

Construction Management

1.0 Purpose

The purpose of this procedure is to define a system for Project Execution and Control activities related to construction projects taken up for execution by **KSPHC**. All the project execution and control activities are carried out with a view to ensure quality of construction, prevention of time over run and cost over run.

1.1 Application

This procedure is applicable to all the construction projects entrusted to **KSPHC** by the client organisation for execution,.

2.0 Responsibility

1. Contractor (through his designated engineer of the project / site) who has been awarded the project is responsible for carrying out the execution of the project under controlled conditions.
2. EE, AEE, AE and JE of respective projects are responsible for ensuring execution of works under the following controlled conditions through-out the construction processes.
 - i. Ensuring availability of required resources for the execution of the project.
 - ii. Ensuring the availability of work instructions to the contractors.
 - iii. Ensuring the Use of suitable equipment,
 - iv. Ensuring the availability and use of monitoring and measuring devices.
 - v. Ensuring frequent quality checks.
 - vi. Handing over activities.

As the project execution activities are contracted, responsibilities of KSPHC personnel are mainly to exercise control over construction activities by ensuring availability of resources, effective monitoring and quality control as per contract conditions. Responsibility and authority for various activities involved in the construction management is described in the procedure part.

3.0 Terms and definitions

- 1) **Activity** – smallest identified item of work in a project process.
- 2) **Concession** – Permission to use or release a product that does not conform to specified requirement.
- 3) **Contractor** - Organization or Group of persons or a person that provides a product

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- 4) **Customer / Client** – Organization or person that receives a product / service.
- 5) **Deviation Permit** – Permission to depart from the originally specified requirements of a product prior to realization.
- 6) **Document** – Information and its supporting medium.
- 7) **Project** – Construction of Residential / Non-Residential buildings entrusted by Client organisations to KSPHC.
- 8) **Procedure** – Specified way to carry out an activity or a process.
- 9) **Product** – Result of a process
- 10) **Progress evaluation** – assessment of progress made on achievement of the project objectives
- 11) **Quality Assurance** – Part of quality management focused on providing confidence that quality requirements will be fulfilled.
- 12) **Quality Control** – Part of quality management focused on fulfilling quality requirements.
- 13) **Record** – Anything (Such as a document or a photograph) providing permanent evidence of or information about past events; it also includes documents in digital form
- 14) **Requirement** – need or expectation that is stated, generally implied or obligatory.
- 15) **Review** – Activity undertaken to determine the suitability, adequacy and effectiveness of the subject matter to achieve established objectives.
- 16) **Specification** – Document and stated requirements of the product.
- 17) **Verification** – Confirmation, through the provision of objective evidence, that specified requirements have been fulfilled.

4.0 Procedures

Following abbreviations and terms are used in the table;

D = Document	R = Record
PR = Procedure	CL = Check list
PC = Pour card	TP = Test procedure
STD = Relevant BIS	TR = Test Records
CMD = Chairman and Managing Director	ED = Executive Director
FA = Financial Advisor	CE = Chief Engineer
SE = Superintending Engineer	EE = Executive Engineer
DES = Designs	QC = Quality control and Contracts
Govt. = Government of Karnataka	Client = User department
TP = Third party	

PRC = Project review committee consisting of

CMD, ED, FA, CE and other designated employees as determined by the CMD / ED.

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4.1 General

As the project execution activities are contracted, responsibilities of KSPHC personnel are mainly to exercise control on projects product through effective monitoring at all stages during the execution of the project.

4.2 Planning for Execution of works

Concerned Executive Engineer of a division who is considered as the project manager shall plan for achieving the objectives of project execution with a view to deliver the product as per the requirement without time and cost over run. In this endeavour, he shall delegate required responsibilities and authorities to other staff of the division / sub-division to plan and achieve the objectives. Further he will interact with the respective KSPHC personnel as an when required depending on the situation to avoid deviations from the objectives envisaged.

