



INTEROFFICE MEMORANDUM

DATE: January 6, 2011
TO: Kim Berfield, Deputy Secretary
THROUGH: James D. Boyd, C.P.A., M.B.A., Inspector General
THROUGH: Michael J. Bennett, C.I.A., Director of Auditing
FROM: Michelle L. Weaver, C.I.S.A.
SUBJECT: Data Collection for Data Center Consolidation

INFORMATION ONLY

As requested by the Division of Information Technology (DIT), the Office of Inspector General (HIG), Internal Audit Unit conducted a consulting engagement to assist with the Department of Health (DOH or Department) data collection effort required by the Agency for Enterprise Information Technology (AEIT) for Data Center Consolidation (DCC). As established through discussion of client expectations, this memorandum summarizes project activities, outcomes, and auditor observations and advisories issued. To ensure continuity of communications, all verbal advisories were followed up with written memorandums to the previous DIT Acting Division Director and copied to the Project Management Office (PMO) Manager and the DCC Project Manager (PM).

Additionally, as requested by DIT, our office will perform a high level quarterly status update until the Department has successfully transitioned to the primary data center. The purpose of the update is to advise as to whether controlled processes are applied to help ensure the required data is maintained when there are updates such as deletions, additions, and modifications to the data inventory, and to observe whether the data is sufficiently secured and recoverable. The first update will be initiated in mid-February 2011 and a written memorandum communicating the results will be issued by the end of the same month.

Our project resulted in four recommendations which should be considered by DIT management. These are discussed later in this memorandum. Recommendations offered in a consulting engagement typically do not require a formal response of corrective action from management and thus would not usually involve follow-up verification by our office. However, DIT management voluntarily chose to provide a response to each recommendation and those responses have been included within this memorandum.

Scope, Objectives, and Methodology

The scope of this engagement was the practices and methodologies applied during the data collection project and will continue until completion of the project.

The objectives of this engagement were to evaluate the practices and methodologies used for data collection and recommend improvements and controls to help ensure the Department submits the most accurate data possible to AEIT for primary data center transition planning and consolidation.

During this consulting engagement, our office participated in project team discussions, meetings, conference calls, and other forums used by DIT throughout the project to facilitate the project. Additionally, our office reviewed and monitored email communications including status updates and tracking reports; mapped out the high level project processes; reviewed Daptiv PPM, the PMO's software used for project portfolio management; and randomly examined individual Department data inventories maintained on SharePoint.

It is important to note, our office did not verify or validate the data inventory submission, or the attestations of accuracy or completeness. All facts pertaining to participation and completion herein are based upon distributed status reports, statements provided by the DIT PMO, observations, and discussion.

Background

On June 30, 2010, an email was distributed by AEIT to the governor agency heads and chiefs of staff stating Chapter 282.201(3)(b), *Florida Statutes* requires AEIT to collect information from each agency pertaining to their data center(s). The email further stated the information collected was to assist in DCC planning and they would distribute an Excel workbook to each Chief Information Officer (CIO) by August 1, 2010. The purpose of the workbook was to collect information about the agency data centers and computing facilities as defined in Chapter 282.0041, *Florida Statutes*.

Shortly after receipt of the inventory workbook from AEIT, the State CIO confirmed that state property and equipment housed in county facilities such as in the County Health Departments (CHD's) managed by the Department are included in the project scope. Previously these groups were not included in the project. Therefore, on August 19, 2010, all CHD Administrators, Children's Medical Services (CMS) area office administrators, and contacts for the Child Protect Team (CPT) sites and Mobile Command Units (MCU's) were emailed a notification of the project and were requested to identify a representative for their respective location to participate in the project. The scope change resulted in an increase of 119 DOH sites.

Project Activities

Exhibit A (enclosed at the end of this document) represents a high level work flow established during this project with PM revisions performed post completion of the project.

Exhibit B reflects key projects dates and activities that were evaluated as part of this consulting engagement.

