Office of Inspector General

Review of Contract Monitoring in the Office of Information Technology

OR10-01

March 2010

FEDERAL MARITIME COMMISSION

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Office of Inspector General
Washington, DC 20573-0001

March 4, 2010

Office of Inspector General

TO: Ronald D. Murphy
Managing Director

FROM: Adam R. Trzeciak
Inspector General

SUBJECT: Review of Contract Monitoring in the Office of Information Technology

The Office of Inspector General (OIG) completed its review of the agency's monitoring of the contract for database design, build and maintenance. Our objective was not to perform a thorough review of the contract; rather we focused primarily on contract requirements, oversight and deliverables. Over three fiscal years (2007 through 2009) the agency paid the contractor $513,000 to build databases and applications that share and process data, provide technical advice and develop technical requirements, and provide system software maintenance.[1]

During our fieldwork, the OIG learned that the FMC will scale down its existing contract and instead move forward on a new *Enterprise Content Management* initiative, essentially maintaining the data collected by previous applications, but scrapping the applications themselves. In light of this shift, we present best practices for moving forward with a new vendor rather than specific recommendations.

Background

As part of the annual financial statement audit, the OIG reviewed several large contracts for compliance with regulations and performed select tests to ensure that funds were appropriately spent. During this review, we identified one large contract that had obligations for FY07 – FY09 totaling approximately $750,000.[2] Due primarily to the size relative to other procurement actions in FY 2009, the OIG selected the database contract for a closer review.

Due to scope and methodology considerations, we did not attempt a thorough review of all facets of the contract lifecycle. Rather our focus was to assess agency monitoring of the contract and review deliverables to determine whether the agency received what it expected to receive and, if

[1] Per OIG policy and discussion with the contractor, the OIG is not identifying the contractor by name in the report.
[2] With option years, the contract was expected to total $1.35 million.

not, identify the reasons why it did not. We focused on the agency's activities to establish and maintain the contract. We did not assess the contractor's performance.

To collect information for this review, the OIG met with several participants involved in selecting, approving and monitoring the contract, to include the contracting officer, the Chief Information Officer (CIO), Contracting Officer's Technical Representatives (COTR) and program staff who would be using the database applications to perform mission-related activities. We did not interview the contractor for this limited scope review, however the contractor was provided the opportunity to comment on the draft report. His comments are attached in their entirety to this memorandum.

The FMC uses eleven customized applications to collect and process data.[3] Some of these applications are inwardly facing (e.g., only accessible by FMC employees) and others are outwardly facing (accessible by public users for submitting their required data via online forms). FMC employees use the data from these applications to perform mission-related duties and responsibilities and, on occasion, must print and re-enter the data manually, from publicly submitted forms, into other applications to ensure consistency among databases.

Because of inefficiencies resulting when databases are not integrated, the FMC entered into a contractual relationship with the contractor to build databases and applications that share and process data consistently. Advantages include the elimination of manual data entry and integration among different applications housing identical information, ensuring that updates would occur simultaneously.

The OIG focused on the agency's contract for the design and development of agency databases. However, to fully understand the requirement and deliverables, we also reviewed the predecessor contract for background purposes.

On April 7, 2005, the FMC awarded a contract to assist the agency to develop a database. Prior to this time, the agency was running applications in *Microsoft Access* on individual workstations. For security and efficiency reasons, the agency sought to move to an enterprise platform environment with shared database capability among several applications. This database was to enhance indexing features and augment online capabilities for end users. In its proposal, the predecessor contractor indicated that it would perform the following functions:

- **Enhance server performance.**
  - *Ensure there are little or no downtime issues related to server computing.*
- **Increase access to data.**
  - *The various applications interface (talk) with each other, thus enabling a user on one application to send data to another application.*
- **Develop security enhancements.**
  - *Agencies must comply with Federal Information Security Management Act (FISMA) requirements on its information systems.*

[3] These applications are in various stages of development although all have been placed in production.

- **Migrate to Structured Query Language (SQL) server 2000.**
    - *When all of the server applications are on the same technology, then the applications should be able to interface with each other.*

Based on discussions with CIO staff, the foundation for the shared database and several of the applications were laid, but the work was not completed. For reasons unrelated to performance, the predecessor contract was not renewed. Rather, a new contract was awarded on September 29, 2007, to continue with design and development work begun by the predecessor. This transition was essentially seamless; the two predecessor staff, who worked on the initial contract, were hired by the new contractor at the contract's inception and assigned to the FMC.

