

City of Portland

Public Safety Systems Revitalization Program

Fire Information Systems Re-Platform Project



Periodic QA Evaluation Report

**For December 2013
Deliverable: FIS.C.10**

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Periodic QA Evaluation Report

For December 2013

Table of Contents

Executive Summary	3
EXECUTIVE STEERING COMMITTEE WATCH LIST	3
OVERALL PROJECT QA STATUS AND PROGRESS	3
Overall Project QA Health	4
QUALITY FOCAL POINTS RATED ALERT	4
QUALITY FOCAL POINTS RATED ATTENTION	5
Quality Focal Point Summary Chart	6
Quality Focal Points	8
<i>Project Schedule</i>	8
<i>Communications</i>	11
<i>Project & Quality Management and Reporting</i>	12
Appendix A – CASE Associates Status Report	A

Version	Date	Comments
V1.0	1/6/2014	For PSSRP review
V1.1	1/7/2014	Incorporated PSSRP feedback
V1.2	1/8/2014	Internal CAI Review and feedback
V1.3	1/9/2014	For PSSRP review
V1.4	1/10/2014	Incorporated PSSRP feedback and ready for the ESC

Periodic QA Evaluation Report

For December 2013

Executive Summary

Executive Steering Committee Watch List

This section identifies potential issues that the ESC should be watching closely. The “watch list” documents program related concerns that have come to CAI’s attention, but have not yet been completely assessed. In the October 2013 report, CAI identified the development team has periodically been assigned to perform enhancements activities for the legacy FIS systems and that this effort is out of scope for the FIS project. As a result, before the new FIS systems can be deployed, these enhancements must be incorporated into the new systems. CAI has incorporated its assessment into QFP #3 Schedule.

During this reporting period, CAI has identified the following:

- User acceptance testing for the remaining four (4) modules was removed from the project scope, and only unit and integration testing remain in scope. When the users tested the Personnel module, they subsequently found forty seven (47) defects that needed to be fixed. As a result, the project is transitioning a system to PF&R with potentially unknown defects.

Overall Project QA Status and Progress

The PSSRP Fire Information Systems (FIS) Re-Platform Project is to port the Portland Fire and Rescue’s (PF&R’s) FIS to a current and supported platform.

CASE Associates Inc. (CAI) was selected to perform the independent QA on the City of Portland PSSRP which includes the FIS Project. The previous report was delivered 11/18/13 for the month of October. This is the tenth FIS Periodic QA Evaluation Report intended to assess the health of the project, and provide independent observations (positive or negative) and recommendations for avoiding and/or responding to any future negative impacts. This is the second Periodic QA Evaluation for the FIS project since July 2013. As of the October reporting period, one (1) quality focal point (QFP) that needed attention was changed to Stable and two (2) quality focal points (QFP) require Attention. In this reporting period, CAI reassessed those QFPs. Please refer to the October report details regarding the other sixteen (16) QFPs.

The recommendation for QFP #3 Schedule has been modified since the last the report. The project has adopted an approach whereby, two programmers are assigned to a module. CAI agrees with this approach because it develops cross-functional training within the development community. CAI acknowledges the project has identified the remaining development, unit and integration testing activities in the current Microsoft (MS) project schedule. The project is relying on the expertise of the programmers to determine what features are to be worked on and there dependencies. This makes sense given the developers extensive work history and knowledge of the system. The project is monitoring the progress of the schedule using a percentage complete metric. This is an appropriate method for this type of a project. However, to make this technique more effective, the project needs to validate the resource capacity and productivity of the resources performing the work. This requires identifying the work to be completed and delivered in the reporting, and what was actually completed and not completed during this period.

The project status reporting reflects closure of the recommendation to report project progress and issues; therefore, QFP #4 Communications was changed from attention to stable.

