



2019 REPORT OF INVESTIGATION
MANAGEMENT OF GRANT FUNDS – AFIS PROJECT
SEPTEMBER 5, 2019
A JOINT REPORT BY
AGENCY OF INSPECTOR GENERAL
DEPARTMENT OF INTERNAL AUDIT

Cuyahoga County Administration Headquarters
2079 E. 9th Street, Cleveland, Ohio 44115

Glossary

AFIS:	Automated Fingerprint Identification System
AIG:	Cuyahoga County Agency of Inspector General
BCI:	Bureau of Criminal Investigation
BOC:	Board of Control
BSO:	Buy Speed Online
CJIS:	Criminal Justice Information System
CoLo:	Colocation in Columbus
DIA:	Department of Internal Audit
DoIT:	Cuyahoga County Department of Information Technology
FEMA:	Federal Emergency Management Agency
FTP:	File Transfer Protocol
ISA:	Investigative Systems Analyst
ME:	Cuyahoga County Medical Examiner's Office
NIST:	National Institute of Science and Technology
OEMA:	Ohio Emergency Management Agency
ORC:	Ohio Revised Code
PSJS:	Cuyahoga County Office of Public Safety & Justice Services
RNC:	Republican National Convention
SAE:	Simulated Avalanche Effect
SAN:	Storage Area Network
TAC:	Technical Advisory Committee
TLS:	Transport Layer Security

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I. SUMMARY

In March 2019, the Cuyahoga County (“County”) Agency of Inspector General (“AIG”) and Department of Internal Audit (“DIA”) opened a joint investigation to review the management and return of approximately \$300,000 associated with Ohio State Grant Number DPSFE210 and Federal Pass Through Number EMW-2014-SS-00101-S01¹, administered by the Ohio Emergency Management Agency (“OEMA”).

This grant was intended to support improvements to the Automated Fingerprint Identification System (“AFIS”) shared by the County and the City of Cleveland (“City”). Specifically, the grant was intended for the purchase of two (2) Hewlett-Packard 40 Terabyte blade servers, Microsoft SQL licenses and associated equipment.

The following is a summary of the findings of this joint investigation:

- By 2015, the County’s Medical Examiner’s Office (“ME”) determined that the AFIS system had become obsolete, would soon no longer be supported by software vendors, and would require: 1) a temporary upgrade; 2) a bridge, and 3) eventual replacement. The ME began conversations with the County Department of Information Technology (“DoIT”) regarding the optimal path to upgrading and replacing the AFIS system.
- In 2016, the ME became aware of federal Homeland Security grant money potentially available from OEMA. The availability of these funds would expire, and any unencumbered funds would be returned by OEMA to the federal government if the grant money was not awarded and spent by June 30, 2016.
- In order to access the expiring federal funds, the County’s Department of Public Safety & Justice Services (“PSJS”) rapidly prepared and submitted an application for State Grant Number DPSFE210 in the amount of \$300,000. The goal of the project was to upgrade the Automated Fingerprint Identification System (“AFIS”) and bring the solution under County control and residing in the County’s Columbus data center.
- In its haste to qualify for the grant, the County requested the funds without having

¹ DIA’s assistance with the investigation was performed as a consulting engagement in accordance with the *International Standards for the Professional Practice of Internal Auditing* issued by the Institute of Internal Auditors (IIA). The IIA standards define consulting engagements as advisory and related management services/activities, the nature and scope of which are agreed to and/or requested by management and is intended to add value and improve the County’s governance, risk management, and control processes without the internal auditor assuming management responsibility. This review was also performed as a consulting engagement under DIA’s charter and does not constitute an audit in accordance with *Generally Accepted Government Auditing Standards*.

a clear plan for implementation of the AFIS upgrade. Although PSJS, ME and DoIT had substantially different understandings, the shared expectation was that the County would purchase the equipment while the federal funds were still available, assume that the equipment would work with the AFIS upgrade, and then work out the details as they arose. In short, at the time that the County sought the grant funds, it knew that it did not yet have a plan in place and that numerous issues related to the success of the project had not been resolved.

- In fact, prior to requesting or receiving the grant, the County:
 1. Failed to create an internal written project plan;
 2. Failed to provide a detailed grant proposal including a project narrative, project timeline, budget and budget narrative and/or project management plan;
 3. Failed to resolve misunderstandings between ME and DoIT regarding whether the AFIS upgrade would operate as a stand-alone system as previously designed or would operate as part of a shared environment;
 4. Failed to ascertain that the legacy Cogent software designed to operate using an Oracle database could operate in a shared environment using a Microsoft SQL database without re-licensing or replacement. Almost immediately after the purchase of the blade servers, DoIT reported that Cogent's AFIS software could not operate on the servers without re-licensing;
 5. Failed to clarify and allocate responsibilities for the leadership, management and implementation of the AFIS system;
 6. Failed to identify a process for monitoring, follow-up and evaluation of the AFIS grant;
 7. Declined to seek review of the project by the Technical Advisory Committee ("TAC"). TAC serves as the County's primary forum to ensure that proposed IT-related purchases, contracts and services comply with current IT standards and the strategy adopted by the County.
- After several disagreements with the grantor, the County's procurement process was eventually accepted by the state and federal governments. Nonetheless, the County's procurement process was flawed because:
 1. The County used a less-stringent alternative procurement process that was not consistent with federal law;

2. Among other inconsistencies, the County did not comply with 2 C.F.R. § 200's rules regarding public advertisement of bid solicitation;
3. The County did not post a formal Request for Proposal on its website;
4. The County's notice was limited to vendors registered on the BuySpeed System;
5. Although Board of Control Item Number BC2016-281 suggests that "all vendors are being evaluated" the County had decided to reduce complexity by purchasing Hewlett-Packard servers;
6. The County retrospectively suggested that the grant was related to the Republican National Convention.

Miscommunications between PSJS, ME and DoIT staff led to improper utilization of the OEMA grant money. Although PSJS was identified as the Sub-Grantee Grant Manager, once the HP blades were purchased the blades were under the effective control of DoIT. The project manager assigned to AFIS implementation was employed by DoIT. As a result, DoIT had operational control over insuring that the blades operated in a segregated virtual environment that complied with CJIS security rules as well as working with the ME and PSJS to establish and load the appropriate AFIS software.

System requirements were not defined for the AFIS upgrade by any entity with a stake in the project. DoIT expected that Cogent AFIS software would be replaced by NEC AFIS software that could run in a shared environment on a SQL database. ME and PSJS office were under the impression that the AFIS solution would not be Criminal Justice Information System ("CJIS") compliant if not located on physically dedicated architecture (stand-alone servers). In May 2016, CJIS Security Policy was clarified to allow for logical, virtual implementation architecture in a shared environment. However, while DoIT was correct that using the servers in the shared environment was allowable under CJIS rules, DoIT never provided the ME with system documentation and an implementation plan that showed how this could be completed using the servers purchased.

The National Institute of Science and Technology ("NIST") which promulgates IT security standards requires that security assessments and plans, business owner authorizations (ME & PSJS) and architecture and system documentation be established. DoIT is supposed to adhere to NIST standards for system security and project implementations. DoIT did not develop any system security or architecture documentation for the AFIS project's implementation as required under NIST standards.

One example of the confusion relates to the use (or misuse) of the blade servers purchased with the federal grant funds. The federal grant provided funds for the purchase of two (2) HP blade servers. However, at the time of purchase, DoIT purchased four (4) identical servers and physically located them in the same rack. Critically, DoIT did not

track the serial numbers of the four identical servers. As a result, DoIT internally – and incorrectly – designated the two servers that were not purchased with grant funds as the “AFIS Servers”. Similarly, DoIT incorrectly designated the two servers that were in fact purchased with federal dollars as County servers that could be immediately integrated into the County’s shared computer environment. This mis-identification has led to different, confusing and conflicting claims that the AFIS servers have never been used, or, in contrast, that they have been used to run County programs and store County data. A review of the Solarwinds Server and Application monitoring (SAM) tool² software established that the servers purchased with federal funds have been used to run County programs, while the servers incorrectly identified as AFIS servers have never been used and remain idle. The end result is that two servers have been unused for more than three years. Additionally, twelve Microsoft SQL Server Core Licenses were purchased with grant monies and used within the County’s shared environment instead of being used for their intended purpose of implementing the AFIS upgrade;

After the purchase of the blade servers, the miscommunication and confusion between DoIT, PSJS and ME caused the project to stall. During the course of this investigation, DoIT staff emphasized that AFIS was not a DoIT project and that DoIT’s role was limited to advising PSJS and ME. Thus, once the blade servers were received in Columbus, DoIT staff regarded their duties as nearly complete, and assumed that ME and PSJS would finalize issues relating to AFIS software, communication with the City, and migration of the platform. In contrast, PSJS and ME indicated that they attempted to follow-up and manage the grant but were stymied by lack of cooperation from DoIT, conflicting information regarding the status of the servers, and a failure of DoIT to communicate why the expected upgrade could not be implemented as previously recommended by DoIT. Although, PSJS was identified as the Sub-Grantee Grant Manager, the miscommunication with DoIT resulted in the AFIS upgrade not proceeding.

In late 2018, the ME recognized that the grant had not been used as intended.

