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**BUREAU OF INDIAN STANDARDS**

*Preliminary Draft Indian Standard*

**Project Management Consultancy Services: Construction Execution Services Sectional Committee, SSD 21**

FOREWORD

(Formal clause will be added later)

Project Management Consultancy services play a critical role in ensuring the execution of any civil engineering project with quality, safety, and efficiency, simultaneously without time and cost overrun. These services include Civil engineering construction, Mechanical, Electrical & Plumbing (MEP), Fire detection and Protection, Horticulture and Landscaping and Interior services as per the requirements. The Project Management Consultant (PMC) also works as a coordinator between owner, Consultants such as Architectural, Structural, MEP, Interior consultants and the contractor(s). The scope of PMC may also include pre-construction services defined in IS………...

As the role of PMC is very crucial to ensure the execution of Project with quality, safety and optimum cost. Therefore, owner is to take decision to select the PMC based on appropriate selection system such as Quality Based Selection (QBS) system, Quality cum Cost Based Selection (QCBS) system or on nomination-based system as efficient and qualitative delivery of PMC services is the key of successful completion of the project.

Therefore, the intent of this standard is to:

1. define the Project Management Consultancy services
2. to suggest the services to be provided by the PMC
3. to bring transparency, uniformity, and inclusiveness in the qualification requirements and appointment of PMC
4. to suggest the procedure to be followed for selection of the PMC
5. to suggest the qualification and experience of the PMC

This Indian Standard defines the scope and responsibilities of various stakeholders, different systems of appointment, and minimum qualification and experience of the PMC. However, users of such services may take appropriate decisions based on the nature, importance, cost, and scope of work. The intention of this standard is not to replace the registration system followed in any organization but to guide and bring uniformity.

**PORJECT MANAGEMENT CONSULTANCY SERVICES – REQUIREMENTS**

1. **SCOPE** 
   1. This standard covers the requirements for all types of Project Management Consultancy Services of civil engineering projects during Pre-construction and Execution stages. It also includes the role, responsibilities, qualification and experience as well as deliverables expected from all the stakeholders.
   2. This standard covers construction and execution services and also interlinked pre-construction and post-construction stage services with respect to project management consultancy.
2. **TERMINOLOGY**

For the purpose of this standard, the definition given in ………….

* 1. **Appointing Authority (AA**) — Appointing authority is the authority responsible for appointment of the PMC. AA may be the owner or any other authority authorized by the owner.
  2. **Project Management Consultant (PMC)** — An individual or organization nominated/appointed by the Appointing Authority to manage the site planning, execution and maintenance and repairs of a project on his behalf. The owner may either perform the role of PMC himself or appoint PMC. PMC services may include construction of original works, balance works of any incomplete work, maintenance and repair services, and pre-construction services as per the scope of the contract/MOU entered between owner and PMC. In case, pre-construction and maintenance and repair services are included in the scope of PMC, PMC will carry out the responsibilities defined in IS: …. as…. and IS:……as for AMC also, as the case maybe.
  3. **Original works -** Works involving all new constructions.
  4. **Balance work of incomplete project –** Balance work is left over work by an agency carrying out the original work due to which completion certificate/occupation certificate could not be received.
  5. **Completion certificate –** Certificate issued by the PMC certifying satisfactory completion of work as per the contract.
  6. **Occupancy certificate –** Certificate issued by the local government, which declares that the building is constructed as per the approved plans.
  7. **Maintenance and Repair services –** The services carried out for keeping the asset in workable conditions, which may include part or all the services described in IS:…….
  8. **Pre-construction Services –** The services carried out before award of work to the contractor for execution.
  9. **Owner**
  10. **Similar work:** Similar work is the work largely resembling to the scope and quantities of the work carried out in the past.