Due to the removal of legacy system updates, Fires2000 and user acceptance testing, the criteria and measures for quality acceptance have changed. When PSSRP funding runs out, the FIS project lacks the quality acceptance criteria and measures for determining a successful project completion and transition to PF&R. Furthermore, the dependencies and effort to complete the replatform of the legacy updates and

Periodic QA Evaluation Report For December 2013

Fires2000, including user acceptance testing of the remaining modules is unknown. This lack of transparency creates a situation whereby it makes more difficult to predict when the new platform is ready for deployment and increases the risk of the PF&R users having to rely on the old system. Therefore, QFP #9 Quality & Project Management and Reporting was modified to define user quality acceptance measures for a successful turnover to PF&R. Furthermore, QFP #3 Schedule was updated to emphasize the need for estimating the work effort for those legacy enhancements that are required for deployment and the replatform of Fires2000. This will provide complete transparency to PF&R to level of effort and when the project should be completed.

CAI still believes the project is under control and assesses the overall project risk rating as Stable. However, project stability is predicated on the project manager and the developers' ability to identify what activities will be executed in the upcoming reporting periods and report progress against the planned work. This includes what work was completed, what work was not completed and any work that was performed but was not planned for.

Overall Project QA Health

Overall Rating: **Stable**

The overall health of the project is based on the three main areas described in the table below:

Health Factor	Rating	Comments
Schedule	Attention	Currently the project is 5 days ahead of schedule. The task list is fixed and the percentage complete is calculated based on what the developers report in MS project schedule. This process does track project progress. However, without knowing what was to be worked on, what was completed and not completed, it is impossible to determine the variance and severity of any schedule slippage e.g. in the last two (2) weeks in December. Although this slippage was expected, without past performance metrics it makes it more difficult for the project manager to forecast whether the project will complete the remaining work within the remaining budget.
Budget	Stable	The SAP expenditure report indicates a burn rate of under \$55,000 per month. The projected burn rate is \$47,025. Based on number of remaining budgeted hours, there is currently enough to complete the remaining work. The PSSRP FIS budget is finite. Determining with confidence the "project completion" with the existing budget is critical for the successful transition of the system from PSSRP to PF&R.
Scope	Stable	The scope has been decreased to eliminate the Fires2000 system and legacy enhancements. Scope now includes five modules. Scope does not include the final realignment of the new systems to the old. Also, scope does not include the deployment to production. The project also established strict scope control measures. See QFP #11 in October's 2013 report for a description of those Scope control measures.

Quality Focal Points Rated **Alert**

NONE - No Quality Focal Points are impacting the project at this time.

Periodic QA Evaluation Report For December 2013

Quality Focal Points Rated **Attention** that changed to **Stable**

- **Communications, QFP #4**

CAI views the project is reporting status in an appropriate manner. CAI suggests the status report include the schedule variance between what activities were completed and the planned activities – see QFP #3 Schedule and QFP #9 Project & Quality Management Reporting.

Quality Focal Points Rated **Attention**

There are three (3) QFPs in the report that CAI believes need attention:

- **Project Schedule, QFP #3**

CAI makes the following recommendations for minimizing scheduling risks and to help manage the project to a successful completion and transition to PF&R:

- ✓ The project should set up standardized work periods (e.g., monthly). At the beginning of the each period, the project should define what work activities for the period and compare it the projected burn rate to validate resource capacity. The goal is to deliver work that can be used by the users.
- ✓ Programmers should continue to report their percentage complete as they are doing today.
- ✓ Monitoring and controlling the project should continue as is, but also report schedule variance (actual work delivered – work planned) and schedule performance index (SPI) (actual work delivered/work planned) to forecast estimate at completion.
- ✓ Estimate and document the work necessary to complete the replatform of legacy enhancements required to meet current functionality and the Fires2000 module that includes developing the mobility functionality. This will provide complete transparency when control of the replatform project is transition to PF&R.

- **Project & Quality Management and Reporting, QFP #9**

The project should define the business quality acceptance criteria and measures for a successful turnover to PF&R. The project should also include schedule variance – see QFP #3 Schedule.