In February 2019, the County determined that these funds should be returned because they were not utilized as required by the terms of the grant. Thus, the decision was made to self-report this matter and to return the grant funds to OEMA.

In April of 2019, County Council contacted AIG and DIA to request that they investigate why funds obtained using the OEMA grant had to be returned.

In June of 2019, the County’s AFIS vendor confirmed that due to necessary software and database upgrades, and the likely path to replacement, the blade servers could possibly be used for AFIS in the near future; however, the upgrades would be time consuming and require additional funding. Although the AFIS project that began in 2016 was supposed

² Solarwinds SAM monitors servers and provides insights of the applications and software running on monitored servers.

to provide an upgrade to the system, the County is still in the process of pursuing an upgrade to the existing AFIS hardware and software based on recommendations from ABC Consulting, Inc. A contract amendment is being pursued for ABC Consulting, Inc. to oversee the project for \$54,492 with an additional \$800,000 in estimated costs for the overall upgrade project with the County's existing AFIS vendor, Cogent (Gemalto). The consultant also recommended that in three to five years the County should completely replace the system with a web-services based Automated Biometric Identification System estimated to cost between \$2,500,000 to \$3,500,000.

The County's plan is to incorporate the unused blade servers purchased in 2016 into the County's shared environment. This will increase the storage and processing capacity for the network which DoIT has indicated is needed.

As set forth in this report, AIG and DIA have concluded that the County's failures prior to - and after - the grant request have caused the County to lose the benefit of \$293,758.36 in federal funds. Although, the County retains the potential benefit of two uninstalled blade servers, these servers were ultimately purchased by the County taxpayers and have been unused for more than three years. These issues, as well as our joint conclusions and recommendations are discussed below.

II. BACKGROUND

On March 27, 2019 the AIG and DIA began their investigation into the federal grant money, starting with establishing contact with the Information Security Officer ("ISO") to obtain hardware documentation that existed at the Colocation ("CoLo")³ in Columbus. On April 17, 2019 the ISA established alongside the ISO a date to visit the Columbus location to take inventory of the racks and network infrastructure.

A. Timeline

- By 2015, ME had identified the need to replace the current AFIS system. The ME met with DoIT to discuss three distinct stages: a temporary upgrade, a bridge to the new system, and eventual replacement with an entirely new system.
- In early 2016, PSJS and ME became aware that federal DHS grants would be available for part of the upgrade process if the program could be completed by June 30, 2016.
- In consultation with PSJS and ME, DoIT recommended that the County purchase two HP blades that would be part of a shared environment running on Microsoft

³ A Colocation is the placement of several entities in a single location. A Colocation center is a data center where companies can rent equipment, space, and bandwidth for computing services, known as colocation services.

SQL database software. DoIT concluded that the County should migrate towards a system consistent with the State Bureau of Criminal Investigation's ("BCI") AFIS system that used NEC-brand AFIS software operating on SQL. DoIT recommended that the system be designed within a shared environment but using virtual walls to comply with CJIS.

- The AFIS project officially began in 2016 with the grant approval process. Hardware was purchased by the DoIT and was installed at the County's server "farm" in Columbus. After the installation of the two server blades and NAS storage unit, the project stalled. This system is jointly managed by the County and the City.
- AFIS Grant signed by Executive Budish on April 15, 2016.⁴
- DoIT and OPD used alternative procurement process bid format and 5-day solicitation window for bids due to the grant time limitation of June 30, 2016. The BOC questioned the fact that DoIT was seeking an exemption while also "bidding" the item.⁵ DoIT stated at the meeting "to meet the aggressive timeline, the solicitation is currently posted with closing date on the 5-day bid of April 25, 2016."⁶
- April 26, 2016: BOC approved the request for alternative procurement.⁷
- May 11, 2016: DoIT communicated its interest of "piggy backing" with State BCI's new AFIS vendor which was proposed to be NEC.⁸
- May 31, 2016: Invoice from Logicalis for HP blades and software was received for \$233,812.60.⁹
- June 2016: Hardware purchased with grant money was installed at the County's CoLo in Columbus.
- Summer 2016: County still focused on discussions with Cleveland about moving AFIS to Columbus or a new location.
- July 18, 2016: OEMA representatives contacted Tafe¹⁰ and explained that the use of an informal process for quotes and procurement was not allowable under the

⁴ See Exhibit A.

⁵ See Exhibit B.

⁶ See Exhibit C.

⁷ See Exhibit B.

⁸ See Exhibit D.

⁹ See Exhibit F.

¹⁰ See Exhibit J.

grant guidelines and explained that the OEMA believed that the purchase was an emergency purchase relating to the Republican National Convention ("RNC").¹¹

- August 16, 2016: Tafe was unable to find evidence of the bid invitations posted to the County's website from April 6, 2016 to May 30, 2016. The BSO solicitation posting was the same list of vendors sent on April 8, 2016.¹²
- August 23, 2016: OEMA emailed Tafe clarifying the information necessary to have FEMA reconsider the reimbursement as the initial request was denied because of questions surrounding the procurement.¹³
- July 13, 2016 & August 23, 2016: The County issued letters to OEMA contesting the rejection of the reimbursement and described the alternative procurement process used by the County.¹⁴
- October 24, 2016: Former PSJS Director, Brandy Carney ("Carney"),¹⁵ sent a letter to OEMA explaining the County met 4 of the 6 federal requirements addressed in 44 CFR 13.36 and partially met the requirements addressed in 44 CFR 13.36(d)(2)(ii)(A) and 44 CFR 13.36(d)(2)(ii)(C) for the AFIS Grant.¹⁶
- November 29, 2016: The City of Cleveland made the decision to move the AFIS solution to a new location and not transfer it to the County.¹⁷ The move was scheduled for June of 2017.
- December 13, 2016: Vaughn sent an email to, former Engineering Operations Administrator for the County, Patrick Wright ("Wright") explaining that FEMA requested additional information regarding how the County complied with the federal competitive bidding requirements. Wright responded by stating that the BOC approved the alternate procurement process to meet the time limitations by June 30, 2016. The time limitations would not allow the County to use the existing County bid process within the grant period. Vaughn's email stated that neither OEMA nor FEMA would accept the grant time constraints as a reason for not

¹¹ The RNC was held July 18-21, 2016, in Cleveland, Ohio.

¹² See Exhibit I.

¹³ See Exhibit K.

¹⁴ See Exhibit H.

¹⁵ On July 1, 2013, Carney was promoted to the position of Emergency Services Administrator and was then promoted to Administrator of Public Safety and Justice Services on October 26, 2015. On April 18, 2016 Carney became the Acting Director of Public Safety and Justice Services and was subsequently named the Director of Public Safety and Justice Services on June 28, 2016. On July 2, 2018 Carney was promoted to her current position as Chief Public Safety and Justice Officer ("CPSJO").

¹⁶ See Exhibit M.

¹⁷ See Exhibit "Cleveland Decision."

following normal procedure.¹⁸

- December 14, 2016: Carney sent a letter to OEMA explaining the County's procurement ordinances and why she believed the County complied with the federal regulations.¹⁹
- July 12, 2017: The County received reimbursement of \$293,758.36 for the AFIS Grant.²⁰ Tafe stated "that the OEMA granted them forgiveness." The money reimbursed the purchase of two HP BL460C Gen9 blades including chassis hardware and other necessary items from Logicalis totaling \$233,812.60. Also purchased with that money were 6 Microsoft SQL Server Cores from En Pointe totaling \$59,945.76.²¹
- March 22, 2017: Vaughn sent an email informing Tafe, Wright and others that FEMA granted the County's appeal for reimbursement. OEMA stated in telephone conversations to County employees that the County would not be permitted to use "alternative procurement" processes for future purchases.²²
- Early 2018, discussions between ME and DoIT did not resolve the issues.
- In late 2018, PSJS and ME recognized that the grant had not been used as intended and engaged ABC Consulting, Inc. to review the matter.²³ ABC Consulting, Inc was awarded a contract for \$46,500 for AFIS assessment services in November 2018 with the funding source of a State Homeland – Law Enforcement grant.²⁴
- March 11, 2019 and April 12, 2019 letters from PSJS Director Alex Pellom²⁵ ("Pellom") to OEMA self-reporting that the equipment purchased with the AFIS grant was being utilized for other purposes within the County (not eligible under the grant agreement) and that the County needed to return the \$293,758.36 to OEMA.²⁶

¹⁸ See Exhibit L.

¹⁹ See Exhibit M.

²⁰ See Exhibit O.

²¹ See Exhibit G.

²² See Exhibit P.

²³ See Exhibit X.

²⁴ AIG/and or DIA to follow up on the use of a grant for these services.

²⁵ On November 30, 2018, Pellom succeeded Carney as PSJS Director.

²⁶ See Exhibits S/U.

B. AFIS System

The Automated Fingerprinting Identification System (“AFIS”) is a system utilized with cooperation between the City and the County. AFIS is a rapid identification system that is utilized to capture fingerprints and match identity with the State BCI database. The AFIS system is utilized in the County Jail to identify unknown victims, for funds in the Commissary and during the arraignment and booking process to ensure that the correct individuals are accepted into the jail. The AFIS system is also used by many Public Service Departments (such as Police Departments) around the region.