Outcomes

The staffing analysis submitted by several locations reported positions that have over 100% of their time allocated as spent performing data center functions. These instances ranged from 100% to 1050%. In comparison, the DIT staff analysis reflected positions spent 3% to 65% of their time on data center functions. Furthermore, several locations reported positions with 0% as their total percentage of data center functions. This analysis suggests that all locations do not have a consistent understanding of what data center duties are to be included. AEIT defined those functions as:

- Backup & recovery;
- Data center management operations;
- Database administration;
- Disaster recovery;
- Help desk;
- Job control;
- Print;
- Production control;
- Security;
- Storage;
- System administration;
- System programming; and
- Technical support.

Additionally, DIT staff observed during the verification review that "security domains" and "device roles" selected by a variety of locations do not appear to fit the device reported. This observation indicates the data elements were not reported consistently or correctly throughout the Department.

These outcomes are the result of risks identified during the initiation of this project. The outcome reflects variations in reporting due to the quantity of entities within the scope of this project for the Department. In our opinion, the only mitigating solution in lieu of the lack of an established enterprise configuration management database (CMDB) would have been to dedicate resources to visit each of the 135 locations to conduct the inventory in a systematic and consistent methodology supported by physical evidence. However, the travel costs and project resource limitations in combination with the time limitation dictated by AEIT would have deemed this solution impractical.

Aside from the data inconsistencies noted and considering the short timeframe available to inventory the entire Department's multitude of locations that maintain equipment and staff, the final workbook appears to meet the expected outcomes and to fulfill AEIT's request. Moving forward, it is imperative DIT facilitate the ongoing maintenance of this data in a controlled manner as AEIT will be requesting additional inventory data in future phases.

It is important to note that on November 30, 2010, AEIT returned an analyzed and validated version of the DOH workbook. Within the validated notebook, AEIT highlighted numerous data fields on the network, servers, storage, other equipment, and software inventory tabs in red and

yellow. AEIT required confirmation of accuracy for all fields highlighted yellow and correction of incomplete or incorrect responses highlighted in red by November 19, 2010. The revised workbook with confirmations of accuracy and corrections was submitted to AEIT on December 6, 2010. All DOH locations did not provide DIT with their confirmations and corrections. However, since the majority of the locations provided updates and the workbook was past due at this point, DIT decided to submit the corrected workbook as the current DOH inventory baseline and continue to maintain and revise as applicable.

Advisories and Management Responses

Though formal management responses are not required for consulted engagements, the former DIT Acting Division Director/CIO asked to provide responses to the advisories issued. The advisories distributed for management consideration during this engagement, along with management's responses are provided below:

Advisory 1 – Attestation of Accuracy and Completeness, Issued August 31, 2010

We recommend the PM draft an attestation to be completed by each reporting entity's executive level manager upon submission of the inventory workbook. The attestation should stipulate the data being submitted is complete and accurate to the best of their knowledge. This attestation should be submitted by all DOH Divisions, CHD's, and any other satellite (non-centralized) offices. The submitted attestations should be stored together in a centralized location such as SharePoint or a network share.

The PMO Manager suggested having the HIG request the attestations. However, this is outside the scope of responsibility of our office. Therefore, it would be the role of the PM to mandate completion of the attestations by management. If the PMO feels including a statement within the attestation indicating "the information may be auditing by the HIG" would improve responsiveness by management, we would be happy to consult during the drafting process. Please note the statement should be carefully written to avoid the appearance of the request originating from the HIG.

DIT Response:

In response to this HIG advisory, the DCC project team began planning and preparing to administer the attestation process and drafting the attestation that would be submitted by each location's administrator. The process established involved sending an email that provided background information about the inventory requirements, the scope of the project, the name of the representative who prepared the workbook, an attached copy of the final workbook and the attestation statement. The administrator was requested to execute the attestation by replying "I concur" to the email. All attestation email responses are maintained in an attestation concur folder on the email system.

Advisory 2 – Quarterly Attestation of Accuracy and Completeness, Issued August 31, 2010

We recommend the PMO Manager and PM consider requiring quarterly attestation submissions to coincide with the requested quarterly status reports to be performed by HIG. These attestations would help ensure data is maintained when there are updates such as deletions, additions, and modifications.