Periodic QA Evaluation Report For December 2013

Quality Focal Point Summary Chart¹

Quality Focal Point	Impact	Prior as of: 7/8/13	Prior as of: 11/6/13	Current as of: 1/7/14	Next Month ²
1. Meeting Milestones	High	Stable	Stable	Stable	↔
Quality Planning					
2. Requirements Management	Low	Stable	Stable	Stable	↔
3. Project Schedule	High	Stable	Attention	Attention	↑
4. Communications	Medium	Stable	Attention	Stable	↔
5. Risk and Issue Management	Low	Stable	Stable	Stable	↔
6. Tech. Transition and Business Proc. Re-engr'g	Low	Stable	Stable	Stable	↔
Quality Assurance / Quality Control					
7. Project Organization and Leadership	High	Stable	Stable	Stable	↔
8. Project Resources	High	Stable	Stable	Stable	↔
9. Project/Quality Management and Reporting	Medium	Stable	Attention	Attention	↑
10. Budget Planning and Tracking	High	Stable	Stable	Stable	↔
11. Scope and Change Control	Low	Stable	Stable	Stable	↔
12. IT Architecture	Low	Stable	Stable	Stable	↔
13. Project Library and Configuration Management	Low	NR ³	NR	NR	
System Delivery					
14. System Design Process	Medium	Stable	Stable	Stable	
15. Data Conversion/Migration	Medium	Stable	Stable	Stable	
16. Configuration/Construction	High	Stable	Stable	Stable	
17. Testing (Functional, Capacity, Performance)	High	Stable	Stable	Stable	
18. Training	Medium	Stable	Stable	Stable	
19. Implementation Process	High	NR	NR	NR	

¹ The Quality Focal Point ratings are explained on the next page.

² The Next Month arrows are explained on the next page.

³ "NR" indicates Not Rated for this report.

Periodic QA Evaluation Report For December 2013

Definition of Quality Focal Point Ratings:

Stable

- The Quality Focal Point is stable and not currently impacting the project.

CAI may include a **Suggestion** in a QFP rated as **Stable**. CAI rated the QFP as stable because it is not impacting the project at this time. The suggested action is a preventive measure to keep the QFP stable.

Attention

- The Quality Focal Point needs some improvement so it won't impact the project.

CAI includes a **Recommendation** for every QFP rated **Attention**. The recommended action is a corrective measure to improve the QFP so it won't impact the project.

Alert

- The Quality Focal Point is impacting the project and needs immediate attention.

CAI includes a **Recommendation** for every QFP rated **Alert**. The recommended action is a corrective measure to improve the QFP that is currently impacting the project.

Definition of Next Month Indicators:

The next month indicators signify expected changes in the QFP ratings.



- This Quality Focal Point (or group of QFPs) is expected to have the same rating in next month's Periodic QA Evaluation.



- Risk is decreasing on the Quality Focal Point. It may be upgraded to **Stable** in next month's evaluation.



- Risk is decreasing on the Quality Focal Point. It may be upgraded to **Attention** in next month's evaluation.



- Risk is increasing on the Quality Focal Point. It may be downgraded to **Attention** in next month's evaluation.



- Risk is increasing on the Quality Focal Point. It may be downgraded to **Alert** in next month's evaluation.

Periodic QA Evaluation Report For December 2013

Quality Focal Points

NOTE: ONLY THE QUALITY FOCAL POINTS THAT WERE ATTENTION IN THE OCTOBER 2013 REPORT OR HAVE CHANGED SINCE THE OCTOBER 2013 REPORT ARE BEING REPORTED THIS MONTH PER AGREEMENT WITH THE PSSRP PROGRAM OFFICE MANAGER.

