilities. It addresses design and procurement schedule management and control. In accordance with the NEOM Plan of Work, this Procedure is intended for Stage 3 (Design & Tendering).

1.6. Procedure NEN-PRC-025: Construction Planning Management Procedure

The purpose of this Procedure is to outline the requirements for construction schedule management and control in the development and delivery of NEOM Assets. This Procedure is for design consultants and contractors with design responsibilities. It addresses construction schedule management and control and it also gives an overview of progress reporting procedures. In accordance with the NEOM Plan of Work, this Procedure for Construction Planning Management is intended for Stage 4 (Construction, Handover & Close-out) and Stage 5 (Operation & Maintenance).

2. Purpose

The main purpose for making a manual containing all the mentioned procedures is as follows:

- All the Procedures are interrelated to each other, thus any cross reference can be simply referred to within the same manual document and any change or revision or update can be consistently and easily made.
- The aim is to obtain an integrated Project Management (PM) system and the manual will facilitate this integration by combining all related Procedures together and making the proper interface among them.
- Avoiding duplication or repetition in the same topic in the said procedures. This will allow a streamline in more organized way but keeping the same efficiency and best practice within these Procedures.
- Successful companies are setting up manuals such as this Program Management Manual and avoiding dispersed procedures not integrated together.
- All Program and Project Managers within the same organization go through the consecutive phases or/and procedures of this manual in the same manner. Each phase will be initiated by a joint kick-off and evaluated together. By following this process, team members and even stakeholders will be learning along the way.



- This manual is considered as a “living document” especially in the Implementation phase where several more annexes and exhibits will be added with the input of many collaborators.

3. Scope

The below Figure 1 illustrates the global discipline areas of PP&C; however, this manual is restricted to the Procedures related to Time only which comprise the following:

- Program Control and Evaluation (Time): Project review and evaluation, Project Control and Tracking of Project Performance in Design, Engineering and Construction Stages; and
- Project Execution (Time): Requirements development & management, project planning, risk management and earned value management

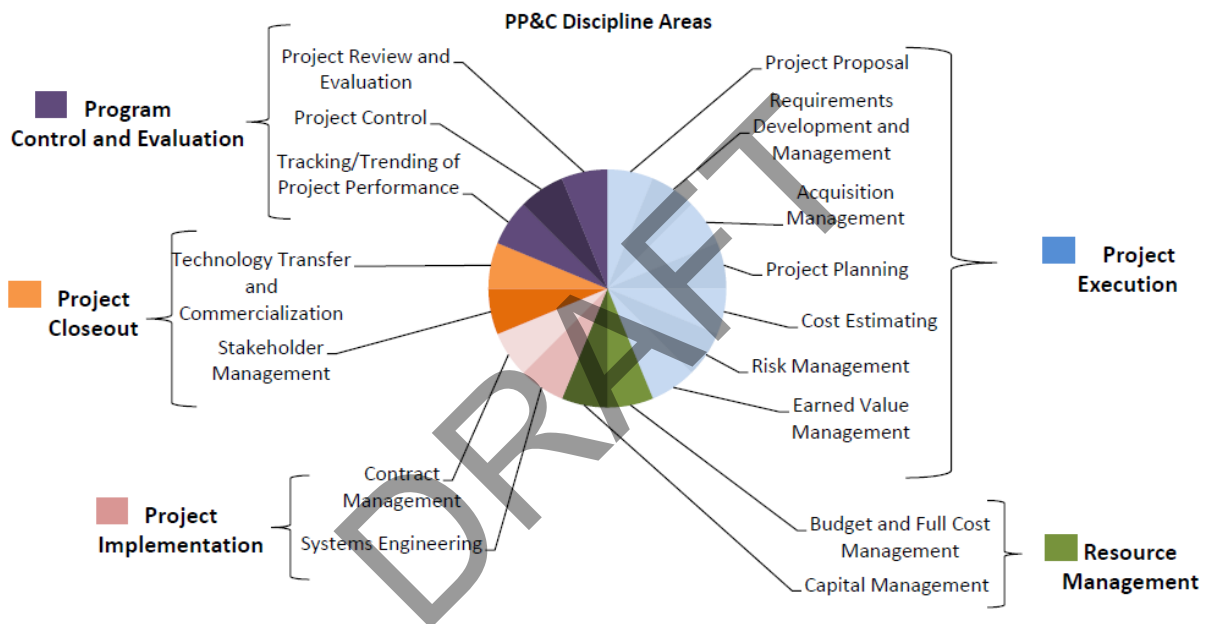


Figure 1: PP&C discipline areas

Program Planning and Control (PP&C) will help in coordinating component priorities and dependencies in order to:

- Manage benefits and ensure early benefit delivery
- Identify the shortest path to deliver results
- Achieve the program’s vision and ensure it is sustainable
- Remain aligned with strategy
- Manage organizational change
- Ensure program success (program satisfies the needs and benefits)

Projects within a program are managed independently by project managers to realize a benefit or deliverable for the program as a whole. The projects report into the program during the iterative program benefit delivery phase to ensure they remain aligned with the program’s vision, benefits, timeline, and priorities.