DIT Response:

In response to HIG additional recommendation relating to considering required quarterly attestation submissions, the DCC PM fully acknowledges that there are benefits in doing quarterly inventory attestations for all locations. However, quarterly attestations should be a part of an overall process for gathering and maintaining current IT inventory information for each location. It is the recommendation of the PM that the additional proviso for quarterly attestation be placed on-hold until processes for gathering and maintaining inventory data have been developed by DIT. The process should provide for attestations but the manner in which attestations are executed will be dependent on the process that is developed and implemented by DIT.

Advisory 3 – Ongoing Maintenance, Security, and Integrity of Data, Issued October 29, 2010

We recommend DIT maintain the following documents in a secure location that is backed up on a regular basis and available for each location representative to “read only”:

- a) The original inventory workbook submitted by each location;
- b) The attestation submitted by the Director, Administrator, and/or Business Manager of each location;
- c) The final validated and revised inventory workbook for each location;
- d) The final aggregated inventory workbook submitted to AEIT for the first phase; and
- e) Inventory information submitted to AEIT for future data collection phases.

Please note, the previously issued advisory suggested DIT consider soliciting attestations of inventory accuracy and completeness on a quarterly basis until consolidation is complete.

DIT Response:

In response to HIG recommendation relating to ongoing maintenance and security advisory recommendation, please note the following has been implemented or is pending implementation as noted:

- a) *The location's original inventory workbook that was submitted to DIT: Each location's original inventory workbook currently resides on their SharePoint site as a "read only" Excel workbook;*
- b) *The attestation submitted by the location's administrator: The plan is for each administrator's attestation email to be loaded as a PDF file onto their SharePoint site;*
- c) *The location's DIT validated final workbook: Each location's DIT validated final inventory workbook currently resides on their SharePoint site as a "read only" Excel workbook;*
- d) *The final aggregated inventory workbook submitted to AEIT for the first phase DCC initiative: The current plan is to load the final DOH 2010 inventory Workbook onto the SharePoint site that will be accessible as a "read only" Excel workbook;*
- e) *The inventory information submitted to AEIT for future data collection phases: The process referenced in the August 31, 2010 advisory response is expected to include refresh procedures that will provide for the latest inventory workbook to be loaded on the SharePoint site as a "read only" Excel workbook.*

The original DCC SharePoint documents reside on the PMO network share drive (J:\ITPCB\DIT Consolidation\DCC) and is included as part of DOH regular backup procedures. The DCC files are available for recovery of the DCC SharePoint environment.

The following URL provides "read only" access to the DCC SharePoint site:
http://sharepoint.doh.ad.state.fl.us/sites/PQA/PMO/DCC_Workbooks/default.aspx

Advisory 4 – Ongoing Maintenance, Security, and Integrity of Data, Issued October 29, 2010

We recommend DIT institute a standard process for all location representatives to revise the final inventory workbook in the future, as well as input data required for future AEIT phases. All revisions including changes, deletions, and additions should be tracked and referenced back to the individual requesting or initiating the revision. This can be accomplished through an automated, manual, or combination of automated and manual processes.

Additionally, the process should incorporate controls for validation of revisions to help ensure data integrity. We have learned through this experience that not all locations interpret the AEIT and DIT PM directions accurately. Thus, a variety of known reporting problems could reoccur.

Furthermore, DIT should provide outreach and education for the location representatives on the process established. Reference documents detailing and providing guidance on the established process should be distributed to all local representatives as well as the respective location Director, Business Manager, and/or Administrator.

DIT Response:

Please note the following as it relates to HIG recommendation for ongoing maintenance and security advisory recommendation. Currently, DIT uses a Structured Query Language (SQL) database to store, manage and generate the consolidated DOH inventory workbook for AEIT. The database uses audit logging to track changes to the database. However, whether to use the database as part of the process DIT plans to develop has not been determined. The elements noted in this advisory recommendation will be appropriately incorporated into the proposed process to be developed.

In response to HIG recommendation relating to ongoing maintenance and security advisory, the elements noted in this advisory recommendation will be appropriately incorporated. User training on the management and use of the proposed process to be developed will be planned accordingly.

