

## **Section 5 - Capital Project Cost, Schedule, and Risk Reporting**

A. Introduction - The Director of Engineering provides quarterly briefings to the Commission that include information on the performance of staying on schedule and within budget for capital projects. Comparisons are made to actual project budget verses planned project budget, and actual project duration verses planned project duration for each capital project underway with PER, design, or construction efforts. Project costs and schedules tend to grower higher and longer due to several justified reasons as compared to the figures that HRSD includes in the published CIP manual. For projects such as those included in the EPA Rehabilitation Action Plan where missing a completion deadline comes with stipulated penalties and damage to our credibility, it is critical that HRSD have accurate assessment of schedules, costs, and risks that may jeopardize desired outcomes.

HRSD has adopted the Association for the Advancement of Cost Engineering (AACE) construction cost estimate classification philosophy for the various stages of study and plan development as listed below. The following classifications are to be used for reporting to HRSD at these described milestones the Opinion of Probable Construction Costs (OPCC) along with the upper and lower range of the class estimate unless otherwise approved by the responsible HRSD Project Manager.

- Class 5: up to 2% project definition (Initial Budget Development stage) with expected accuracy range of -20% to +100% above calculated cost.
- Class 4: project definition up to 30% (Study or PER stage) with expected accuracy range of -15% to +50% above calculated cost.
- Class 3: project definition up to 50% (Preliminary Design stage) with expected accuracy range of -10% to +30% above calculated cost.
- Class 2: project definition up to 90% (Pre-Final Design stage) with expected accuracy range of -5% to +20% above calculated cost.
- Class 1: project definition at 100% (Bid Advertisement or Preconstruction stage) with expected accuracy range of -3% to +15% above calculated cost.

This Section identifies tracking total project costs, OPCC, schedule and risks to cost / schedule against the CIP baseline during the life of each project. HRSD desires to learn what is happening on individual projects as well as have an opportunity to make changes to compress budget or schedule at earlier stages if possible. Cost estimates should include design, construction, land acquisition and all other project related costs.

B. FIRM's Responsibilities - The FIRM shall provide the following reports to HRSD's Project Manager as indicated below for each project.

1. An example hypothetical CIP Project Schedule – Cost – Risk report is included in Attachment A. The FIRM to coordinate with the HRSD Project Manager on proposed format for this report. In general, this report needs to be created, updated, and submitted along with monthly payment reimbursement requests for all projects with the total anticipated duration of a project greater than 2 months.

- a. Each report will reflect the original CIP project schedule and budget, as well as the previous stage report findings on schedule, budget, risks, and possible risk mitigation measures to reach both Substantial Completion and Final Completion for the project.
  - b. This singular report for each CIP project to be modified and updated such that all information throughout the life of the project will be contained in a single document. The document will be in format as approved by the HRSD Project Manager and will accompany the monthly payment reimbursement request unless otherwise approved by the HRSD Project Manager.
2. A template summary table for Project Budget Estimate History and OPCC classification reporting as detailed above is included as Attachment B.
- a. This table for each CIP project to be modified and updated such that all information throughout the life of the project will be contained in a single document. The document will be in format as approved by the HRSD Project Manager and will accompany the monthly payment reimbursement request unless otherwise approved by the HRSD Project Manager.
3. An example simplified schedule is included in Attachment C (Excel) for PER phase, Design phase, Preconstruction phase, and Construction phase showing key involvement milestones and dates for HRSD personnel (other than the HRSD Project Manager). Examples of HRSD personnel include Real Estate Manager(s) for property matters and review of preconstruction assessment and damage mitigation plan; Electrical and Instrumentation staff involved with submittal reviews during PER / Design and various field verifications during construction and start-ups; and Operations staff for maintenance of plant / piping / pumping operations and verifications and activities associated with construction Substantial Completion and Final Completion milestones. Each prepared and updated project phase schedule to show activities that require HRSD personnel involvement clearly denoted such that HRSD can plan when various staff will need to be available for these identified tasks and activities.
- a. The appropriate project stage schedule for each CIP project to be created, updated, and to accompany the monthly payment reimbursement request. The project schedule will be in format as approved by the HRSD Project Manager.
4. An Excel template for estimating total Project Budget is included in Attachment D. This template is to be used and submitted at each project phase milestone either as a stand-alone table or included in a Study, PER, or similar report as directed by the HRSD Project Manager. An updated budget form will also be submitted to the HRSD Project Manager for each active CIP project the first week in January of each calendar year to assist HRSD in the annual CIP update cycle.

### **End of Section**