The AFIS system utilizes software provided by Cogent (now known as Gemalto).

The AFIS system is a dense schema of networked devices that many users connect to across a wide area within the local Northeastern region; sending and querying transactions to and from the database core.

Inside the AFIS racks, the AFIS server is the central point for the County’s AFIS system. Contained within the AFIS server is a Matching Engine that performs the fingerprinting, palm printing, and matching (latent) by performing a serial match. Using the Simulated Avalanche Effect (“SAE”)²⁷ theory, the server can determine a candidate that is algorithmically probable. Finally, the server will generate a list of potential candidates based on requirements set forth by AFIS.

The Storage Area Network (“SAN”) houses the database management software that fetches case data from the AFIS Oracle database. The Workflow Manager manages the process logic for AFIS. Finally, the Interface Server answers queries for data from external devices using File Transfer Protocol (“FTP”) with the added support of Transport Layer Security (“TLS”), FTPS – this information is then fed into the AFIS Back-end servers for ANSI (American National Standards Institute)/NIST support.

Outside of the AFIS racks there exist AFIS workstations that can scan fingers, palms, and perform latent print management. There are also LiveScan Booking Stations, Web ID Stations, and BlueCheck Mobile Devices that the ME uses to identify unknown, deceased individuals.

AFIS Governing Board: Individuals from both Cleveland and Cuyahoga County tasked with guiding the AFIS system and project.

²⁷The “avalanche effect” is the desirable property of cryptographic algorithms, typically block ciphers and cryptographic hash functions, wherein if an input is changed slightly (for example, flipping a single bit), the output changes significantly (e.g., half the output bits flip).

<u>Cleveland Police Department</u>	<u>Cuyahoga County Sheriff</u>
Michael McGrath, Director of Public Safety Calvin Williams, Chief of Police Harold Pretel, Deputy Chief of Police	Brandy Carney, Chief of Public Safety & Justice Clifford Pinkney, Cuyahoga County Sheriff George Taylor, Cuyahoga County Deputy Sheriff Dr. Thomas Gilson, Medical Examiner

III. INVESTIGATION

A. Documents Reviewed

1. Relevant emails related to the investigation.
2. FBI CJIS 2016 policy.²⁸
3. AFIS Grant signed by County Executive Armond Budish.²⁹
4. April 26, 2016 Board of Control approval No. BC2016-28.³⁰
5. BOC BC2016-281 meeting minutes.³¹
6. May 11, 2016 email from Wright to Carney discussing interest in “piggy backing” with the State BCI’s new AFIS vendor.³²
7. 05/28/2016 Software licensing certificate for six Microsoft SQL Enterprise Edition Cores and June 16, 2016 receiving report.³³
8. 05/31/2016 Logicalis invoice and purchase order for two HP

²⁸ FBI CJIS 2016 Policy Handbook p. 12: https://www.fbi.gov/file-repository/cjis-security-policy-v5_5_20160601-2-1.pdf

²⁹ Attached as Exhibit A.

³⁰ Attached as Exhibit B.

³¹ Attached as Exhibit C.

³² Attached as Exhibit D.

³³ Attached as Exhibit E.

blades in the amount of \$233,812.60.³⁴

9. 06/23/2016 Purchase order authorizing payment to En Pointe Technologies for six SQL Enterprise cores in the amount of \$59,945.76.³⁵
10. July 13, 2016 & August 23, 2016 letters from County Executive Budish to OEMA contesting the rejection of the Grant Reimbursement.³⁶
11. August 16, 2016 email from Tafe to Wright stating he was unable to find evidence of the bid invitations posted to the County's website.³⁷
12. July 18, 2016 email from OEMA to Tafe explaining that the use of an informal process was not allowable under the grant guidelines and that the OEMA believed that the purchase was an emergency purchase relating to the Republican National Convention.³⁸
13. August 23, 2016 email from OEMA to Tafe that noted OEMA rejected the County's initial request for grant reimbursement because of the procurement process.³⁹
14. December 13, 2016 email from Vaughn to Wright stating that neither OEMA nor FEMA will accept the grant time constraints as a reason for not following normal procedure.⁴⁰
15. October 24, 2016 and December 14, 2016 letters from Carney to Merick explaining how the County complied with Federal regulations.⁴¹
16. March 22, 2017 email from Vaughn to Tafe, Wright and others explaining that FEMA granted the County's appeal for the reimbursement and advised the County is not permitted to use an

³⁴ Attached as Exhibit F.

³⁵ Attached as Exhibit G.

³⁶ Attached as Exhibit H.

³⁷ Attached as Exhibit I.

³⁸ Attached as Exhibit J.

³⁹ Attached as Exhibit K.

⁴⁰ Attached as Exhibit L.

⁴¹ Attached as Exhibit M.

alternative procurement process for future purchases.⁴²

17. July 12, 2017 email from Vaughn stating that the County received reimbursement of \$293,758.36 for the AFIS Grant.⁴³
18. AFIS timeline and emails that show communications between individuals involved in the AFIS project between the dates of 2/26/2016 and 7/21/2017 provided by IT employee Jeremy Mio.⁴⁴
19. SolarWinds monitoring reports that include asset inventories for the server blades in question as well as the MSSQL core and instances contained on them provided by IT employee Jeremy Mio.⁴⁵
20. A screenshot of a Cherwell incident created by Paul Fox on November 13, 2018 requesting information about the hardware that was installed in Columbus.⁴⁶
21. March 11, 2019 letter from Pellom to OEMA self-reporting that the equipment purchased with the AFIS grant were being utilized for purposes outside of the grant requirements. The letter also stated that the County will return the \$293,758.36 to OEMA.⁴⁷
22. March 27, 2019 letter from OEMA to Pellom instructing him where to send the reimbursement check and requesting a meeting to discuss how the misuse occurred and what steps the County is taking to prevent future occurrences.⁴⁸
23. April 12, 2019 letter from Pellom to OEMA affirming that the County would make full reimbursement of grant funds in a timely fashion. Pellom reiterated that equipment purchased with the grant money was being used for another purpose within the County.⁴⁹
24. June 13, 2019 email from Gemalto Cogent employee stating that

⁴² Attached as Exhibit N.

⁴³ Attached as Exhibit O.

⁴⁴ Attached as Exhibit P.

⁴⁵ Attached as Exhibit Q.

⁴⁶ Attached as Exhibit R.

⁴⁷ Attached as Exhibit S.

⁴⁸ Attached as Exhibit T.

⁴⁹ Attached as Exhibit U.

the blade servers could be used for AFIS, however, the required switch to software matching and database conversion would be timely and incur additional costs.⁵⁰

25. State Homeland Security Grant Local Programming Guidance and Application Package pages 11 and 26.⁵¹

26. April 26, 2019 Cleveland Cuyahoga Regional Strategic Biometric Assessment Plan prepared by AFIS and Biometrics Consulting.⁵²

27. July 31, 2019 – August 01, 2019 email exchange between John Cornwell and Tim Peterson regarding SQL Core Licensing.⁵³

B. Invoices for Equipment Purchased

In order to track the existence, location and use of the blade servers, the AIG/DIA reviewed the related invoices and serial numbers of the purchased equipment.

⁵⁰ Attached as Exhibit V.

⁵¹ Attached as Exhibit W.

⁵² Attached as Exhibit X.

⁵³ Attached as Exhibit Y.

LOGICALIS
 Business and technology working as one

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 Detroit, MI 48287-1723

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 Bloomfield Hills, MI 48302
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INVOICE

Page: 1

Sold To:

Cuyahoga County
 2079 E 9TH ST Fl 8
 Cleveland OH 44115-1302

Invoice Number: [REDACTED]
 Date: 5/31/2018
 Due Date: 6/30/2018

Confirm To: Accounts Payable

Purchase Order No.	Customer ID	Salesperson ID	Shipping Method	Payment Terms		
PO [REDACTED]	CUYA101	Shawn O'Leary	STANDARD	NET 30		
Item Number	Description	Quantity	Unit Price	Ext. Price		
	SHIP TO ADDRESS: Cuyahoga County Information Technology 1 Alessand Top/PO 1819125 2079 E 9th St Fl 8 Cleveland OH 44115-1302					
727021-B21	HP BL490C GEN8 1008/20GB FLB CTO BLADE SERIAL# [REDACTED]	2	\$1,518.83	\$3,037.66		
727001-L21	HP BL490C GEN8 E5-2695V3 FIO KIT SERIAL# [REDACTED]	2	\$3,775.56	\$7,551.12		
727001-B21	[REDACTED]	2	\$3,775.56	\$7,551.12		
727001-B21 001	[REDACTED]	2	\$0.00	\$0.00		
728829-B21	[REDACTED]	32	\$493.35	\$15,787.20		
728829-B21 001	FACTORY INTEGRATED	32	\$0.00	\$0.00		
700784-B21	HP FLEXFABRIC 20GB 2P 950FLB FIO ADPTR SERIAL# [REDACTED]	2	\$135.19	\$270.38		
761871-B21	HP SMART ARRAY P214BR/1Q FIO CONTROLLER SERIAL# [REDACTED]	2	\$452.40	\$904.80		
H7J34A5	HPE SY FOUNDATION CARE 24X7 SERVICE	1	\$0.00	\$0.00		