Assigned Auditor and Consulting Standards

This engagement was conducted by Michelle L. Weaver, Certified Information Systems Auditor (C.I.S.A.) and supervised by Michael J. Bennett, Certified Internal Auditor (C.I.A.), Director of Auditing. Additionally, this engagement was conducted in conformance with *International Standards for the Professional Practice of Internal Auditing*, issued by the Institute of Internal Auditors.

Closing Comment

We would like to thank the Division of Information Technology for their cooperation and assistance during the course of this engagement.

Kim Berfield
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MLW

Enclosure- Exhibit A
 Exhibit B

cc: Bob Dillenschneider, Acting Division Director, Division of Information Technology
 Bill Lucas, Acting Project Management Office Manager, Division of Information
 Technology
 Lionel Leonard, Project Manager, Division of Information Technology

Process Name: 2010 DCS Inventory
Division/Bureau: DOH Data Centers and Computing
Facilities not residing at the Southwood Shared Resource Center
Program: DOH Data Center Consolidation
Date: 12/16/2010

Key:

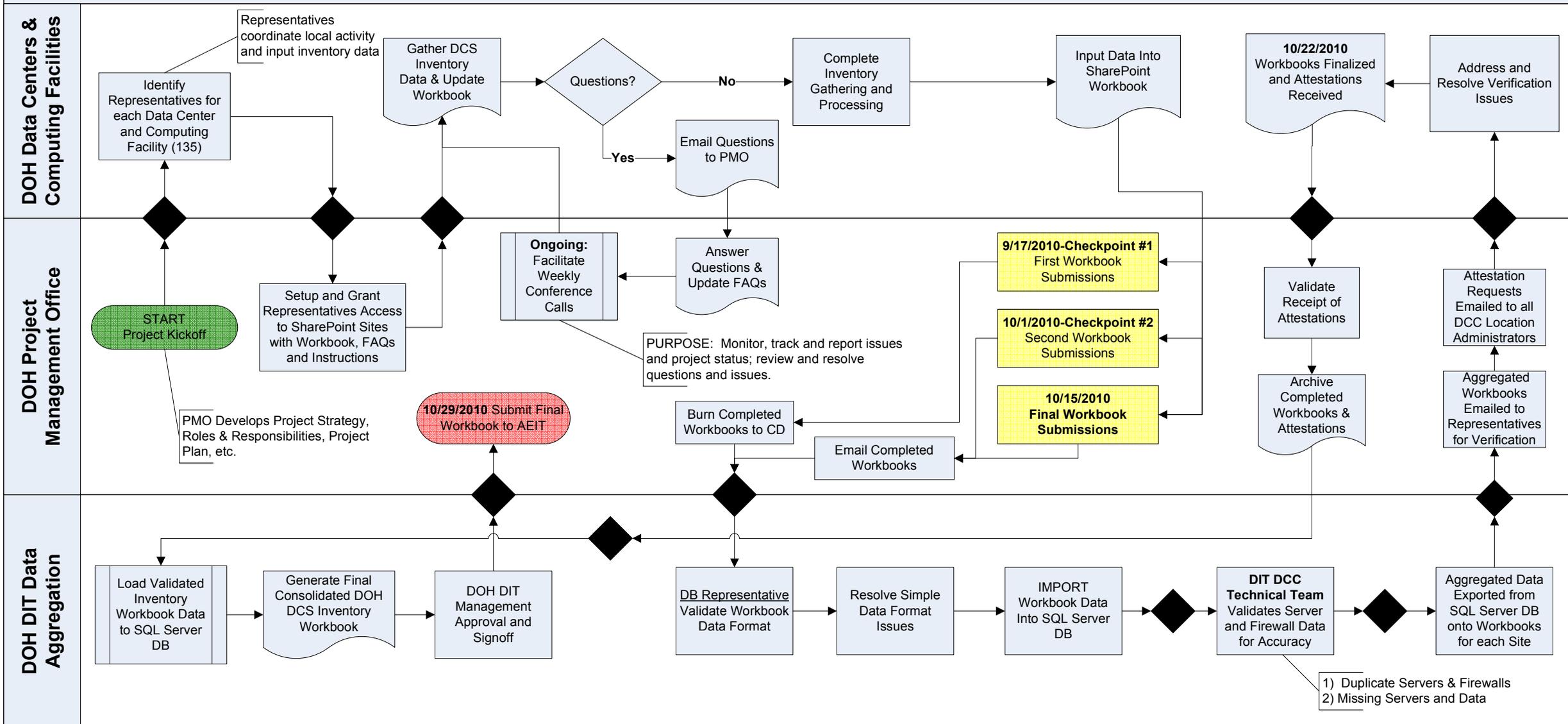


Exhibit B

Key Project Dates and Activities

Date	Task	Description
6/30/10	Initiative Announcement	AEIT agency notification of the upcoming inventory initiative.
7/26/10	Initial Organization Meeting	Review project scope, identify initial team members and determine team organizational structure.
8/1/10	Inventory Workbook Availability - Planned Release	AEIT planned release date of the inventory workbook.
8/5/10	DCC Kickoff Meeting– DIT DCC Team	Project overview for DOH managers and the DIT technical team.
8/16/10	Inventory Workbook Availability – Actual Release	AEIT released the inventory workbook to all state agencies.
8/19/10	Project Scope Clarification and Expansion	Project scope includes CHD's, CMS sites, CPT sites, and MCU's.
8/23/10	Kickoff Meeting – All DOH DCC Reps and Coordinators	Project Overview for the agency-wide DCC team; provided schedule, roles & responsibilities, expectations and process.
8/25/10	Review Inventory Workbook – DCC Team	Reviewed and validated the AEIT Inventory workbook.
8/27/10	Revised Inventory Workbook Distributed to Agency Reps	Corrected Excel 2007 conversion errors to support DOH's Excel 2003 environments; clarified workbook instructions.