According to the Performance Work Statement (PWS), the new contractor would provide the following services and products to the FMC (which are listed as requirements in the PWS):

- **Design, develop, implement, modify and manage databases.**
    - *Ensure that databases would be updated in order for them to be integrated with each other to eliminate manual processes in place.*
- **Ensure accuracy and accessibility of data sources.**
    - *Ensure that data is accurate across databases and is accessible to multiple users across different applications simultaneously.*
- **Plan for anticipated changes in data sources.**
    - *Expect that issues or changes subsequent to database integration will occur and processes will be in place to address them timely.*
- **Develop, modify or implement new or existing database applications.**
    - *Be flexible to meet the FMC's needs should any of the databases require further development or modifications.*
- **Develop database queries.**
    - *Provide reporting capabilities once databases have been updated based on queries from the user community.*
- **Define and develop user interface requirements and design interfaces.**
    - *Ensure that interfaces between databases are defined and developed with data completeness, accuracy and availability in mind.*
- **Prepare system flowcharts, standard operating procedures and a quality assurance plan.**
    - *Develop flow charts and diagrams once the databases have been designed to ensure that a roadmap of the configuration has been documented for subsequent modifications.*

In September 2007, the COTR responsible for overseeing the initial (predecessor) engagement, and development of the PWS for the requirement awarded to the new contractor, separated from the agency. A new COTR was assigned and remains the current COTR.

According to Office of Information Technology (OIT) staff, the new (i.e., current) contractor delivered the "front end" of several applications. For example, it developed (and redeveloped) applications used in Consumer Affairs and Dispute Resolution Services (CADRS), the Office of Inspector General (OIG) and the Registered Person's Index (RPI). As of the completion of our

fieldwork, it has not yet completed development of the supporting databases that would allow data collected from these sources (specifically, RPI and Office of Transportation Intermediaries (OTI)) to be integrated and searchable for other agency applications.

The contractor told the OIG that the OTI list uses data from RPI and Form 1. However, the OIG notes that data from Form 18, the online OTI application, is still entered manually almost three years after the electronic form was made available to the industry. According to the contractor, the agency failed to define how to handle the data communication between Form 18 and the RPI, even after discussions with program staff.

In the fall of 2009, the FMC instructed the contractor to cease further development work and to focus on maintenance of the databases. The CIO felt that the two developers were being pulled in too many directions (development, maintenance, changes to designs, etc.) to finish the database.

According to the contractor, it has a contractual obligation to deliver all of the documents reflected in its proposal. However, the contractor stated that it is limited by the number of work hours provided by FMC to complete these deliverables as FMC determines the daily priorities of the developers. The contractor concludes that the current team cannot produce and maintain code, develop documents and more at the same time. The OIG believes that the contractor raises a valid point – and FMC management agrees. It was spread too thin to focus on development work, which was where the expectations of program staff were focused.

Findings

Since 2005, the agency has spent just over $1 million (with both contractors) to develop a fully integrated database. Agency needs for data to carry out its missions often cross bureau and office lines; hence the agency's ability to share data among its program and enforcement staff is critical to meet challenges in periods of scarce resources, i.e., needing to do more with less. When fully functional, the database would reduce manual processes and enhance document processing speed and accuracy. Although the current applications utilize similar technical specifications (e.g. SQL – the necessary foundation for integration), there is little or no communication between the applications, as of the completion of our fieldwork.[4]

Recently the contractors automated the FMC OTI application. Prior to this development, the form was completed manually by applicants. While the intent is to download the data from the application form directly into a shared database, this has not yet occurred. Staff in the Bureau of Certification and Licensing (BCL) must manually enter information from the automated form into the database. On the other hand, other agency applications have been updated and their utility has been enhanced for users of the information.

[4] Subsequent to fieldwork completion, OIT informed the OIG that it planned to integrate the applications from the start. But it first needed to upgrade to the new SQL server, a lengthy process that was completed, according to the OIT Director, in October 2009.

The question that we rhetorically ask is, "five years and $1 million later, is the agency where it expected to be at this point?" Without exception, staff expected to be further along with the integrated database. During our discussions, we learned of expectations of program staff for a finished product to assist in streamlining work processes for overburdened employees that have not been met. Yet in some instances, the efforts of program staff to add functionality slowed the development process. Further, we were given no assurances that the systems in development were designed to meet federal information security requirements (e.g., FISMA).

The OIG has identified the following major contributing factors as to why this contract has yet to meet staff expectations:

- Non-specific requirements and deliverables. A proper Performance Work Statement provides vendors with the requirements of the task and the deliverables, i.e., products expected of them. Our review of the PWS found unclear requirements and nonspecific deliverables. Program manager expectations were not met.
- Applications were placed into production before they were fully developed and FISMA compliant.
- Contractor status reports lacked specificity that would enable the COTR to recognize potential problems.
- Technical design changes were made routinely to the front and back-ends of systems, some of which were already in production. Developers were unable to work with one approved design document.
- Significant time was spent on maintenance rather than development. Systems in production suffered implementation issues that had to be addressed by developers, reducing the time they could devote to completing applications and databases.

Each of these causes is discussed in more detail below.

<u>PWS Clarity</u>

A PWS (sometimes referred to as a Statement of Work) is a work order for the contractor. Besides telling the contractor what needs to be done, it enables the government to hold the contractor accountable for the agreed-upon payments. The onus is on the government to produce a clear statement with understandable deliverables.