COPY

CONTINUED



En Pointe Technologies Sales
 1940 E. Mariposa Ave,
 El Segundo, CA 90245

Phone: (310)337-5200
 Fax: (310)258-2309
 Website: www.enpointe.com

Invoice

Please ACH Payment in US Dollars To:
 Bank of America
 ABN# 222222222222
 Account Name: 22222222104/En Pointe Technologies Sales

Please Remit Payment in US Dollars To:
 En Pointe Technologies Sales LLC
 P.O. Box 740545
 Los Angeles, CA 90074-0545

Customer Account Number: [REDACTED]

Billing Address
 Attn : Accounts payable
 Cuyahoga County Info Services Center
 2079 East 9th St, 6th floor
 Cleveland OH 44115

Ship-To Party Address
 Cuyahoga County Info Services Center
 2079 East 9th St 6th Fl
 Cleveland OH 44115

Sold-to Party Address
 Cuyahoga County Info Services Center
 1255 Euclid Avenue 4th Floor
 CLEVELAND OH
 USA

Information

Invoice Number [REDACTED]
 Document Date **06/23/2016**
 Purchase Order No. [REDACTED]
 Payment Due Date [REDACTED]

Purchase Order Date 06/14/2016
 Sales Order Number 50324284
 Payment Terms Net 25
 Billing Date 06/23/2016
 Salesperson Pat Acctmua

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Page: 1 of 1

Item	Material# / Part# / Mfg Name / Material Description	Tax	Quantity	Unit Price	Amount	
0010	[REDACTED]-00341(37 [REDACTED] 00341 Microsoft sql server enterprise core most current version enterprise enterprise-true up level d year 3 (prepaid) all languages (non-specific os) 2 cor	0.00	6EA	9,950.96	59,945.76	
					Sub Total	\$ 59,945.76
					Freight	\$
					Handling Charge	\$
					Amount subject to sales tax	\$
					Sales tax-State	\$
					Sales tax-Local	\$
					Total Taxes	\$
					Total amount	\$ 59,945.76

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C. AFIS System Compliance with FBI CJIS Requirements

County personnel disagreed as to whether federal law required the AFIS system to be configured as a stand-alone, segregated system, or alternatively, whether it could be configured as part of a shared system but with a virtual separation. Accordingly, AIG/DIA staff reviewed the relevant rules.

The Criminal Justice Information Services (CJIS) is a division of the Federal Bureau of Investigation (FBI) that was assigned the task of creating a security policy for law enforcement information systems.

Version 5.5 of the CJIS Security Policy was released on June 01, 2016, containing a few changes to prior policy versions. These changes range from access control to security awareness additions to different sections of the policy. The intent of the policy is to provide appropriate controls that are intended to secure and protect the entire lifecycle of Criminal Justice Information (CJI).

The Security Policy contains not only recommendations and guidelines, but also strict presidential and FBI directives, NIST guidance, and federal laws that must be followed to remain CJIS compliant. CJIS Security Policy applies to all entities that access, transmit, or operate in support of any FBI CJIS service or information. Also, any agency that engages in the interstate exchange CJI data of the noncriminal nature that includes creation, viewing, modification, transmission, dissemination, storage, and / or the destruction of CJI will fall under this security policy.

One of the issues brought to the attention of the joint investigation was that there were claims that the AFIS upgrade (or system) could not function on a logical / virtual environment that was integrated such as the environment that the County of Cuyahoga has for IT infrastructure. Confusion surrounding the requirements for the AFIS system / upgrade existed with multiple interviewees and those who were seeking an answer to that question usually received mixed results, ie: "yes," "no," "maybe."

CJIS 2.2 refers to the security policy being "Architecture Independent" and states that CJIS realizes that AFIS technology and the architecture that supports it will continue to evolve – system platforms, hardware, or software may change. The CJIS Security Policy is intended to cover the data and information, services, and the protection controls that would apply to any AFIS system regardless of the implementation method and

architecture. This allows for an agency to have architectural independence and flexibility when implementing an AFIS system and continues to be CJIS compliant while reflecting the security policies in their own environments.

CJIS 4.2.4 deals with Criminal History Record Information (CHRI) storage; stating that an agency must establish appropriate safeguards relating to administrative, technical, and physical controls to ensure the confidentiality and security of the information.

CJIS 5.10.1.5 covers security policy for Cloud environments – Peterson and Young had stated that the “simplest” way to implement a project such as AFIS would have been to utilize Cloud Computing architecture and infrastructure. This policy section makes it clear that CJIS compliance is possible using Cloud Computing architecture.

CJIS 5.10.3.2 covers security policy for Virtualization. Utilizing the County’s integrated environment, it would be possible to virtually segregate storage space, processing power, and network connections utilizing virtual methods such as VMWare, Hyper-V, and Virtual Local Area Conations (VLAN). Utilizing the virtual implementations along with proper security controls such as encryption of stored CJI in an integrated environment, proper firewall usage, host and access controls, and implementations of IDS and IPS instances on VLAN networks would have met CJIS compliance.

Other sections of the security policy exist that cover access controls, whether it be account controls or physical controls that are counterpart to controls that are already implemented within the County’s integrated environment. For example: CJIS 5.5.2.3 which covers Access Control Criteria listing access controls to CJI that need to be based on one or more controls that deal with job assignment and function, physical location, logical location, network address, and time-of-day or the day-of-the-week, CJIS 5.8.1 which covers access to media storage both digitally and physically, and CJIS 5.9.1 – 5.9.1.3 that covers the physical location security, perimeter security, access authorization, and physical access control. Aside from physical security, network security controls that are implemented in CC’s integrated environment are reflected in CJIS 5.10, 5.10.1.1, 5.10.1.2, and 5.10.1.3, which cover system and communication security and integrity, boundary protection, encryption, and intrusion detection tools and techniques.

Thus, the AIG/DIA concluded that as of May 5, 2016, the County could potentially implement an AFIS system in a shared environment that complied with CJIS requirements.⁵⁴ Notably, however, the County’s ability to comply with CJIS rules did not

⁵⁴ Note: the blade servers can be used in both a standalone environment as well as a shared, virtual environment.

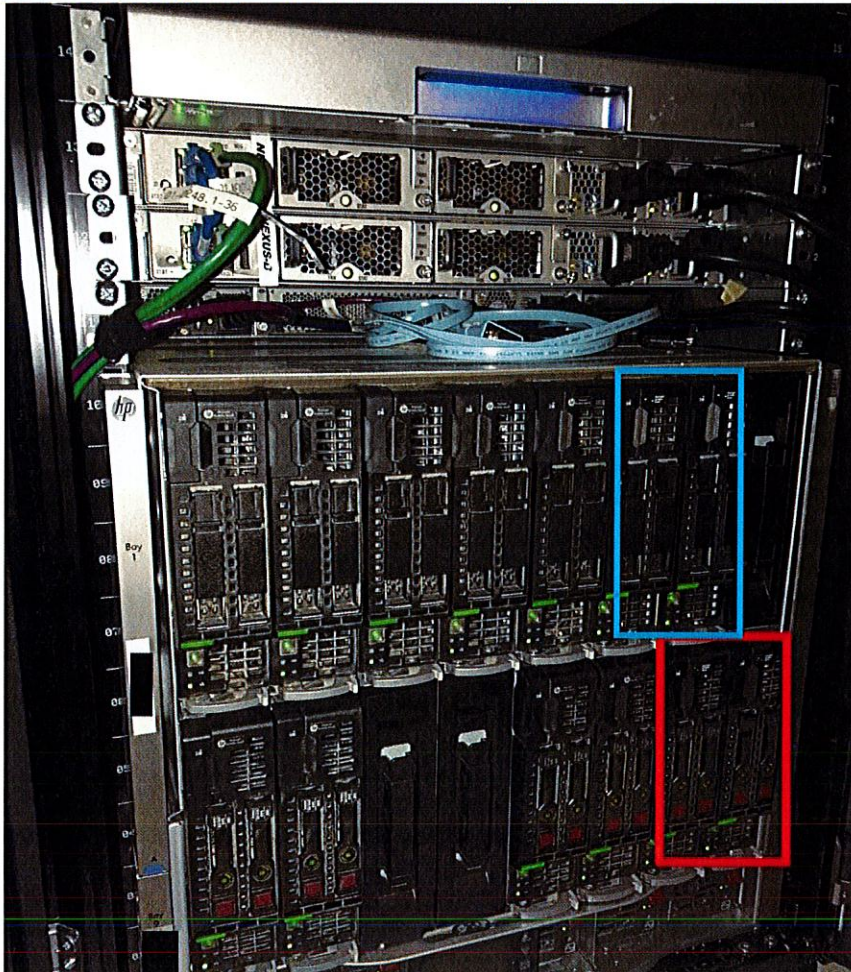
also mean that the Cogent AFIS software could operate in such a different environment on a SQL database, rather than on an Oracle database.

D. Physical and Analytical Inspection of Servers

On April 24, 2019, the Investigative Systems Analyst (“ISA”) and the DoIT Information Security Officer travelled to the County’s CoLo in Columbus to take an inventory of the County server environment.

