Project Rework Reduction Tool

In the early 2000s, major projects in Alberta were experiencing cost and schedule overruns. One contributing factor was rework. Despite the fact that numerous studies had been conducted on rework, there was no industry-wide standard for measuring and classifying rework as it occurs in the field, making it difficult to compare the amount of rework on an industry-wide level. Furthermore, an industry- wide method of classifying the causes of rework was a needed first step, before the most significant causes can be identified and remedied. The COAA established a goal of developing industry Best Practices for reducing and preventing construction field rework.

A methodology for measuring, quantifying, and classifying construction field rework was proposed and proved to be very effective during a pilot project. The categorization of the field rework was broken down into five general areas, then into a number of quite specific levels to obtain a more precise delineation of causes. This methodology established which root causes contributed most to field rework. An index for field rework was developed in order to quantify the magnitude of costs associated with rework on a given project. The output of the methodology provided an indication of the extent and magnitude of rework on a project, and those factors which most contributed to rework.

To facilitate the proposed methodology, a Field Rework Data Collection System (currently known as the Project Rework Reduction Tool, PRRT) was developed, using Microsoft® Access 2000 with a Microsoft® Visual Basic 6.0 interface. The PRRT is divided into three modules: (1) data entry (2) rate definition and (3) data analysis.

Firstly, the user enters project data into the system, such as actual direct field costs, indirect field costs, overhead fees, etc. This information is used to calculate the field rework index denominator. Secondly, the user defines the rates and units applicable for the project. This allows the user to select the relevant rates and units from the database when activity information is recorded. The user can then start recording rework activity data: (1) general activity information, (2) cost information, and (3) cause classification data. The data analysis section allows the user to generate reports of the rework event information, and the summary information of all rework activities, i.e. the Construction Field Rework Index (CFRI) and the field rework cause classification.

The PRRT allows an organization to keep records of the rework incidents as they occur, to construct the Construction Field Rework Index, and to identify the root causes of field rework.

The Project Rework Reduction Tool can be downloaded at: *http://download.cnet.com/PRRT-Project-Rework-Reduction-Tool/3000-2076_4-10205292.html*

Documents Included

- Engineering and Rework Checklist
- Leadership Communication Checklist
- Construction Execution Plan Checklist
- Project Rework Reduction Tool – Presentation
- Measuring and Classifying Construction Rework – Executive Summary
- Measuring and Classifying Construction Rework – Appendix
- Measuring and Classifying Construction Rework – Final Report
- Project Rework Reduction Tool – Software URL