The OIG found that the PWS lacked specificity and clarity. It spelled out requirements in ways that could be interpreted differently. Many tasks could be considered complying with the PWS. For example,

- Develop database queries
    - *(OIG Analysis) It is very difficult to develop database queries when the PWS does not specifically identify or describe the number, frequency, quantity and type of queries. Database queries occur when a user pulls specific data from a database for analysis. That query can be large or small and contain a variety of attributes.*

- Ensure accuracy of data sources
    - *(OIG Analysis) Data can come from an array of sources ranging from individual user input to downloads from another information system. It is hard to ensure accuracy when the data sources have not been described and explained.*

As a result the contractors were often treated like staff that was repeatedly given direction "on the go" rather than once at the outset. The contractor told the OIG that it has not received an initial time table or suspend date to deliver a fully integrated database.

The contracting officer (CO) indicated to us that the initial PWS lacked deliverable specificity. The CO contacted the COTR to discuss but was told that OIT preferred to identify the deliverables in a general rather than specific fashion. The current OIT Director told the OIG that he believes that the deliverables should have been more specific.

The OIG notes that problems with non-specific deliverables were brought to the agency's attention beginning in March 2002, in Audit Report No. A02-01, *Evaluation of Agency's Procurement of the Form FMC-1 System.* In the report, we noted that *(t)he success or failure of projects are based on the development of the SOW. If the descriptions of the tasks contained in the SOW are deficient, the consequences could result in failure of the project;* (and) *receipt of substandard services…* (p. 5). The report concluded that the Form 1 SOW lacked sufficient clarity which impacted performance and contract funding. A similar finding was presented in A07-02, *Audit of Contracts for Consulting Services,* where we noted that the SOW contained no deliverables or timeframes to hold the contractor accountable.

Applications in Production before Completed

A previous FMC chairman made automating many of the agency's manual systems a priority. While many other sister agencies had taken advantage of technology to streamline agency work processes, the FMC still relied heavily on manual systems. Under his leadership, the agency moved forward to automate work processes, including several outwardly-facing applications like the online license application.

Several individuals we spoke with said that they felt rushed to push applications into production to meet the expectations of the former Chairman.[5] Further, it appears that federally-mandated security considerations were ignored when placing these systems into production. As a consequence, the agency is supporting applications that are not FISMA compliant. Moving forward, decisions on the timing of placing applications into production must be made not with an eye on meeting the expectations of executives but when they are ready.

[5] The OIG did not interview the former Chairman to discuss his knowledge of the procurement in question, including the timing of putting the application into production. We found nothing to suggest that the former Chair compelled staff to rush any applications into production. Nor do we suspect the former chair would have approved putting any application into production before it was fully tested and ready.

In its response, the contractor indicated that the contract does not require it to specifically produce FISMA-compliant products. Further, to fully implement interoperability, FISMA compliance, and document the systems, the contractor stated that more staff is needed.

Oversight of Contractors

As part of administering this contract, the contractor submitted monthly status updates. In the OIG's opinion, those status updates lacked clarity and substance, making an informed review of the contractor's work difficult. Examples of the information in the status update include:

- Complete overhaul of passport application to let authorized FMC staff administer user accounts (July 2009 status update)
- Writing a complex database to filter and clean inconsistent database records (March 2009 status update)
- Solving ongoing bugs on Form 1 (service contract transmittal form) (February 2009 status update)

It was difficult for the OIG to discern what the contractors did, based on the "updates." It would have been much more helpful, had the status agenda included:

- What was the overhaul of the application?
- What specifically was performed on the database applications?
- Why was FMC staff not authorized originally to administer user accounts?
- What specifically was written within the database and what were the filters?
- Which database records were inconsistent? Why were they inconsistent?
- What are the ongoing bugs?
- How long have these bugs caused issues?

Subsequent invoice approvals were made by the COTR without appropriate supporting documentation to support invoice totals. Had clearer status updates been written, or had the COTR requested a different format, those details could have been reconciled or mapped to specific monthly bills. Further, if fixing ongoing bugs turned into a routine work task for the contractors, this should have necessitated a discussion with the contractor to add staff or modify the contract to add funding – depending on the cause for the bugs. The supporting documentation should be directly linked to monthly invoices, line by line, or detail by detail.

The contractor pointed out that its summary reports are not designed to help the COTR recognize potential problems. Rather, their purpose is to document the level of effort of the contract to help the COTR determine if he is getting what FMC is paying for in the contract. The contractor also responded that it could prepare status reports in whatever format the agency deemed necessary.

While the COTR was in close proximity to the contractors, it is likely that he was aware of its work products and performance. The contractor indicated that the FMC management team, not the contractor, controls the developer's (contractor's) daily workload. However, the next "contributing factor" (see below) indicates, developers were spending large blocks of time

modifying design due to changing requirements. These changes should have been identified on states reports as a way to parse development costs. In other words, the developers were spending large amounts of time on modifying designs and performing maintenance instead of developing the database.

