نيوم NEOM

ENGINEERING PROCEDURES

KEY PERFORMANCE INDICATOR PROCEDURE

NEOM-NEN-PRC-026 Rev 01.00 May 2020

Document History

Revision code	Description of changes	Purpose of issue	Date
Rev 01.00	First Issue	Issued for Implementation	14.05.2020

Document Approval

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1. Purpose

The purpose of this Procedure is to outline the specific KPI requirements related to planning and project controls.

2. Scope

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).

3. Definitions and Abbreviations

Table 1: Table of definitions

Term	Definition
Activity	A task to be accomplished in a set period of time as part of working toward a larger project goal. An Activity can be assigned to a resource(s) and have an associated cost. Activities are ordered with logic links.
Activity Relationship	An ordered link between one activity and others noting that there are multiple link types and that activities can have more than one relationship.
Asset	Refers to the required physical buildings or infrastructure such as residential, business facilities, commercial & retail facilities, media center, 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.
Critical Activity	An activity that is on the project's critical path.
Critical Path	A project's critical path is the sequence of network activities which add up to the longest overall duration. This determines the shortest time possible to complete the project.
Department	Different entities and divisions constituting NEOM organization, which may include the Project Department, Operations Department, Proponent/Sponsor, Urban Department, Environment Department, Loss Prevention & Fire Safety Department, etc.
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.
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.
NEOM Representative	Appointed Project Management Consultant, Supervision Consultant, other Consultants or NEOM Departments.

Term	Definition
Program	Program reflects a suite of inter-related project that realize over-arching benefits.
Project	Refers to the development and delivery of aa NEOM Asset or a group of NEOM Assets.
Resource	A resource is a necessary asset whose main role is to help carry out a certain task or project. A resource can be a person, a team, tools, machinery, building materials, funding/money and time. The lack of a resource will be a constraint on the completion of the project activity.
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.

4. Related NEOM Documents

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

Table 2: Table of related engineering procedures

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

Table 3: 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

Table 4: Table of program, planning & control manual and procedures

Document Code	Document Name
NEOM-NEN-MNL-001	Program, Planning and Control Manual

6. KPIs (Key Performance Indicators)

6.1. KPI Practice

A KPI (Key Performance Indicator) is a measurable value that demonstrates how effectively key objectives are achieved. KPIs are used by organizations to evaluate their success at reaching critical targets. High-level KPIs may focus on the overall performance of the enterprise, while low-level KPIs may focus on processes.

6.2. KPI Variety

As every project is very different and fits differently onto the strategic map of an organization, the critical factors to be measured change from project to project. There is however agreement on a few principles for selecting **KPIs for project management**, which are related to time, budget and scope. To be useful, KPIs for project management should: a) include non-financial measures; b) be measured frequently; c)

be acted on by the NEOM Representative; d) clearly indicate what actions are required by staff; e) be measures that tie responsibility down to a team; f) have significant impact; and g) encourage appropriate action.

With regard to **KPIs for Engineering Design (ED)**, the performance of design teams should be measured as the delivery needs to be within the requirements, on budget and on time. KPIs for ED also encompass the Project cost performance, Project progress performance, Quality of design, On-time delivery performance, Engineering staff load / capacity situation and Staff productivity. In fact, ED usually takes places as a unique process, consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including the constraints of time, cost and resources.

With regard to **KPIs for Construction**, these can be covering square meter price, actual construction time, actual construction hour vs planned construction hour, no. of activities starting on time, work intensity (man hours per m^2), performance rates, productivity factors, etc.

For the avoidance of doubt, the implementation of KPIs shall not in anyway relieve any Party from its duty of care under the Contract or Consultancy Agreement, nor shall it affect the ability of NEOM to pursue any action as a result of design defect or negligence on behalf of this Party.

The primary objectives of the KPI mechanism are:

a) Incentivise the working Party to implement a culture of safety, quality and delivery to time and budget throughout the Agreement;
b) Incentivise the working Party to produce a quality design;
c) Measure Project performance; and
d) Drive the behaviour of continuous improvement by being able to measure performance.

6.3. KPI Monitoring and Reporting

Measuring a KPI is about consistently collecting the data and running the formulas to see whether we are getting closer to or further from the KPI target. This usually means having a set of tools and processes in place to ensure that measurement is happening consistently and accurately.