3	<p>Project Schedule</p> <p>The project is appropriately planned. The Planning QFP provides an assessment of project planning, scope definition, scheduling and external dependencies.</p> <p style="text-align: center;">Stable Attention Alert</p> <p>Risk Level </p>
3.1	<p>Are all appropriate tasks identified in the work breakdown structure (WBS) and/or schedule? Finding: Yes– The Personnel module is completed and tested, including user acceptance testing. With task reassignments, the schedule is useful as a detailed WBS. The project schedule has defined all the programming, and unit and integration testing tasks needed to complete the replatforming of the remaining modules: Incident, Prefire Training, and Journal.</p>
3.2	<p>Are dependencies among tasks identified, including decision dependencies? Finding: Partially - Most task dependencies are at a high level. The PM has adopted an approach whereby, two programmers are assigned to a module. This team approach fosters cross training between resources that has not existed to date. The PM is relying on the expertise of the programmers to know what features need to be worked on and the dependencies. Given the developers extensive work history and knowledge of these features, this makes sense instead of trying to determine a detail schedule that lays out all the work, including dependencies.</p>
3.3	<p>Has a schedule been established and is it reasonable based on resources (budget), productivity assumptions and dependencies? Finding: Partially- The approach lists all the features that need to be completed in MS project schedule. The project has estimated the work to complete these features is 6002 hours. Current estimates indicate the remaining FTE budgeted hours (i.e., available resource capacity) exceed the remaining planned work. It should be noted the remaining FTE budgeted hours accounts for the 25% legacy work and 15% other non-related work. However, the percentage complete metric being used to monitor resource performance is limited and provides no mechanism to forecast future estimates at completion based resource productivity – see #3.4. This issue is resolved by defining the work that will be delivered within the reporting period, summing up the total effort and comparing it to projected burn rate.</p>
3.4	<p>Is the schedule clear and detailed enough to monitor progress? Finding: Partially –The project has using a percentage complete method for tracking and monitoring performance. The programmers update percentage complete for the tasks they are working on in MS schedule. Using the % complete from the schedule the project calculates the remaining work in FTE hours. As indicated in #3.3, the project is able to determine whether there is adequate FTE hours budgeted left to complete the remaining work. Currently the delta between budgeted and remaining work is positive; thereby indicated there is more budgeted hours than needed. When it is negative, the schedule is behind. However, this technique only monitors resource capacity to work remaining. It does not monitor schedule variance. To monitor schedule variance, it would be necessary to define what work is to be executed in the upcoming reporting period and determine the variance between what was planned and what was actually delivered by dividing the work actually delivered by the planned work, the project can calculate the schedule performance index (SPI) and forecast estimate of completion.</p>

Periodic QA Evaluation Report For December 2013

3	<p>Project Schedule</p> <p>The project is appropriately planned. The Planning QFP provides an assessment of project planning, scope definition, scheduling and external dependencies.</p> <p style="text-align: center;">Stable Attention Alert</p> <p>Risk Level </p>
3.5	<p>Is the schedule used to track progress and updated on a regular basis? Finding: Yes – The Project Manager is maintaining the former schedule with percentage complete.</p>
3.6	<p>Are external project dependencies identified in the schedule? Finding: No – The project (with approval from the Sponsor) decided to develop the new systems without keeping up with ongoing enhancements of the productions systems. In recent months, the production systems have undergone enhancements that must be incorporated into the replatformed systems before the new systems can be put into production. This <i>realigning</i> the new systems to the old systems is not part of the FIS project scope. Yet, it must be accomplished before FIS can be used in production. Furthermore, Fires2000 was also removed from the scope. Both the legacy enhancement and Fires2000 are external dependencies that should be defined.</p>
3.7	<p>Has the schedule been reviewed, approved and signed off by the project Stakeholders? Finding: Yes – the team is working with an approved WBS and project approach that defined the budget. A revised project plan that was recommended previously is not necessary – see#3.3 and #3.4.</p>
3.8	<p>Is there an appropriate process for updating the project schedule with actual and tracking project progress? Findings: Yes– see #3.3 and #3.4</p>
3.9	<p>Is the schedule reasonable to manage the project? Finding: Partially - Yes– see #3.3 and #3.4.</p>