Changes to Applications throughout Design

System plans should be essentially complete prior to design. An occasional "tweak" is often necessary but generally designers work better if they have a static blueprint. The OIG was told by program and IT staff alike that several meetings were held to discuss database requirements. Once the developers began building the "front end" of some of the applications, significant design work continued due to changing requirements. This caused delays and reconstruction of work already performed; i.e., waste.

Based on our discussions with staff, it appears that communication between the FMC program staff and the COTR could have been improved. Suggestions for design changes by program staff may not have been understood. More likely, the COTR's attempts to accommodate program design changes sent a signal that such changes could be accommodated without much of a problem.

One technique used by other agencies with success is the Information Technology Steering Committee. This committee would include both IT and program office personnel who discuss and approve all changes to major applications. This ensures that both IT and program offices recognize the level of effort and associated costs with design changes. Meetings are accompanied by minutes and include documentation of all agreed-upon changes. Formalized communication would have enabled the program offices to clearly identify expectations regarding those applications. Further OIT could have then managed the contractors based on the expected results from the program offices. In an agency the size of the FMC, an alternative to the "committee" is to appoint one individual that can speak for all.

The OIG cannot opine on the necessity for any "mid-course" changes. We were told by OIT that they resulted in delays and increased contract costs. Moving forward, it is essential that the parameters of the product that the agency is purchasing be finalized before development begins. This again emphasizes the importance of clearly defining requirements in the PWS.

Focus on Maintenance

Although the applications have been modified and enhanced since the beginning of the contract, most of the work performed is to maintain the applications. After speaking with several FMC employees, we learned that the two full-time contractor employees spent most of their time fixing and responding to issues associated with the applications. One example of an ongoing issue has been that of encryption. The data submitted by public users is sometimes encrypted. The encrypted data cannot be used as part of database queries due to the state of the data (encrypted).

Due to the wording of the PWS, the FMC had some flexibility to assign the developers where needed. Much of their time was spent on maintenance, without allowing them to develop, for example, a fully integrated Form 18. When the Form 18 "went live" in 2007, staff told the OIG that it expected that the back end, i.e., the database that collects the information, would, in short order, be functioning. But three years later, BCL staff is still manually entering information from forms that applicants submit over the internet. While the applicants' process may have been streamlined, the agency's has not.

The CIO told the OIG that he recently suspended all development work on the contract and told the developers to focus on maintenance. This decision was made just prior to his decision to scrap the existing contract and database design.

Summary

While the OIG did not perform an audit of the contract or assess contractor performance, the documents we reviewed and the officials we spoke with indicate, clearly, that the agency received less than it expected in this acquisition – for a number of reasons. As a consequence, the agency wasted scarce resources. The FMC will be able to keep the data already collected but the applications themselves will be scrapped.

Recently the CIO concluded that the agency's needs for database design and build can be better met through a commercial off the shelf (COTS) system customized to meet FMC requirements. The system will also be security compliant. While we recognize this was a tough decision to make, it appears to us to be the right decision. The agency was putting itself in a position to continue throwing good money after bad choices. We believe the money the agency will spend on the COTS system will end up being less expensive than attempting to address the many issues with the current piecemeal system.

As of the end of the fiscal year 2009, the agency paid the contractor $512,624, and will continue to pay the contractor for maintenance through most of fiscal year 2010.

The agency is now slated to spend over $200,000 for maintenance of its applications. Maintenance should be performed as needed. Many agencies contract out for maintenance and maintenance teams respond when needed. The fact that the FMC is supporting two contractors onsite for maintenance means (1) agency applications need constant attention – which is problematic, or (2) we are not using the developers optimally.

Moving forward, it is important to take steps to ensure that the agency does not find itself in similar situations as it relies more on technological solutions to enhance its efficiency and effectiveness. To that end, the OIG makes the following recommendations.

Recommendations

The OIG turned to best practices in government and the private sector to identify methodologies that have successfully been used to process IT procurement actions:

1. Routine meetings, especially at the front end of a project, should occur between OIT and the end-users as frequently as needed concerning expectations. These expectations should then be documented in the PWS and contractors should work towards ensuring that the end-users receive an end product that was negotiated for and expected with regards to the contract.
2. The Performance Work Statement should be based on user requirements. The PWS should be clear, concise, measurable and attainable so that contractors can be evaluated against concrete terms.
3. At the outset, identify one individual who will have decision-making authority across organizations and who will be accountable for the interests of everyone involved in the project.
4. All status updates submitted by contractors should be signed off by the COTR and reconciled against the expectations documented in the PWS.

Comments to the Final Report

The OIG prepared two draft reports and the final report. Each report was provided to the contractor for review and comment. Prior to the issuance of the final report, the contractor requested that its comments on each version be attached to the final report in their entirety. Per discussion with the contractor, we have redacted the name of the contractor in all responses, as the report is not an evaluation of the contractor's performance but of the FMC's monitoring of the contract.

The OIG also provided the Office of Information Technology the opportunity to comment on the draft and final reports. Although several discussions were held with the CIO and his staff, management chose not to provide written comments for inclusion in the final report.