There are several types of KPIs to be used for Design, Procurement and Construction that collectively form the overall KPI of a Project whereby weight % factors can be agreed. An example of this is outlined below:

a) Health, Safety and Environment HSE (20%):
    i. Significant Injury Frequency Rate (SIFR) Rolling 12 Months (10%).
    ii. Work Zone Accidents Rolling 12 Months (10%).
b) Cost (20%):
    i. Awarded Claims by Contractors due to Design Errors and Negligence (13%).
    ii. Project Costs - Predictability Costs Project (7%).
c) Schedule (40%):
    i. Project Predictability of Time for the Project Design (15%).
    ii. From Approval of Gateway to Tender Issue (7.5%).
    iii. Tender Evaluation (2.5%).
    iv. Project Beneficial Use from Commencement on Site (15%).
d) Construction Quality (10%):
    i. Project Construction - Defects at Handback (10%).
e) Knowledge Sharing KPI (10%) which will be made up of four main components:
    i. Program Lessons Learnt (2.5%): to be measured as a percentage equal to the number of documented and shared Lessons Learnt submitted by the Design Consultant divided by the total number of Lessons Learnt submitted by all the Design Consultants.
    ii. Lessons Applied (2.5%): to be measured as a percentage equal to the number of Lessons Learnt actually applied to the total number of shared Lessons Learnt.

iii. Project Data Sharing (2.5%): to be measured by the number of project reference data made available by any Party, accepted by NEOM and shared with other Parties performing same services. Project data to be shared includes information such as base-line environmental studies, soil investigations results and topographic survey base maps.

iv. Steering Committee Involvement (2.5%): to be measured by the number of Steering Committee Meetings attended by the Party's CEO/COO level management.

KPI weighting and targets shall be reviewed semi-annually by both Parties and adjusted by mutual agreement. In the event of failure to agree the revised weighting and targets, the previous year's figures shall be used.

6.4. KPI Dashboard

A KPI dashboard creates a real-time visualization (on mobile, desktop or to a wall-mounted TV in office) of the KPIs selected. The best KPI dashboards are customizable, allowing to, among other things, change color, organize KPIs, and see the progress in a single glance.

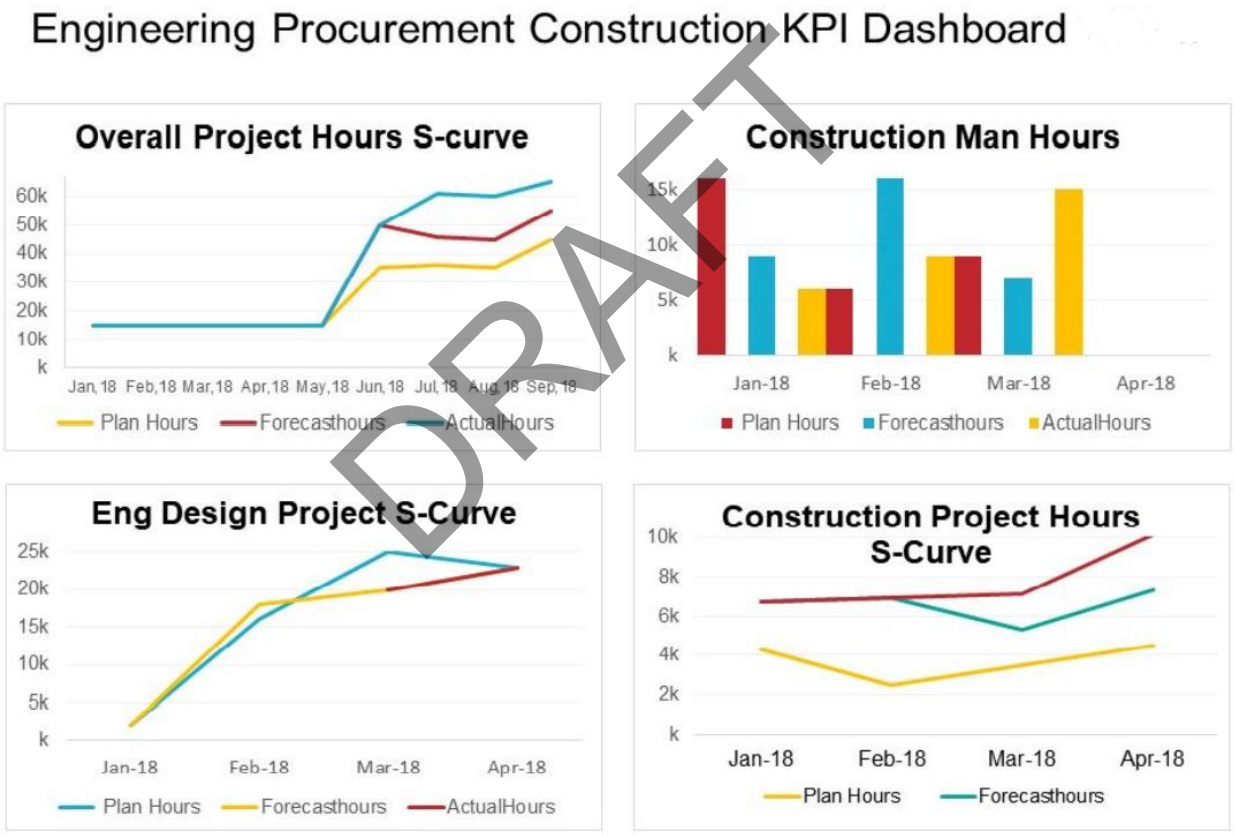

Figure 1: KPI dashboard