1. **ROLES AND RESPONSIBILITIES** 
   1. Appointing Authority (AA) shall have the following responsibilities:
2. to define the scope of work, qualification criteria if any, contract conditions and items required for the planning, designing, supervision, and execution of work as per the requirements for the consultants, PMC, vendors and contractor;
3. to take declaration from the consultant and contractors of not having blacklisted/debarred during last five years.
4. to appoint PMC, consultant(s), and contractor(s) based on their qualifications and past experience as per the requirements;
5. to provide adequate and reliable information, details, and drawings available with him related to the work as defined in the contract.
6. to allow the bidders to visually inspect the site, see the available details and drawings, and examine the site for carrying out the works;
7. to enter into the written MoU/contract with the PMC/consultant(s)/contractor as the case may be;
8. to assist in getting the approvals/permissions from the authorities if in his scope of work as defined in the contract;
9. to arrange the budget and make the payment to the consultant(s) as defined in the contract.
10. to monitor the services provided by the consultant, PMC and the contractor(s) from time to time;
11. to consider abnormality or variation from the contract;
12. to arrange the coordination meeting with the stakeholders.
    1. PMC shall have the following responsibilities:
13. to enter into a written explicit agreement/MoU with the AA about the scope of work, and terms and conditions for performing the assignment;
14. to coordinate with the consultant(s) for issue and clarifications of drawings, as required;
15. to deploy adequate and appropriate supervisory technical personnel for supervision of the work;
16. to intimate any abnormality or variation at the site from the provisions made in Bill of Quantities to the consultant and AA, as the case maybe.
17. to ensure the work is carried out as per the Good for Construction (GFC) drawings for the specialized maintenance and repair works;
18. to ensure that the technical personnel and workers possess the minimum required qualification and experience as specified in the contract and required at the site;
19. to prepare details of expected deliverables and time schedules;

1. to ensure that the quality of materials, workmanship and the work is as per the specifications of the items and the contract provisions;
2. to ensure the safety of the working personnel at site;
3. to ensure deployment of skilled workers as per the requirements of the work mentioned in the Technical Specifications through the contractor(s);
4. to ensure timely rectification of the defective work;
5. to ensure submission of progress and status reports to the AA as required;
6. to prepare variations with their rate analysis required during execution and inform to the consultant/AA;
7. to get “As built drawings” prepared from the contractor(s) incorporating the changes and submitted to AA;
8. to ensure communications to the contractor(s) regarding drawings for the execution of work at site and maintain evidence of actual execution of various activities/items of work as per the contract entered between AA/PMC and the contractor;
9. to ensure timely preparation of bills for the payment to the contractor and/or the consultant as the case maybe;
10. to advise the AA on technical and budgetary matters related to the work;
11. to record satisfactory completion of work;
12. to ensure having no conflict of interest with the consultant or contractor(s);
13. to ensure compliance of Laws, and Rules and Regulations and make deductions accordingly from the bills of the contractor(s)/consultant as the case may be.
    1. Consultant(s) shall have the following responsibilities:
14. to visit the site, assess the work, prepare the report and submit to AA for approval;
15. to enter into a written explicit agreement with the AA about the scope of work and terms and conditions for performing the assignment;
16. to engage adequate and appropriate technical personnel for carrying out the work;
17. to propose materials and methods of construction, the relevant contract conditions, the functional requirements and constraints, quality and safety requirements, if any, and any special construction sequencing to AA/PMC as the case may be, for incorporation in the bid document of the contractor(s);
18. to assist AA in preparation of bid document for selection of contractor(s);
19. to provide design and GFC drawings for execution of maintenance and repair work, before commencement of execution;
20. to provide clarifications required in the drawings to AA/PMC. In case, changes required due to site conditions, the drawings shall be revised well before the scheduled execution;
21. to ensure communications to the AA/PMC regarding the designs and drawings during execution of the work;
22. to ensure the accuracy and completeness of the design and drawings;
23. to inspect the site at the stages of the critical activities to ensure implementation of the design and drawings as per the concept;
24. to ensure having no conflict of interest with the PMC or the contractor(s);
25. to ensure compliance with the observations raised by the AA;
26. to maintain confidentiality throughout;
    1. The contractor(s) shall have the following responsibilities:
27. to enter into a written explicit contract with the AA/PMC as the case may be, about the scope of work and terms and conditions for performing the assignment;
28. to deploy adequate and appropriate supervisory technical personnel for supervision of the work;
29. to ensure that the technical personnel and workers possess the minimum required qualification, experience and working licenses as specified in the contract and required at the site;
30. ensure that the quality of materials, workmanship and the work is strictly as per the specifications of the items and the contract provisions;
31. shall prepare details of expected deliverables and time schedules and submit to PMC for approval;
32. to ensure that the quality of materials, workmanship and the work is strictly as per the specifications of the items and the contract provisions;
33. to ensure the quality during execution of the work;
34. to ensure making arrangements for the safety of the working personnel at site and their training, if required;
35. to ensure deployment of skilled workers and requisite tools and plants as per the requirements of the work;
36. to ensure availability of adequate physical and financial resources required to execute the maintenance and repair work.
37. to coordinate with the PMC for issue and clarifications of drawings, as required;
38. to arrange the samples of materials and preparation of samples of the work to be carried out for the work and take approval of PMC;
39. to ensure the work is carried out as per the Good for Construction (GFC) drawings;
40. to maintain evidence of actual execution of various activities/items of work as per the contract, take measurements as per the contract and submit bills to the PMC;
41. to get the materials tested from the reputed laboratory and maintain their record at site;
42. to submit details of variations if anticipated well in time to PMC and discuss in the coordination meetings.
43. to ensure workers’ welfare measures including basic amenities like toilet facilities separate for male and female workers and also for the supervisory personnel;
44. to engage only certified skilled workers in the relevant field for skilled and specialised works. In case of non-availability of certified workers in remote areas, approval of PMC will be taken for engaging such skilled workers;
45. to ensure compliance of Laws, Rules and Regulations related to the execution of work, Health, Safety and Environment and other welfare measures;
46. to ensure timely rectification of defective work;
47. to ensure submission of progress reports to the PMC as required;
48. to ensure timely preparation of bills and submission to the PMC;
49. to ensure payments to his sub-contractors, associates, vendors, technical and supervisory personnel, workers well in time;
50. to maintain cleanliness at site and ensure removal of garbage/debris on daily basis from the site;
51. to prepare “As Built” drawings incorporating changes in the service drawings and hand over to AA/PMC;
52. to hand over clean site free from stains and debris to AA/PMC;
53. to have adequate physical and financial resources required to execute the work.
54. **SELECTION SYSTEM**