[redacted]

"[redacted] is an 8a, Service Disabled Veteran Owned, Hubzone, and SDB Information Technology Solutions Provider"

January 25, 2010

To: Adam R. Trzeciak
Inspector General
Federal Maritime Commission
800 N. Capitol Street, Room 1054
Washington DC 20573

Subject: [redacted] Comments to FMC OIG Audit Report.

Listed below is more information that may be helpful to your audit. Feel free to call me if you need more detail or clarification on any of the information in my comments.

1. As of January 25, 2010, [redacted] does not have any Request for Deviation, Waiver, or Cure Notices or Show Cause Letters, or termination notices on the FMC contract.

2. [redacted] on-site staff personnel are technical personnel with limited managerial responsibility. They are not part of [redacted] management team with oversight of the FMC contract. These employees are not authorized to make any official statements that may negatively impact the contract. In accordance with my contract with FMC all official communication or requests for information must go through the Contracting Officer Technical Representative (Jim Wood) or Contracting Officer (William Alan Dotson). The developers on site do not have total knowledge of the FMC contract. In fact, only [redacted] has authorization to answer any official requests for information about [redacted] FMC contract. Please consider this when finalizing your audit report.

3. On August 16, 2007, [redacted] developed a Quality Assurance plan with the technical proposal to FMC. The plan is used today by [redacted] to monitor the quality of work products and other factors on the contract. There are no outstanding issues, problems or complaints. Since, 2007, I have only receive two verbal complaints from Jim Wood and both were resolved within 24 hours. I repeat, as of today, [redacted] does not have any Request for Deviation, Waiver, or Cure Notices or Show Cause Letters, or termination notices.

4. The following is not a true statement from the audit report, "*However, it did not complete development of the supporting databases that would allow data collected from these sources to be integrated and searchable for other agency applications.*"

   The following statements explain why the above statement is not true. Any of these applications can use data from any of the database in the agency. All the back end database structures are developed and they are available for any of the systems who need them. Furthermore, here are a few more points:

   a) – [redacted] didn't only develop a "front end" application but also developed <u>all the back end databases and table relations</u> and as of now [redacted] maintains 15 databases with around 300 tables.

b) – CADERS and OIG are standalone applications that help end users to file and follow up complaints. None of the other agencies' systems need data from those systems, and if they need, it is available.

c) – RPI application was a database maintained in Dbase in one flat file. Now the data is cleaned, the tables were normalized and migrated to SQL server 2005. Users of RPI can search from all RPI tables and all the table fields via custom made query builder. Users can build their own query and get the results on the grid, and users also have the option to download the result with Access or Excel file for further data analysis.

d) – the OTI list uses data from RPI and Form1 and that is how it is built to work now. Using SQL Business Intelligent Development and SSIS the OTI list is automated to use data from the two different tables (RPI and Form1). The database and table structure we maintain allow any system to customize and use data from any of the agencies databases.

5. Since there was no documentation received from the [redacted] we have developed several internal flowcharting diagrams that are used to help with problem solving.

   In May 2008, [redacted] developed and delivered the following documentation to FMC. The documents were not returned for any reason for revision, therefore they were by default determined to be acceptable.
   a. FMC Technical Design Document (Form 78 and 83).
   b. Business Rules and Program Specifications for Form FMC-78 (data dictionary)
   c. FMC Form 18 User Guide
   d. Six Database Schemes

6. [redacted] does not provide daily operational control over the on-site developers. The FMC management team controls the developers' daily workload. This work agreement allows the CIO great flexible to easily change the direction of the contract at anytime. [redacted] management team provides contractual, administrative, and limited quality assurance oversight.

7. FMC has a very complex Information Management System that consider of 13 databases and application. It is not a simple task to convert flat file to integrated file and standalone application to online application that share data. True interoperability requires a lot of intelligence of the men and women to make it happen. We are a lot closer then we were in 2007.

   Please take into consideration that the on-site developers work very hard every day to maintaining a production system and complete development assignments at the same time.
   To fully implement interoperability, FISMA complaint, and document the systems more staff is needed. Hence, [redacted] submitted an unsolicited proposal to FMC on November 5, 2008 to increase the staff temporarily to help increase productivity.

8. The [redacted] Summary Reports are not designed to help the COTR "recognize potential problems." The purpose of the Monthly Summary Report is to document the level of effort of the contract, to help COTR determine if he is getting what FMC is paying for in this contract. [redacted] is prepared to make any adjustments to the report as need. However, the instructions must come from either the COTR or CO. [redacted] [redacted] understands that FMC's Quality Assurance Surveillance Plan is used to monitor the contract. Since 2007, I have conducted quarterly reviews of the progress of the contract with Mr. Jim Wood. And, I repeat for a third time; as of today, [redacted] does not have any Request for Deviation, Waiver, or Cure Notices or Show Cause Letters, or termination notices.