The ISA located the following server rack in the CoLo:

- 2 Blades Purchased with AFIS Grant money (In Use by County)**
- 2 Blades Internally Reserved for AFIS upgrade. (Not in use)**



Within the rack, the ISA located four (4) identical blade servers that were purchased at the same time. The two (2) HP blades purchased with OEMA grant money were located near the two (2) identical blades that were purchased with the County General Fund.

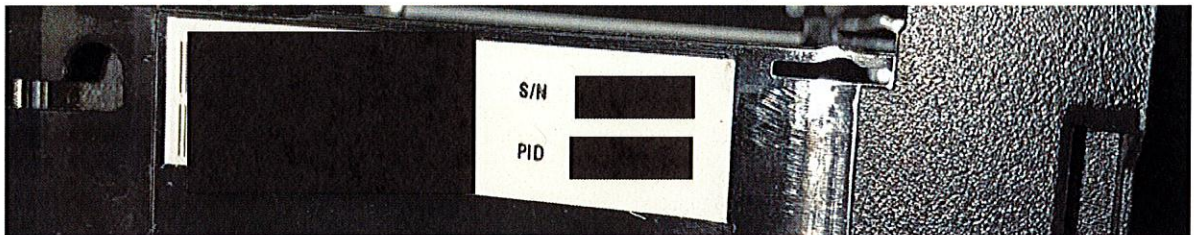
1. Blade Servers Purchased with County General Fund

The two blades purchased with the County General Fund were not live (as of the joint review) and not part of the County's integrated environment. The \$233,812.60 spent on these servers is considered waste as it has not been put into production since purchased and moved to Columbus in 2016.

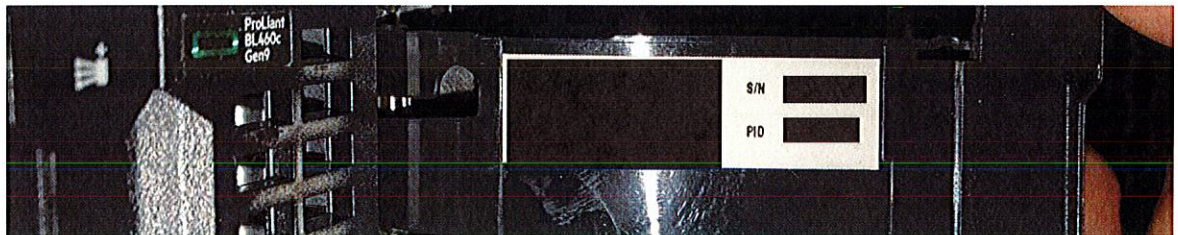
2. Blade Servers Purchased with Grant Money

The two HP blades purchased with the OEMA grant money (pictured below) were live and active within the County's integrated environment. The blade activity was confirmed when the ISA obtained a SolarWinds inventory of hosted applications and database cores shared on the environment. In contrast, the two HP blades that were incorrectly designated by DoIT as "AFIS Blades" were not active.

Detail of Columbus Rack – Blade 1



Detail of Columbus Rack – Blade 2



3. SolarWinds Software/Application Inventory

The ISA discovered that the two HP blades purchased with the OEMA grant money were currently live and active (documented via Serial #)⁵⁵ within the County's integrated environment, which was later supported by a SolarWinds inventory of hosted applications and database cores shared on the environment. In contrast, the two HP blades that were incorrectly designated by DoIT as "AFIS Blades" were not active.

4. Database Software – SQL Server Core Licenses

Using the OEMA grant money, six SQL Server⁵⁶ cores including twelve licenses, were purchased for use with the AFIS system for \$59,945.76. At the time of the purchase, the AFIS system utilized Oracle database implementations rather than the Microsoft SQL database solution. DoIT's plan was to implement AFIS within the County's shared environment that utilizes primarily Microsoft SQL Server. According to Tim Peterson⁵⁷ (DoIT, Network Engineering Administrator) the County uses Microsoft Volume Licensing for the purchase of SQL cores licenses. Once purchased, "[t]he SQL core licenses are pooled based on the total combined cores of all individual SQL servers. They are not applied to or linked to an individual server. The licensing obligation is the pool of SQL core licenses purchased must match the total combined cores of all individual SQL servers." According to Peterson, there exists no mandatory implementation time frame for the SQL core licenses and, in the past, the County operated with a buffer of four extra licenses in case the immediate need to implement a SQL server arose. However, the County now operates as if no buffer licenses exist. According to Peterson, the licenses purchased with the federal grant funds would have been activated shortly after purchase and implemented as part of the County's shared environment. No tracking mechanism exists to match the licenses to specific Microsoft Server implementation as the licenses are volume licenses and are tracked by the number of uses rather than a specific license number.

⁵⁵ *Supra*. Photographic evidence of live equipment. Taken by the ISA in Columbus, 04/24/2019.

⁵⁶ SQL Server is a database engine that controls the storage, processing and security of data. It utilizes both a relational engine for processing commands and queries, and a storage engine for managing database files, tables, pages, indexes, transactions, and data buffers.

⁵⁷ See Exhibit Y.

E. Interviews Conducted

1. Keith Kozer - April 25, 2019

During the grant term, Keith Kozer was a manager of Network Engineering in DoIT and currently serves in the same role.

Kozer explained that he unsuccessfully attempted to obtain a written copy of the grant proposal to see if any requirements for the AFIS system itself were included in the AFIS Grant terms. Kozer stated that if the AFIS system needed to be a separate system on the County network, that the AFIS Grant requirement was never communicated to him. Due to the method that Cuyahoga County uses on server blades and SAN storage, it would not be overtly possible without prior considerations and actions.

Keith Kozer stated that he believed that OEMA required the \$300,000 be returned, not because the proper hardware was not utilized, but because the project did not meet the proposed deadline established in the AFIS grant.

2. Jeremy Mio – April 25, 2019

Mio is the Information Security Officer (ISO) in DoIT.

Mio stated that he also believed that the grant funds were returned because the project was not implemented by the deadline established by the AFIS grant.

Although Mio was not directly involved in the project, he provided investigators with an AFIS timeline and emails that note communications between individuals involved in the AFIS Project between the dates of 2/26/2016 through 7/21/2017.⁵⁸ Finally, Mio provided detailed reports from SolarWinds monitoring that included Asset Inventories detailing the two server blades as well as the MSSQL core and instances contained on them.⁵⁹ It is clear that items purchased with the AFIS grant dollars are currently being utilized as a shared resource on the County's environment, but not for their intended purpose of hosting the AFIS system.

3. Alex Pellom – May 5, 2019

Alex Pellom currently serves as the Director of Public Safety and Justice Services. Pellom verified that he began employment with Cuyahoga County on November 30, 2018. He stated that he had reviewed the AFIS project at the "backend" of it. Pellom stated that he did not believe there was an issue with the process by which the grant was received or

⁵⁸ See Exhibit P.

⁵⁹ See Exhibit Q.

how FEMA approval was granted and how the hardware was purchased.

Pellom was informed by an employee that the grant purchases were not being used for their intended purpose. After this disclosure, Pellom reported the issue to Carney who then looked into the matter. Carney informed Pellom that the money would need to be returned. It was Pellom's understanding that changes in the AFIS system could not work as originally intended.

On March 11, 2019, the first self-reporting was sent to the State by Pellom. He informed investigators that he was confident that the grant was not being for its intended purpose. Pellom later provided a copy of his letter to the State and the response. Pellom made these statements under the assumption that the hardware was not being used as Michael Young (Chief Technology Officer) had told Pellom that the hardware was not being used in any capacity.

On April 4, 2019, Holly Welch (Preparedness Administrator, OEMA) met with Pellom requesting specifics regarding use of the AFIS grant money. The inquiry from Ms. Welch occurred during an in-person meeting that occurred in Columbus, Ohio at the request of OEMA Executive Director Sima Merick with Pellom, Shannon, Carney and OEMA representative Jerry Mullins. After this meeting, Carney emailed the "unnamed County Network Administrator" to answer the questions and provide information including pictures and serial numbers of the purchased items in response to Ms. Welch's request. Pellom stated that they were "worried that we had given the state incorrect information after receiving an email from DoIT regarding information surrounding the hardware purchased for the AFIS project."

Pellom indicated that he is unaware of any reasons that the project did not move forward. Rather, there was an "advancement" in AFIS technology that was not compatible with the current AFIS configuration. Pellom stated that he believes that it was DoIT's responsibility to see the project through as "they handled purchasing, receiving, and production" of the AFIS project. Pellom iterated that "on the PSJS procurement side, everything was done correctly, never was opposed, and self-disclosure came well before any media inquiries."

Pellom stated that the AFIS grant never made it to PSJS' internal inventory (which he stated was "odd") and that the grant came into PSJS and immediately went "straight to" DoIT. Pellom stated that the DoIT "Business Service Manager" would have been responsible for ensuring that the project went forward, who Pellom assumed was Patrick Wright (DoIT). Pellom believes that DoIT would have been the one expected to follow through with the "project."

Pellom stated that he knew from his first involvement with the AFIS project that the system was to be segregated and not part of the County's shared environment and that DoIT staff should "know it was not to be mixed with other stuff. If you are an IT professional, you should know it was supposed to be separate due to the type of data that it contains, because of criminal law and fingerprints." Pellom also stated that he had been removed

from email threads that regarded responses from Michael Young to Brandy Carney or Hugh Shannon, however, he was unsure whether this was purposeful or accidental.