Sl. No.	Activity	Description	Responsibility	Time allowed for completion	Reference Documents
1	Ensuring Resources	a) Human resources required for the project	Top Management		Administrative Approval to the project
		b) Financial resources required for the project	Top Management		
2	Documents required for execution of project	The EE / AEE / AE / JE Shall verify the availability of all the necessary documents, such as technically sanctioned estimate, agreement, programme of work of the contractor, construction drawings before issue of work order.	E.E / A.E.E / AE / JE		1) Letter of acceptance 2) Copy of contract documents 3) Copy of sanctioned estimate 4) Copy of approved construction drawings. 5) Programme of work
3	Payment of mobilisation advance	If payment of mobilisation advance is contemplated in the contract and if an application is made by the Contractor for payment of mobilisation advance, payment is to be made after receipt of Bank Guarantee in the prescribed proforma. The authenticity of the Bank Guarantee may be got verified by addressing the concerned bank.	EE / CAO	Within 7 days from receipt of valid Bank Guarantee	Contract Documents / Bank Guarantee
4	Custody of Bank Guarantee	A register to be maintained for all the Bank Guarantees kept in safe custody of the division and	EE		

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	towards mobilisation advance	one month prior to the expiry of the validity of Bank Guarantee the concerned Contractor shall be addressed to renew the same within the validity period of Bank Guarantee, if the extension of the validity of the Bank Guarantee is necessary. If extension of the validity is not arranged by the Contractor, necessary action to get the same en-cashed shall be taken. In case if the renewal of the Bank Guarantee is not necessary, discharge certificate is to be issued.			
5	Handing over of Site	The AE / AEE shall handover the site to the contractor and make necessary documentation	A.E.E / A.E / JE	Within 7 days from receipt of all the concerned documents	Letter of acceptance / Contract documents. F : 18 – 1
6	Programme of work	The EE shall obtain detailed programme of work from the contractor as per the contract and approve the same. The same shall be got uploaded to the PMS	EE	Within 7 days from issue of letter of acceptance	Contract Documents
7	Establishment of field office	It shall be ensured that a field office with a pre-loaded PC with the required soft ware to facilitate monitoring of the project and telephone connection is established, if stipulated in the contract.	E.E / AEE /AE /JE	Within 45 days from issue of work order	Contract documents
8	Checking of availability of infrastructure for the work.	The availability of contractor's technical personnel, as specified in the contract documents along with sufficient tools and plants required for the work, field testing equipment wherever required, site office, availability of sufficient skilled labour, shall be ensured before the commencement of work. The Provision of necessary construction water and power supply by the contractor shall also be ensured.	E.E / AEE /AE /JE	Within 7 days from issue of work order	Contract documents
9	Marking out of building layout	The Mark out made by the agency shall be verified and approved	AEE /AE /JE	Within 3 days from issue of work order	Construction drawings.

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10	Ensuring availability of construction materials as per the requirement.	Ensure that the construction materials collected at site by the contractor. have been tested for their quality	AEE /AE /JE		QSP 23
11	Control over construction	It shall be ensured that all the items of work is carried out in accordance with the specifications indicated in the contract documents. Specific attention is also to be given for <ul style="list-style-type: none"> a. Ensuring maximum lift height permissible b. Minimum curing period required c. Time for removal of shuttering d. Labour welfare and e. Safety aspects at each and every stage of execution of the project 	EE/ AEE /AE /JE		QSP 23 and contract documents
12.	Sequence of construction of various items of works	The sequence of construction of various items of work shall be ensured as per the programme of works.	EE/ AEE /AE /JE		Approved Programme of works
13	Additional quantities and variations in specifications	The additional quantities of work required to be executed for the item of works in the contract document / for any item of work not contemplated in the contract document , which may arise during execution of works shall be got approved by the competent authority.	EE	Within 7 days from identification of Additional quantities and variations in specifications	Construction drawings / Inspection note from senior officers / requirement of the clients. F : 18 – 2 & F : 18 - 3
14	Preparation of work bills	Ensure preparation of work bills to facilitate payment to the contractor as per stipulations in contract document.	EE/ AEE /AE /JE	Within 3 days from the date of submission of bills by the Contractor to the sub-division	Measurement Books / On-line billing
15	Payment of Running bills to the contractors	Ensure payment of the work bills to the contractor as per the contractual obligation.	F.A / CAO /EE	Within 15 days from the date of submission of bills by the Contractor to the sub-division	Contract documents and Bills prepared by division
16	Liaisoning with other agencies	Liaisoning with other agencies like Local bodies, KPTCL, Water supply boards required	EE / AEE / AE / JE	3 months prior to anticipated date of	Requirements of the project