9. If any application was “rushed into production” it was authorized by FMC not [redacted]. The FMC program management team determines when an application is placed into productions. This contract does not requirement [redacted] to specifically produce any products that are FISMA compliant. However, the two developers will follow the instructions of the FMC project management team while developing applications and databases. If, FMC wishes to amendment the contract to allow [redacted] to officially provide the FISMA direction, we are ready to assign the appropriate security specialist with that skill set. However, [redacted] has developed an online application that provides a single password to access all applications.

10. Here are few more facts about what [redacted] has done since 2007:

#	Task	Quantity
1	provide specialized technical services using MS Access and MS SQL 7.0-2000	Mitgrated 12 databases from MS Access to MS SQL server 2000
1	provide specialized technical services using MS SQL 2000 and MS SQL 2005	Mitgrated 12 databases from MS SQL server 2000 to MS SQL 2005
2	conduct analyzes and defines requirement and specifications	13 applications
3	design, develop, implement, modify, and manage databases	12 databases , 300 tables
4	ensure accuracy and accessibility of data sources	on all of our applications
5	plan for anticipated changes in data capacity requirements	For all of our applications
6	develop, modify, and implement new or existing database applications.	more than 15 application
7	document routine maintenance procedures, configuration management procedures, and database architecture schemas	
8	analyze system requirements, write code, validate data acquisition, and output media/formats	6 Applications
9	will develop database queries	over 1000 queries
10	define and develop user interface requirements and design interfaces.	over 100 users interfaces
11	Final Product	11 applciations development, 2 applciation enhancement, 15 database migration, 15 SSIS packages, more than 10 application mentenence with 100's of user request and upgrade, more than 50 application reports, custom searching tool, more than 3o dowanload functions.
12	Upgrade System Software	100s of times
13	Run Diagnostics on systems	10s of times
14	Provide recommendations for system improvements	10s of times
15	Test system accessibility	10s of times
16	Prepare and assist with security upgrades	On all of our applications

This report was prepared by [redacted]. If there are any questions please call me directly at [redacted].

[redacted]
CEO, [redacted]

[redacted]
Email: [redacted]-com, web site: www.[redacted].com

[redacted]

An Information Technology Solutions Provider

February, 4, 2010

Adam R. Trzeciak
Inspector General
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800 N. Capitol Street, Room 1054
Washington DC 20573

Subject: [redacted] Comments to Mr. Trzeciak Audit Report.

[redacted] has a contractual obligation to delivery all of the documents reflected in our bid. However, we are limited by the number of work hours provided by FMC to complete these deliverables. FMC determines the daily priorities of the developers.

[redacted] developers follow FMC's procedures and processes in the performance of their daily duties. FMC does not use/follow the standard Software/System Development Life Cycle (SDLC) process.

FMC does not have the standard Development, Testing and Production system environments. Because these three platforms are not available the developers have to ensure all development code is error free as much as possible. Because they are subject matter expert this gives them the ability to provide a high degree of accuracy. The two [redacted] developers are expert with years of experience and are highly educated and knowledgeable in their field of expertise.

At Project initiation, the developers meet with the customer, who has the requirement and the FMC Program Management Team to identify key items (screen captures, database structures, and etc) needed to develop the plan of execution. The developers are given the plan of execution via email from FMC Program Management Team. The document may contain all of the information needed to initiate a project. Then the developers will create system flowchart if needed that will be used to help them understand the problems. If needed, the developers will also interview the customer to collect more information.

Furthermore, [redacted] has developed User Guides for Form 18 and RPI. And, Form 18 is available today, online for the customers. [redacted] received document routine maintenance procedures via email from FMC Program Management Team. We then execute the routine maintenance in accordance with those instructions.

All the tables inside the 15 databases are normalized and they are relational databases. Six of the databases have database schemas and we are currently working on the documenting remaining nine databases.

FMC does not have a Configuration Management Board and have not requested any configuration management documents.

[redacted] is prepared to complete any documentation that is requested and in accordance with the contract. In addition, [redacted] requested that FMC Program Management Team set aside hours to complete the some documents. In 2009, I met with FMC Management Team to set aside 10 hours a month to help with documentation. However, we were not able to obtain an implementation scheduled; so that those 10 hours would be used to work on specifics documents.

The team is ready to complete any contractual deliverables but the FMC Program Management Team will have to make it a priority. The current team cannot produce and maintain code, develop documents, and more at the same time.

If one of FMC's goals is to follow the standard SDLC then more staff is needed to meet the demand of documenting the process. In January 2010, I met with the COTR about this subject and he informed me that they may be planning to strength the [redacted] team so that we are able to implement more features/functions of the SDLC process.

If you have any questions please let me know.

Thanks,

[redacted]
www[redacted].com
SBA 8(a), SDB, SDVOB, HubZone, and VIP
[redacted]

Office: [redacted] Direct Line: [redacted] Fax: [redacted]
Email: [redacted] web site: [redacted]

[redacted] Final Comments
Dated: March 1, 2010
Prepared by [redacted] CEO

[redacted] is a service disabled veteran owned Information Technology Company with excellent qualification in software development. We are currently implementing industry best practices in our development and maintenance efforts under that direction of the Government. Throughout the two years and three months we have been on this contract we have made several recommendations for improving the systems. Some of those recommendations have already been implemented.