One improvement Pellom has made to ensure that this issue does not arise in the future is that all receiving and closing of the grant is handled by his department and that there is always a "full check on everything," related to the procurement, receipt and distribution of funds or purchased items.

4. Brandy Carney – May 2, 2019

As of July 2, 2018; Brandy Carney is the Chief Public Safety and Justice Officer ("CPSJO") but was formerly the Director of Public Safety and Justice Services.

Carney stated that initially Patrick Wright was involved in the project until Michael Young became involved later. DoIT indicated that hardware that AFIS ran on needed to be replaced; an immediate upgrade was needed that would cost approximately \$600,000 to \$650,000 including software and hardware. Carney indicated that she became aware of an OEMA grant that would cover roughly half at approximately \$300,000 and Public Safety and Justice Services could cover the remainder.

Carney stated that there were "some issues with approval" that caused other subsequent issues and delays. Alex Pellom had prior stated that there were no issues with the approval process at the time that he filled Carney's former position. Carney went on to say that there were many delays on the City of Cleveland's side of the project because the jail was still on their network and they did not want to move the AFIS server because of concerns about latency issues if it were residing in Columbus.

Carney affirmed that she was aware that Hugh Shannon was worried about the AFIS project "a year ago" and that Hugh Shannon had tried on many occasions to attempt to find out what the hardware purchased for the project was being used for and that the system should not be part of the County's shared network, rather, should have been a separate system due to CJIS. She stated that she did not learn that the improper hardware had been purchased and improperly configured until "January or February of this year (2019)."

Carney stated that she has since made organizational changes within her department. She said "I do not let DoIT or anyone else make purchases. Procurement was not followed properly."

5. Hugh Shannon – May 2, 2019

Hugh Shannon is the Medical Examiner's Office Administrator. Shannon stated that between 2015 and 2016 he was aware that the current AFIS system was nearing "End-of-Life" meaning that it was no longer going to be supported by the vendor and the totality of the system would eventually need to be replaced. At the time, there were also

several other issues regarding AFIS, running in parallel, including physically moving the system, which resided in the City of Cleveland and on their public safety network. Shannon claimed that this was in regard to possibly upgrading, but not replacing the AFIS system, he initially began working on the project with Patrick Wright, and later with Michael Young when he became involved. Shannon stated that DoIT "said it (AFIS) was an agnostic system." And that the system could function on the County's integrated environment, according to DoIT. Shannon also stated that when he had asked specific hardware questions regarding the project (to DoIT), he was assured that Patrick Wright (and later Michael Young) "would take care of it."

Shannon indicated that the current AFIS system had always been a segregated system behind a CJIS firewall and due to CJIS requirements, it would always need to be secured and not in the general architecture of the County network, as DoIT was attempting to (or planned to) implement on the grant purchased servers and SAN storage. Shannon claims that DoIT had segregated AFIS from the rest of the County network on architecture 'maps' he had been shown and should have known security requirements that were needed. Shannon stated that "blades will not work for the current AFIS system."

Shannon stated that DoIT had always handled all the procurement and production of the AFIS upgrade that utilized the State grant funding. He claims that a day before the Grant production deadline, he was informed of issues with the vendor that had arose and DoIT working with the vendor, were not able to implement the software on the server. Shannon stated that the only individual he was able to get a clear answer as to the disposition and status of the equipment purchased by the grant, was from Ursula Kaunas.

It was Shannon's understanding that the only way that an upgrade or refresh of the current system could be implemented was if the product was contained on a separate, CJIS-compliant rack. Shannon stated, "blades will not work with the current AFIS system." Shannon also iterated that IT is technically reimbursing the money obtained via the \$300,000 OEMA FEMA grant, however, the Medical Examiner office would "still be out and with no upgrade."

6. Ursula Kaunas – May 8, 2019

Kaunas is a Senior IT Project Manager with DoIT assigned to the ME office. Ursula has worked with the County for over nineteen years. Her current position requires that she optimize, upgrade, and implement JusticeTrax and continue to work on the AFIS project with ABC Consulting and Dawn Schilens.

Kaunas stated that the AFIS system was at its end-of-life and an upgrade would be needed. This originally "kicked off" in 2008 and continued until April of 2009, when she was removed from the project only to be reinstated on the project in 2011. She remained a part of the project until August of 2012 when she was removed again. Kaunas stated

that Michael Young had directed that her server access be taken away because “it doesn’t follow code”, however, Kaunas stated that no such “code” exists, nor has it ever. Kaunas stated that in 2016, Tim Peterson came to her seeking documentation of the work she had done in the past with the AFIS project. Kaunas recalled that the original plan for the project was to implement a separate, segregated server system and not an integrated system housed on the County’s “shared” environment because it would need to be CJIS compliant. Kaunas stated that what was purchased was “nothing like what Tim (Peterson) had originally quoted”. Peterson later gave an opposing statement claiming that the quote he gave for hardware and SQL were original and had not changed at any time during the project.

Kaunas stated that she was aware of issues between Paul Fox, Michael Young, and Patrick Wright. In July of 2018, Kaunas claims that Keith Kozer communicated to Fox that there were no servers available to be utilized for the AFIS system. Kaunas stated that there was no communication and no standards existed to guide the project along. Kaunas also stated that the lack of communication and miscommunication was “purposeful.” She went on to claim that the ME office was not even made aware that improper equipment had been purchased and implemented until an AFIS meeting in October of 2018.

Kaunas believes that the main reason that the project was never properly implemented and the grant money ultimately needing to be returned was because of the poor project management, communication issues, and lack of planning that plagued the project from its infancy. Kaunas stated that the AFIS board (steering) would rarely meet - when the board did meet many members were missing. Kaunas claims that no minutes were ever kept, no tracking of change orders was ever done, and any MOU was essentially “worthless.” Kaunas stated that the AFIS Board was made up of Cleveland members such as McGrath, Chief Williams, and Larry Jones and County members Carney and Gilson, to the best of her recollection. In fact, the AFIS board is made up of both the City of Cleveland employees as well as County Sheriff employees.

7. Henry L. Tafe – May 9, 2019

Tafe is a Senior Grant Coordinator who has been employed by the County since 2004. Tafe’s responsibilities include grant management including the Urban Area Security Grants and Strategic Homeland Security grants. This has been Tafe’s responsibility since 2016.

In 2016, Tafe was told by Brandy Carney that the County would be receiving a grant to purchase servers for the AFIS system. Tafe stated that Carney indicated that she had a

prior conversation with the State of Ohio and that the grant was a standard grant . The grant went through the approval process and was approved by the Board of Control using an alternative procurement process. This was due to the short window of time to execute such a “large” project. The application was received by April 16, 2016 – the close date for the grant was Julneof 2016. This meant that the project would need to be invoiced “right away.” Tafe believed that IT would follow OPD’s bidding procedures.

Tafe stated that OEMA objected to the County’s procurement process which recommended purchasing only HP equipment. OEMA required the County to change its bidding language so the bid proposal would not be a brand name specific for the hardware. Tafe stated he had the OEMA emails stating their objections. Tafe stated in the end the State reimbursed the County.

Tafe stated that the project was always characterized as being “IT lead” and that IT would “do what was needed to implement the project.” Tafe recognized that it was a Federal grant and would need to be purchased a certain way, however, Tafe stated that it was DoIT’s responsibility to ensure that the procurement was done in the correct manner.

When Tafe questioned as to whom would know and understand the requirements and hardware specifications for the AFIS system and software, Tafe stated that Michael Young would know because he sat in on early meetings related to the project. Tafe stated that it was always assumed that DoIT understood how to integrate the AFIS system and handle CJIS information.⁶⁰

8. Paul J. Fox – May 9, 2019

Fox is employed as a Program Officer 4 for the ME. Fox is the AFIS administrator and has been working with AFIS projects for years. He has worked on two prior AFIS installations that he described as successful. His current responsibilities consist of server upkeep, AFIS, and ensure that systems are operational.

Fox began by stating that he would never have recommended that the solution be housed on a shared environment due to the system being an Enterprise Law Enforcement System. Fox went on to say that the Regional AFIS system can “capture anyone coming through.” That the system is more efficient because of “Rapid ID” that can identify unknown victims and aiding the in the identification of apprehended individuals,

⁶⁰ Tafe has indicated that he disagreed with some characterizations of his interview. Where appropriate, his comments have been incorporated.

commissary fund balances, intake identification, and arraignment.

Fox stated that between 2000 and 2007 the AFIS was running but needed a refresh and in 2009 Fox was tasked with a MOU and the project commenced. Fox worked closely with Edgardo Colon, who is the onsite Cogent Engineer. The pair wanted to regionalize the aging AFIS system. Fox stated it had taken a year to get networking to function properly and ultimately the system ended up being housed with the City of Cleveland in 2011.

Fox stated that he was originally in early AFIS meetings in 2016 and 2017, however, during a meeting with Young and Shannon, Shannon stated that "they got this". Fox claims that his involvement ended after this meeting and that his job description implies that he should have been involved in the AFIS project. It is Fox's belief that he was removed from the project due to differing opinions with DoIT management on how the project should move forward. Fox is now currently involved only to ensure the continuity of day-to-day operations.