Periodic QA Evaluation Report For December 2013

3	<h3 style="margin: 0;">Project Schedule</h3> <p style="margin: 0;">The project is appropriately planned. The Planning QFP provides an assessment of project planning, scope definition, scheduling and external dependencies.</p> <p style="margin: 0;">Risk Level <div style="display: inline-block; width: 33%; text-align: center; font-size: small;">Stable</div> <div style="display: inline-block; width: 33%; text-align: center; font-size: small;">Attention</div> <div style="display: inline-block; width: 33%; text-align: center; font-size: small;">Alert</div> </p>
<p>Recommendation: The mpp should contain all the user acceptance testing, implementation and legacy retirement activities that BTS and PF&R will perform to prepare the FIS modules for production. With this detail all stakeholders will be clear on how much work remains and when the users can get value from the replatformed FIS. In addition, the project should:</p> <ul style="list-style-type: none"> ▪ Monitor schedule variance by defining what work is to be executed in the upcoming reporting period and determine the variance between what was planned and what was actually delivered. ▪ Determine estimate at completion using schedule performance index (SPI) and forecast estimate of completion (i.e., dividing the work actually delivered by the planned work). ▪ Estimate and document the work remaining to replatform the legacy enhancements needed to current functionality and the Fires2000 module that includes developing the mobility functionality <p>Previous Status:</p> <p>July - Recommendation: A revised Microsoft Project Plan (mpp) should be developed that reflects the new assignments and task dependencies. The new plan will facilitate monitoring and controlling the project as well as determining what will be accomplished by the end of the project, currently scheduled for July 2014</p> <p>October - Recommendation: The mpp should contain all the activities that BTS and PF&R will perform to prepare the FIS modules for production. With this detail all stakeholders will be clear on how much work remains and when the users can get value from the replatformed FIS. These activities should include:</p> <ul style="list-style-type: none"> ▪ Incorporate recent enhancements from the legacy systems. ▪ Replatform the Fires2000 module and develop mobility functionality. (This is necessary only if BTS and PF&R plan to hold deployment for FIS deployment until Fires2000 and mobility are complete.) ▪ Perform User Acceptance Testing on all FIS modules in a test environment. ▪ Deploy FIS to production use. ▪ Retire the legacy FIS systems. 	

Periodic QA Evaluation Report For December 2013

Appendix A – CASE Associates Status Report

This section summarizes activities and deliverables completed for the Fire Information Systems Re-Platform Project during December 2013.

When applicable, it includes:

- A list of any delayed items
- A description of the problem
- Schedule impact
- A recommended solution

Such items will be carried over to subsequent reports until the problem is resolved.

As of May 2013, this section replaces the “Quality Assurance Status Report.” In prior months this section was delivered as a separate report.

Meetings Attended

Meeting with PSSRP Program and Project Managers 12/16/13

Meeting with PSSRP Project Manager (telephone) 12/20/14

Documents Reviewed

Fire Systems Project Status Report December 5-31, 2013 - Project Manager’s reports

PFB Replatform Project Phase II Updated 12-20-2013 – MS/Project Schedule

Dec 16 2103 completion tracking calculation spreadsheet

Documents Delivered

FIS CAI Periodic QA Evaluation Report for October 2013, deliverable *FIS.C9*

Documents in Process

FIS CAI Periodic QA Evaluation Report for December 2013, deliverable *FIS.C.10*

Delayed Items

Item	Description of problem	Schedule Impact	Recommended Solution
None			

Other Issues/Problems/Concerns

This is the second Periodic QA Evaluation for the FIS project since the report for June 2013 (FIS.C.8). From July to September CAI did not monitor the FIS project per the request of the PSSRP POM. CAI and PSSRP agreed to a new schedule for QA reports for the FIS project. CAI will develop reports every two months to coincide with the ESC meeting months. However, in the months that CAI will not develop a QA report, CAI will still perform regular QA activities to monitor the project.