Now, my final comments about OIG Audit findings;

Since this is a review of [redacted] contract at FMC, hence the title of the review, "OIG Review of [redacted]". I need your help, if you are willing please consider limiting the review to [redacted] contract performance period. I am not responsible for anything that occurred before October 1, 2007 and for the work that was completed by [redacted]. [redacted] should not be part of this review. Your statement, "Since 2005, the agency has spent just over $1 million (with [redacted] and [redacted]) to develop a fully integrated database" and "five years and $1 million later" are not true when reviewing [redacted] contract.

[redacted] has been on the FMC contract for two years and three months. [redacted] did not start until Oct 1, 2007. The process of integrating all of the applications and databases without an enterprise architecture design is very difficult, costly, and will take longer than 2 years and 3 month. Also, [redacted] did not receive an initial time table or suspend date to deliver a fully integrated database from the Government.

Also your comment that the agency paid [redacted] $513,000 to build databases and application" is not totally accurate. FMC paid [redacted] to do a lot more than build database and application. We provided technical advice, collected technical requirements, designed, developed, tested, documented, integrated, implemented database and application, and provided system software maintenance. We do a lot more than "build databases and application" for $513,000.

[redacted] is not spread too thin to focus on development work. Our two developers are experts and are available to focus on any work assignments given to them by the FMC Management Team. The team for two years has developed databases and application, provided some documentation, and maintained all of databases and applications at the same time. The Government determines the allocation of man-hours.

This summary shows software development life cycle at FMC. The agency as of now doesn't even have a separate development, testing and production environment. [redacted] does everything on a single computer and goes live to production without a proper testing environment. Most maintenance, upgrade and changes happen on the live application and live data which involves a tremendous amount of risk. [redacted] has been adjusting itself within the environment to provide the solution the agency needs upon request on timely manner.

Life cycle	**Key task**	**% of the total project life cycle**
Analysis and Design	- understanding user requirement - meetings, document review - prototyping proposed solution - designing database schema - Designing user interface	20%
Coding & Development	- Code generation - Database development - Report generation - Query building - Data/file encryption - Stored procedures - SSIS packages - Web services - Script writing	50%
Testing Deploying Documentation	- Unit and system level testing - Security testing - Accessibility testing - Configuration and deployment - User manual - Database schema documentation	15%
Integration and Maintenance	- System maintenance, scope redefine - Upgrades - Additional functions - User support - Indentifying and recommending integration requirements - Database maintenance - Handling on demand requests	15%

On page 5, the following is not a fair statement, "We were given no assurances that the systems in development were designed to meet Federal information security requirements (e.g.,

FISMA)." FMC has not completed an assessment of the production systems. Without an assessment report it is impossible to determine what has or has not been developed to meet FISMA compliance. FMC's System Security Officer (SSO) or Information SSO (ISSO is responsible for implementing and assessing FISMA compliance. The comments I made earlier about [redacted] development effort for FISMA compliance requiring a FISMA specialist was in response to FMC not having the resources to provide the required skill set.

On page 6, "Ensure accuracy of data source"; your answer to this bullet comment does not correctly address the task. [redacted] is not responsible for individual users inputting data into the "array of sources". What [redacted] does through our design and development of data entry screens is to help reduce data entry errors (ensure accuracy) by implementing input masking techniques to help guide the individual to help ensure accuracy of the inputted data, hence, helping to "ensure accuracy of data source."

On page 7, "Oversight of Contractors"

All of the Status Reports submitted to the Government have been accepted. The COTR is part of the FMC Management Team that oversees the two developers' day-to-day assignments, determines the priority of the two developers, and oversees the FMC Project Manager for all FMC systems. Therefore, the COTR is fully aware of what has been achieved in any given time period on the contract. However, more detail about each task may be needed for outsiders, but [redacted] Status Report would not be the only input to brief the outsiders. For example, as you the "Auditor" read this report can easily come to the conclusion that the Status Report needs more information because it is not a full detailed report. However, if you wish to receive details on any task the COTR will be able to provide the detailed information using the Status Report as one of his sources. The Status Report is a summary document. The COTR will have the answers to these questions on page 7 not a Contract's Status Report. However, it is a deliverable of our capabilities of providing the answers to some of these questions on page 7.

On page 9, "Another issue is that of outages". "In one instance, at least one server (SRVCON) was inoperable for three working days. Please if you are willing, consider removing this statement because [redacted] is not contracted to maintain the hardware.

The following comments are in response to comments made on page 4.

Every IT project has scope definition when they are initiated. When [redacted] received the RPI project, the requirements were to convert the existing database application to the most current web technology and SQL server. Besides addressing this requirement [redacted] has been working forward on the system to allow users to run dozens of static and dynamic reports, allow users to download a number of databases and tables via access and excel format and allow users to build their own search query and search all existing RPI database tables to satisfy the ever growing

user need. [redacted] developed RPI front-end and back-end application including data cleanups and data migration support from the old database technology to the new SQL server environment, user accesses and permission management and many more functionalities are part of RPI. RPI maintain its own database and the application helps users to enter, edit, download, search and run reports from the database.