4. Definitions and Abbreviations

Table 1: Table of definitions

Term	Definition
Asset	Refers to the required physical buildings or infrastructure such as residential, business facilities, commercial & retail facilities, media centre, recreation, entertainment & sports facilities, marinas, hospital, medical clinics, religious facilities, school, library, fire stations, roads/streets/bridges, infrastructure system, and utility networks. Also, it relates to components of buildings and structures that need to be tracked and managed.
Baseline	The combination of scope, budget and schedule that define the goals and objectives for overall Project deliverables/ which have been agreed with NEOM and the Program Management Consultant (PMC) and are placed under configuration control for changes.
Baseline Schedule	The planned timing and duration of activities to deliver the overall Project scope of work, in compliance with the milestones and contractual terms and conditions (the approved plan).
Design Consultant	The professional firm named in the Consultancy Agreement, who is employed by NEOM to perform the Design Services, and legal successors to the Design Consultant and permitted assignees.
Earned Value Management	The method of assessing Project performance by comparing the amount of work that was planned with what was actually accomplished to determine the combined cost and schedule performance.
KPI	A Key Performance Indicator is a type of performance measurement. KPIs evaluate the success of an organization or of a particular activity in which it engages.
Program	A program is a group of related projects managed in a coordinated manner to obtain benefits not available from managing them individually.
Project	A temporary endeavor undertaken to create a unique product, service, or result. It can also refer to the development and delivery of an NEOM Asset or a group of NEOM Assets.
Schedule	A representation of the plan for executing the project's activities including dates, durations, dependencies, resources, costs and other planning information, used to produce a project schedule.

Table 2: Table of abbreviations

Abbreviation	Description
EVM	Earned Value Management
KPI	Key Performance Indicator
PM	Project Management
PP&C	Program Planning and Control.
PRC	Procedure



5. Related NEOM Documents

The requirements contained in the following documents apply to the extent specified in this Procedure.

Table 3: Table of related procedures

Document Code	Document Name
NEOM-NEN-PRC-005	Design Stages Deliverables Procedure

Table 4: Table of cost estimation manual and procedures

Document Code	Document Name
NEOM-NCE-MNL-001	Cost Estimation Policies and Guidelines
NEOM-NCE-PRC-001	Cost Estimating Procedure
NEOM-NCE-PRC-002	Performance Evaluation of Estimators Key Performance Indicator Procedure

6. Document Mapping

Figure 2 below shows the Program Management Cycle which starts by the Establishment of Program Baseline Schedule, using analogous benchmarking method to estimate duration, manage risks, set up KPIs and EVM system then once consented the said Program Baseline schedule will be updated periodically and progress reviewed and reported and any remedial measures to be undertaken will be advised. The aforementioned cycle of work will be detailed in the Procedure NEN-PRC-023.

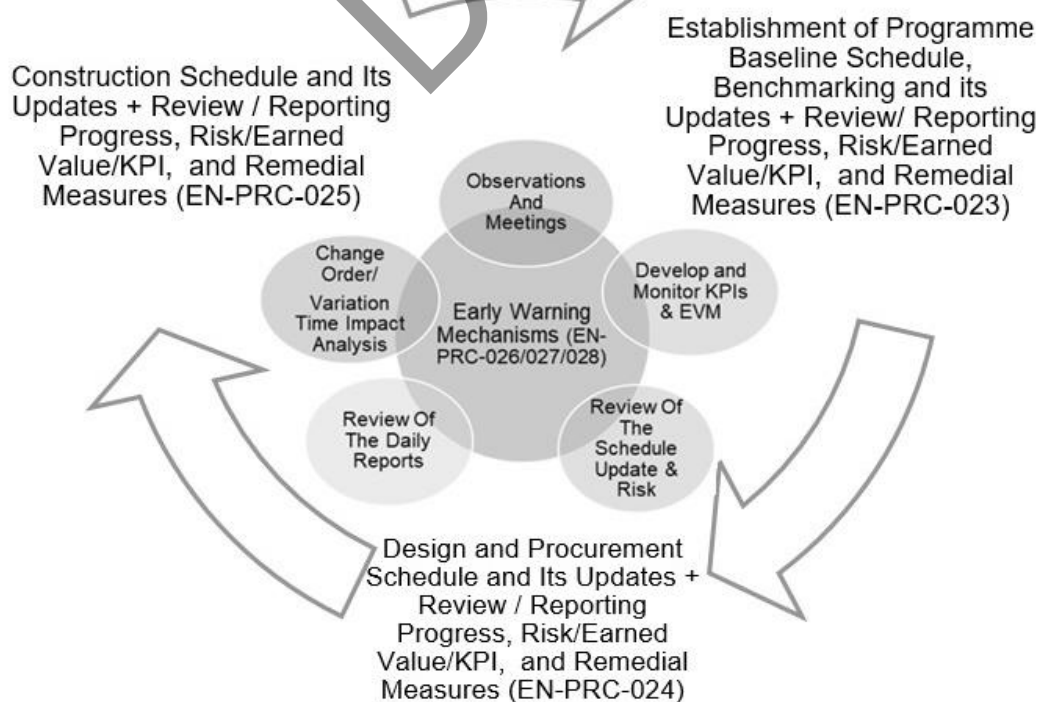


Figure 2: Document mapping



From this Master Program of Works, a Design and Procurement schedule will be generated and more elaborated with proper set up of KPIs, EVM, etc. and reviewed by the Consultant before its consent and once consented the Design and Procurement Baseline schedule will be updated periodically and progress reviewed and reported and any remedial measures to be undertaken will be advised. The aforementioned cycle of work will be detailed in the Procedure NEN-PRC-024.

From the same Master Program of Works, a Construction schedule will be generated and more elaborated with proper set up of KPIs, EVM, etc. and reviewed by the Consultant before its consent and once consented the Construction Baseline schedule will be updated periodically and progress reviewed and reported and any remedial measures to be undertaken will be advised. The aforementioned cycle of work will be detailed in the Procedure NEN-PRC-025.

The updated schedules of both the Design/procurement and construction schedule and the related progress reports will be bottom-up accommodated inside the Master Program of Works in each cycle so that the master program of work will be updated periodically and reported to High Management and if a revised Master Program of works is required then the cycle will go on and on.

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