On numerous separate occasions, Fox requested information from DoIT regarding the progress of the AFIS project, going as far as to put a ticket in with the DoIT Service Desk requesting information about the hardware that was installed in Columbus. Fox stated that the ticket went "essentially" unanswered for seven months. A screenshot of the Cherwell Incident shows the creation and completion date for the incident.⁶¹ Fox was concerned with the direction that the project took and the lack of his involvement. Fox stated that the upgrade would not work because the Cogent AFIS system utilizes Oracle database instead of Microsoft SQL database due to how the fingerprinting system accesses the databases. The system storage and hardware had to be solely dedicated to the AFIS hardware and software, Fox stated. Fox was confused as to whether the system was being used or if it was sitting idle after communication was established between Fox and members of DoIT because the Cogent AFIS system utilizes Oracle database instead of Microsoft SQL database due to how the fingerprinting system accesses the databases. The system storage and hardware had to be solely dedicated to the AFIS hardware and software, Fox stated.

Fox stated that he was worried when he found out that equipment purchased with the reimbursed grant money was now sitting as part of the County's integrated environment in Columbus. At no point was it ever communicated to Fox that the hardware was going to be migrated and combined with the County's integrated environment. Fox claims that DoIT had never communicated with the AFIS vendor (Cogent) about any specifications or

⁶¹ See Exhibit R.

requirements for the AFIS system, i.e. utilizing a SQL database instead of an Oracle database that the AFIS software needed to function properly.

Fox was alarmed at how DoIT was attempting to “empire build” without taking into consideration as to whether the system would even be able to function. The upgrade was to be a separate, dedicated server environment that would be housed here in Cleveland so that if an issue raised, the Cogent engineer would be able to address it in a timely manner instead of driving two and half hours to Columbus to address a situation. Fox stated that a local LAN was much more efficient for the AFIS system, instead of utilizing a Virtual LAN (VLAN) to conduct maintenance and administration.

Fox explained his great disdain for the direction the project went and the ultimate failure of the project – as the money had to be returned to the State of Ohio and the AFIS system was never upgraded. Fox stated that his “legacy” was to build the “Nex Gen” AFIS system and progress the County’s biometric system. The current AFIS system is over ten years old and is at the end-of-life stage. Fox expressed concern with the “bridge” that is happening with the current AFIS system due to a lack of a plan to move forward and the fact that many workstations on the AFIS network are on older versions of the Windows Operating System.

9. Tim Peterson – May 10, 2019

Peterson is the Network Engineering Administrator in DoIT. Peterson has been employed by the County since 1997 and has been in his current position for four to five years. His responsibilities include: maintaining County Executive Active Directory (AD), user account permissions, County Executive storage servers, file servers, firewall rules for County-wide user internet access, and Peterson has engineered a large part of the County network’s DMZ or Demilitarized Zone, is a subnet that separates the internal Local Area Network (LAN) from other networks that aren’t trusted, such as the internet.

Peterson stated that his initial involvement with AFIS began in 2008. Peterson’s understanding was that Cogent was coming in and implementing the AFIS system for the County, but eventually became frustrated over network infrastructure and security concerns and began working with the City of Cleveland.

In 2016, Carney contacted Peterson and communicated to him that “her and Michael (Young)” had money and that money needed to be used expediently. Peterson stated that Carney and Young had developed the design for the AFIS system, while Peterson’s

role was to create an environment for AFIS and configure the hardware and a SQL database and get it to go "live".

As Peterson has spent his entire County career dealing with the County's ever-expanding integrated environment, Peterson developed quotes based on County specifications. Peterson wanted to get the "most High end, high performance, SQL environment that was County-wide available". However, at no time was Peterson privy to any specifications or requirements regarding the grant or the AFIS system itself. Peterson quoted hardware and SQL database core licenses based on his knowledge of the County system. Peterson claims that it was never specified to him that the system was supposed to be an isolated environment.

"AFIS is the biggest mess I have seen in 23 years." Peterson stated when questioned about the AFIS system. Peterson is aware of "personality" issues that existed (may still exist) between many members of the AFIS project within DoIT and other departments. Peterson stated that everyone had a different mission and idea of how the project should be delivered. Peterson claims that there was no guiding structure, rather, everyone "worked on their own" and "did their own thing" regarding the AFIS project.

Peterson at the time was unaware that the grant money was specifically for the AFIS system and not for hardware that was to be a part of the County's integrated environment, stating: "If the grants purpose was for AFIS, then the AFIS solution was never delivered". Peterson also stated that there was no existing coordination between DoIT and the AFIS vendor (Cogent).

During the interview Peterson was made aware that the AFIS solution provided by Cogent would not be able to function properly in a SQL database environment. Peterson responded that he was unaware of the requirements and was just building the "biggest, best system possible in accordance to the County's integrated environment." Peterson had spoken with Young regarding the implementation of the hardware purchased with the grant and was under the assumption that the hardware was to be utilized to build a "high performance SQL server to service the entire County."

Peterson was under the assumption that the AFIS software was to be virtually isolated in the integrated environment but was under the belief that AFIS could function on a SQL server environment. Peterson also stated that it was never communicated to him that it would need to be CJIS compliant and he was not aware of how that would have been achieved, stating that currently, regarding CJIS compliance, it "wouldn't fit the bill", speaking of the 2016 configuration.

Peterson stated that he believed the project was a “Brandy (Carney) and Michael (Young) effort” and that “Patrick Wright was involved.” Peterson also said that there was no coordination with or from Cogent and that “Michael (Young) just had ideas” speaking about the direction he wanted to take the AFIS project and the County’s information systems. Peterson believes that Young’s idea was to add the hardware and SQL cores to the County’s integrated environment and wait for the contract with Cogent to come to an end so that an AFIS vendor that utilized SQL could be acquired.

Peterson believes the reason that the project never produced deliverables, or the final solution, was because “AFIS is the biggest mess I’ve ever seen, bar none,” “poor communication,” “turf wars,” and “personality clashes.” Peterson proposed as a solution to the current (2019) AFIS system is to just “put it in the cloud.”

10. Patrick Wright – May 9, 2019

Wright was the Engineering Operations Administrator for County DoIT prior to his retirement in 2017.

Wright started the interview stating that CJS was fully responsible for the grant and that his involvement with AFIS began in March of 2014 when it was realized that the AFIS system was in dire need of an upgrade. The system had become old, costly, and was quickly running out of storage capacity.

According to Wright, Young and Carney began to make plans with money that was made available by the OEMA grant. The plan was to obtain the grant money, purchase the hardware necessary, and then take the AFIS software and install it on the newly purchased hardware. Cogent had communicated that this would not be a viable solution as it was their software and would not allow it to be managed without a vendor-specific contract with themselves, which is a practice for software companies. “Cogent had a proprietary system, there just wasn’t a choice and that’s the way it is.”

Wright said that the hardware was installed in Columbus in 2016. “Pretty much stalled after hardware installation” stated Wright. He stated that during his last year and a half with the County, he was unaware of any effort to secure funding to further the project.

Wright stated that when the CC data center was moved to Columbus, CJIS guidelines for compliance were still being followed and as far as he was aware, the system was to be kept separated by some means and not be a part of the County's integrated system. Wright stated that he personally has never worked with an AFIS system that was part of a shared environment, however, he stated that he was aware of AFIS systems that were implemented in that type of environment.

Wright stated that the hardware purchase was never intended to be utilized for anything other than the AFIS system and that what was purchased may not have been a "100% fit" for the needs of AFIS at the time. Others interviewed had expressed a belief that DoIT made a purchase to advance their system resources and when the money had to be returned, DoIT put up the funds to pay the grant back, but still had hardware and SQL licenses that were being utilized. A few felt that DoIT made out while the other agencies were left with nothing after all the time and work put into the project. To this, Wright responded: "That is absolutely a correct assumption. DoIT got the hardware and made it fit with the integrated environment. You always buy hardware to match the system."

Wright, like others, stated that Carney and Young were meeting to make decisions on how to advance the project. It was Wright's assumption that the project was moving forward, but the progress never happened. Wright stated that the AFIS board would meet to make decisions about project progress, however, the AFIS board "rarely met" and would make decisions about expenditures without being the "keepers of the purse drawstring".

Wright stated that the hardware and SQL licenses were initially procured to be utilized as a separate environment, whether as a stand-alone server or done virtually. Wright was unaware that it was being used as part of the County's shared environment. Wright made it clear that he always said and believed that it should have been a separate system.

Wright believes that there was a "bigger plan to get away from Cogent" and that when the Cogent contract expired in 2019, a different vendor would be sought. Wright believes that Cogent would not likely be that vendor due to: "the County wanting a new AFIS system." Wright stated that the project was supposed to be completed within a year and not last five, six, or seven years.

Wright wanted to make it clear that he believes that the AFIS project was "not an IT project in any shape or form." Adding extra emphasis to that statement, Wright said that IT should never be the owner of a project and should act more as a contractor, unless the project is an IT driven project:

11. Michael Young – June 4, 2019

Michael Young served as DoIT's Chief Technology Officer and Interim Chief Innovation Officer prior to his resignation on April 27, 2019. From a technological perspective, Young was a steering member of the AFIS project, along with Carney. Young would have overseen major decisions made concerning hardware and software that DoIT would be installing and supporting.