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		for obtaining the facilities required for the project.		completion of project	
17	Quality checks before handing over of buildings	Ensure there are no deficiencies in the works.	EE (QC) / EE / AEE / AE / JE	7 days before handing over of the buildings to the user department	Contract Documents
18	Extension of time if required	Due to reasons not stipulated in contract document if the situation arises for extension of time in the project execution approvals from competent authorities is to be obtained.	EE / AEE	30 days prior to expiry of contract	Contract Documents F : 18 - 4
19	Payment of bonus wherever applicable	If there is provision in the contract for payment of bonus in case of early completion of the project specific proposals is to be submitted to SE with a detailed report after completion of the project in toto.	EE / AEE	Prior to payment of final bill	Contract Documents
20	Levying of penalties	For any deviations in the quality of work and / or delay in execution of the project, making proposals for levying of penalties.	EE	Prior to payment of final bill	Contract Documents / Complaints received And QSP – 20
21	Third Party Inspection	If there is dispute between the contractor and KSPHC regarding quality of works executed the matter shall be referred to third party for opinion	CMD/ED/CE/SE		Contract Documents / Inspection & Test reports
22	Issue of work completion Certificate	Prior to issue of work completion Certificate the project shall be technically audited by Technical Staff who were not associated with the project.	EE/AEE/AE/JE	Within 7 days after final quality checks and attending to any deficiencies.	
23	Preparation of final bill	Ensure preparation of Final bill to facilitate payment to the contractor as per stipulations in contract document.	CAO / EE / AEE / AE / JE	Within 45 days after final quality checks and attending to any deficiencies.	Measurement books, RA Bills, Contract Document
24	Customer complaints	Attend to customer complaints for any deficiencies during the prescribed defect liability period.	EE / AEE / AE / JE	Within 15 days from receipt of complaints	Customer Complaints / Contract Document F : 18 - 5
25	Release of security Deposit & EMD	Ensure release of Security Deposit & EMD after the lapse of defect liability period	CAO / EE	Within 7 days after the completion of defect liability period	Contract Documents

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5.0 Reference :

- a) ISO 9001: 2000 Clause Number 7.5.1
- b) Quality Manual Clause Number 7.5.1

6.0 Associated Documents :

- a. QSP 01 - Control of documents
- b. QSP 02 - Control of records
- c. QSP 12 - Procedure for Project Management
- d. QSP 17- Procedure for Purchasing - Construction Contracts
- e. QSP 19- Procedure for Control of Monitoring and measuring devices
- f. QSP 20 – Procedure for Customer complaints and feedbacks
- g. QSP 23 – Procedure for Quality Control
- h. QSP 24 - Procedure for Control of nonconforming product
- i. QSP 25 – Procedure for Project monitoring systems
- j. QSP 26 – Procedure for Corrective action
- k. QSP 27 – Procedure for Preventive action

7.0 Revisions

Revisions” 00”

8.0 Distribution procedure

Chief Coordinator-QMS shall issue this procedure to all the functional heads.

*Approved by	Top Management Committee
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*Board of Directors of KSPHC in its 107th meeting held on 04-12-2004 vide resolution No. 2004 / 047 has constituted a Top Management Committee consisting of CMD, ED, CE and FA with MR and CC as co-opted members. Further the Board has authorised CMD to approve and issue the QSPs after review by the Top Management Committee.

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