When Form18 was initiated, the requirement to download the data from the online application into the database was achieved day one. Form18 maintained its own database and its own table structure. All online OTI applications (Form18) were directly collected from Form18 database and all attached supporting documents and application data are organized and stored in the normalized SQL server database which allows the agency to extract, run queries and search the records. No one retype online submitted Form18 application into Form18 database. But why is the application submitted to Form18 not showing up in RPI database?

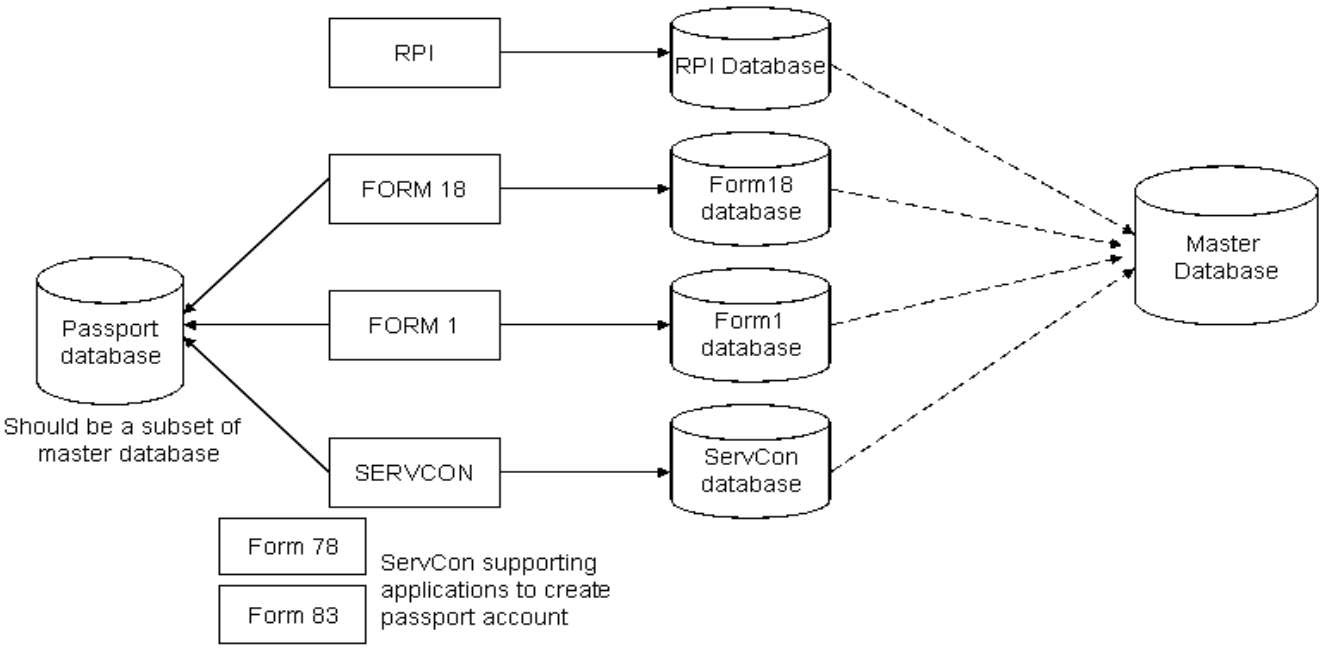
RPI & Form18 come to the project queue as separate stand alone applications. [redacted] identified the relationship between not only the two applications but with Form1 and ServCon as well. [redacted] recommended having Enterprise level Architecture design throughout the agency and possibly having a Master Database rather than duplicating records from one application to the other. This will give the agency the opportunity to have a centralized shared architecture with clearly stated business rules. Even to this day, in our meeting with BCL and Momentum, BCL didn't clearly define how to handle the data communication between Form18 and RPI. It is not yet clear how to assign organization numbers in RPI (since all organizations need a number in RPI) when there is change of organizational structure, when the organization is sold, or absorbed fully or partially by another company. Without defining the basic requirements for each scenario, it would be hard to satisfy all the needs.

As a prototype [redacted] developed Passport databases that managed user profile and user accounts to allow all online users to use one user account for all FMC online applications. As of now form18, Form1, and ServCon share the same data from passport databases to authenticate their users. Previously every application maintains their own account, which creates inconstancy by insisting users have three different account profiles for each application.

[redacted] Final Comments March 1, 2010

Bellow is the overall database diagramed I showed on our meeting with OIT in 2007 to recommend data synchronization.

FMC Applications which share the same information and need to be linked together in order to create a master database



Additional existing stand alone applications in FMC which needs to be maintained, might need to be considered in the Enterprise level architecture to some degree.

CADRS	OIG	BEAA	BOE Index	Training
PIERS	eFile	eAgreements		

Currently I am working on:

CRM
(Customer Relation management)

Supposed to start working on soon.

Agreements Library