Least Cost Selection (LCS) System: LCS is least cost selection method wherein successful bidder is selected based on the least cost quoted by the bidder for the work, for example – single bid item rate contract and percentage rate contract system. AA may use it for small works, and non-specialized works.

Quality cum Cost Based Selection (QCBS) System: In QCBS, the successful bidder is selected based on highest score derived from weighted quality and cost scores, for example two bid (technical bid and financial bid) system of item rate, percentage rate or EPC contracts. AA may use it for selection of consultants and specialized and non-specialized works.

Quality Based Selection (QBS) System: In QBS, the successful bidder is selected based on the highest score of the quality. AA may use it for highly specialized works, as per the policy of the organization.

1. **QUALIFICATION AND EXPERIENCE**

Minimum qualification and experience of PMC.

**Table: Qualification and Experience of the PMC**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** |  | **Qualification** | **Experience** |
| i. | PMC | 1. Should be Registered under Company Act 2. Should have GST registration | 1. Minimum 5 years incorporation in the relevant field of supervision 2. Should have completed at least one similar work during last 7 years |
| ii. | Team Leader | BArch/BTech | Minimum 10 years |
| iii. | Project Manager | B.Tech. (Civil) | Minimum 10 years in supervision of original works |
| iv. | Engineer (Civil) | B.Tech. (Civil)/Diploma in Civil Engg. | Minimum 3 years for a graduate and 5 years for Diploma holder in supervision of Civil works |
| v | Engineer (E&M) | B.Tech. (Electrical)/ B.Tech (Mechanical)Diploma in Electrical Engg./Diploma in Mechanical Engg. | Minimum 3 years for a graduate and 5 years for Diploma holder in supervision of E&M works |
| vi | Billing Engineer (Civil)/(E&M) | B.Tech/Diploma in relevant field | Minimum 3 years for a graduate and 5 years for Diploma holder as billing engineer in the relevant field |

NOTES

1. The AA can add the requirements of engineers as per the quantum of work.
2. For individual construction such as personal house, Engineer can do the billing and supervision provided he has the experience of both the fields.