9/7/10	Frequently Asked Questions (FAQ) Internet Site Setup	Setup project site for frequently asked questions.
9/9/10	Develop Workbook Aggregation Tool and Process	Developed and tested data aggregation tool utilizing SQL database. Developed import/export process to consolidate all agency workbooks into a single document.
9/17/10	Draft Workbook Due to DIT	Draft workbooks due from all sites for the DIT technical team to review and assess status of completion.
10/1/10	Second Workbook Submission Due to DIT	Second due date for all DOH locations to submit their workbook to the DIT technical team.
10/11/10	Sites Received Validated Workbook	Site representatives approved validated workbook.
10/15/10	Final Submission of the Workbook to DIT	Final due date for all DOH locations to submit their inventory workbook to the DIT technical team.
10/18/10	Attestation of Accuracy and Completeness Distributed	Attestation emails distributed to site Directors, Managers, and/or Administrators.
10/27/10	Final Workbook Revisions	Aggregated DOH workbook was generated and reviewed by DIT technical team.
10/27/10	Attestation Receipt	Attestations emails maintained for audit purposes.
10/28/10	DIT Technical Team Final Review and Management Approval	Final IT management approval with understanding that DIT staffing was to be corrected and submitted at a later date.
10/29/10	Final DOH Inventory Workbook Submitted to AEIT	Emailed final workbook to AEIT pending DIT staffing revisions.
11/5/10	Revised DIT Staffing Submitted to AEIT.	Revised workbook submitted to AEIT with DIT staffing revisions.
11/19/10	Workbook Clarifications and Corrections Due to AEIT	AEIT returned their version of the validated workbook, and requested confirmations of accuracy and corrections.
12/06/10	Submitted Workbook Clarifications and Corrections to AEIT	All DOH locations did not provide DIT with their confirmations and corrections. However, since the majority of the locations provided updates, DIT submitted as the current baseline.
<p>Ongoing Activities:</p> <ul style="list-style-type: none"> • Weekly updates presented during DOH IT Consolidation Updates Conference Calls; • Weekly DCC Inventory Project checkpoint/status meetings with all location representatives; • Bi-weekly conference calls with AEIT; • Month of October: Weekly DIT technical team meetings to discuss aggregation, schedule, issue resolution, and action items; and • Other impromptu technical meetings as needed. 		