Young stated that when he came into the project, Cleveland was the "owner" of the system and he felt that the City of Cleveland "did not do a very good job" in structuring and maintaining the system. Young claims that the AFIS system (at the time) was not upgradeable in its current state and was seeking to partner Cuyahoga County with BCI to ensure that the two entities were on the same platform for AFIS. This would require the City of Cleveland to relinquish ownership of the AFIS system to Cuyahoga County. Approval by the AFIS board was also needed. Young stated that Dr. Thomas Gilson was supposed to have dialogue with the City of Cleveland about this transfer of ownership, however, after Young made repeated attempts to gain more information about the dialogue with the City of Cleveland, Young made the decision to wait to learn more instead of seeking out answers from the Medical Examiner. Due to this, the remaining equipment (fingerprint readers, et. al.) was never purchased - \$350,000 (outside of the grant) of the project money was never spent.

According to Young, Dr. Gilson was the sponsor of the project. The responsibility of the project's progress should rely on the sponsor. Young stated that two blades and a NAS storage unit were purchased to support the AFIS project. The reason that two of the four blades purchased at the time are not currently in use, while the two purchased with the grant money are in use is because, at the time, DoIT did not track hardware installations by serial number. However, Young stated that the two blades that are dormant were intended to be utilized for the AFIS system. Young stated that he made it aware that he needed the two dormant blades online to handle county infrastructure stress and on multiple occasions was waiting on Carney; "I need them, I need them now," "I'll give you the money," "Get this thing done because I need that hardware" Young stated.

Young made the decision to install the hardware in Columbus once it was received so that it could become "part of the pool" referring to the County's integrated infrastructure. According to Young; "space has always been there and ready to use" discussing the hardware and storage for the AFIS system. Young states that the project did not go

forward due to the conversation never taking place between the City of Cleveland and the Cuyahoga County Medical Examiner's Office.

Young stated that the initial plan for moving forward (in 2016) with the new AFIS system was to work with NEC (an AFIS system vendor) who was also working with BCI at the time on a new AFIS system. The idea was to have Cuyahoga County on the same platform as BCI. Cuyahoga County could become the owner of the AFIS system and become a regional provider of AFIS at the same time. Young stated that if Cleveland was no longer seeking to be an "owner" of the AFIS system, they could become a "client" along with Lake County, which would increase revenue for Cuyahoga County.

When asked about Fox's involvement in the project, Young stated that he felt that Fox was "too friendly" with the current AFIS vendor, Cogent and that Fox was not taking an "overall" view of the County regarding the AFIS system. Young also believed that Fox was communicating information and "what we were doing" regarding attempted partnership with NEC (an AFIS vendor) to Fox's Cogent engineer. In Young's opinion, Fox was not needed for the AFIS implementation as the intended course was to move forward with NEC as a vendor and not Cogent. However, Young did state that Fox may have been involved in day-to-day operations of the system after implementation.

When asked about concerns that the AFIS system would not be able to function properly (or be compliant) in an integrated environment, Young stated that "Yes, the NEC solution would solve the problem and a majority of the functionality would have been hosted in the Cloud." According to Young, the entire new AFIS system project would have lasted "about" 18 months from start to finish, if started in 2016 and with NEC as a vendor, culminating with implementation with BCI. Young stated that the NEC solution was reviewed by those involved in the project – it wasn't solely a DoIT choice to move forward with NEC. Young stated that because the conversation with the City of Cleveland never happened; he made the decision not to purchase further equipment due to the project not being "an official project."

Young stated that the ME office was well aware of the possibility of moving forward with an ME solution, a statement that the ME office denies. Documentation submitted by Young indicates that on multiple occasions meetings to discuss the NEC AFIS solution had been scheduled. The document from November 15, 2016 shows minutes from an NEC/AFIS demonstration with Dr. Gilson, Dr. Kaur, Schilens, Young, Kaunas, and Kilgore present.⁶²

⁶² Attached as Exhibit P.

As Wright stated, Young also said that the AFIS system implementation was never an IT project. Young stated that DoIT was “the support structure” while the ME was the project owner. Although the ME was the project owner, Young stated that the ME was not dictating technology that would end up on County infrastructure, rather, the ME presented the problem and DoIT was tasked with purchasing the technology necessary for a solution. DoIT then made the necessary purchases to ensure that the hardware was compatible with the County’s current IT infrastructure. The plan was to operate the AFIS system in an integrated, shared environment with storage dedicated solely to AFIS while the core functions of the application would be handled in the “Cloud.”

When asked about CJIS compliance, Young stated that the route he wished to take the project would contain “some level of CJIS compliance” even though there was not a dedicated server specifically for the AFIS system. Young stated that all that needed to be done was to be able to implement it virtually and have it separated logically inside that virtual environment. A solution that many organizations implement on an enterprise-level when operating software solutions on an integrated environment. Young did claim that when he attempted to get an answer about compliance needed for the AFIS system, he would receive the same answer when he asked questions about the REDS system – some answered that AFIS could be done this way and some answered that it could not. There was never a direct majority of answers either positive or negative. Young stated that an AFIS system (to his knowledge) does not need to be CJIS compliant, only accredited; meaning that the system must be in line with the AFIS board and policy. This never culminated due to the talks with Cleveland never reaching completion.

Young stated that he had not seen the grant until recently and does not recall ever seeing any granular specific language about a timeframe for the grant / project completion. Young stated that the project was “too aggressive” and in hindsight “would not do it.” Young went on to claim that a project such as this should “not be something the County does again.” Further stating “Everyone should have done differently” and that ultimately, the failure was a “group error.”

Young (no longer employed at the County) believes that once the money is returned to OEMA / FEMA, the hardware sitting dormant should be activated and utilized as part of the County’s integrated environment. Currently, Young’s knowledge of the progress is that Gemalto (Cogent) is going to “refresh” the environment that AFIS currently operates on and keep it running for “the next few years.”

Young attributes disfunction and miscommunication to “lots of disagreement between “me”, “Matt,” and “Brandy (Carney).” Stating: “I should have pushed back harder. The reality is ‘we’ screwed up. Everyone was trying to cover their own.” Young’s final statements emphasized that the County really needs the two dormant blades (in Columbus) activated and added to the County’s infrastructure. “We really, really need the storage and those blades.”

12. Dr. Thomas P. Gilson, M.D. – June 10, 2019

Dr. Gilson is the Medical Examiner of Cuyahoga County. He sought to upgrade the AFIS system to improve the fingerprint scanning ability utilized by the ME.

Dr. Gilson stated that the project originally was only meant to encompass the upgrade of the AFIS system and was not meant to cover the purchase and replacement of the AFIS system with a new AFIS solution. Dr. Gilson clarified that it was his understanding that the money obtained from the OEMA grant was to only be utilized for the purchase of equipment necessary for an upgrade to the AFIS system and not for a total replacement of the system with a new solution. Gilson states that there were originally two separate projects that involved the AFIS system at the time; 1. Was to implement a stop-gap upgrade on the existing system to keep it running and 2. Ultimately replace the AFIS system. Money related to the grant was meant for Project 1 and not meant to replace the current AFIS system but upgrade it.

According to Dr. Gilson, the money from the OEMA grant was procured and subsequent meetings with DoIT were set up to discuss how to move forward with the upgrade. The initial plan was “to use the grant money to purchase storage” for the AFIS upgrade. Dr. Gilson claims that DoIT informed him that they would purchase “very generic hardware” and that “the hardware will be available when you (“ME”) need it.” Dr. Gilson stated that it was “incredibly clear” from the beginning that the purchased hardware was not to be utilized for any other County purposes aside from the AFIS system. Dr. Gilson’s later believed that the equipment purchased using the grant money had not been properly utilized and was not “awaiting use” as Dr. Gilson claims that Young had communicated to him, prior. Dr. Gilson feels that he was misled by DoIT because the equipment purchased was in use but had been repurposed for other County business.

When asked about a project that involved a new AFIS solution with NEC, Dr. Gilson stated that “at no time were we holding on to this storage with intentions to collaborate with the

State on this.” Dr. Gilson claims that a new AFIS solution was an entirely different project. The project that the grant money was intended for was an upgrade with the current vendor Gemalto (Cogent at the time) and not with NEC according to Dr. Gilson.

Dr. Gilson stated that the City of Cleveland did not play a major role in the project and at no time was the upgrade waiting on an answer from the City of Cleveland. Cleveland “just needed to pay up” and the County was steering the upgrade, according to Dr. Gilson. The outcome was that the County was intended to take over the AFIS solution and the reason that the County and Gemalto (Cogent) were moving forward with the upgrade was, according to Dr. Gilson, because the City of Cleveland was difficult to get to the table to discuss the upgrade.

Dr. Gilson claims that Cogent (Gemalto) and DoIT “didn’t really talk too much with each other.” The County was not really in a situation where Cogent (Gemalto) was “going away” and Dr. Gilson believes that relicensing of the Cogent (Gemalto) AFIS software was not a main priority for DoIT during the upgrade project. Dr. Gilson believes that DoIT had aspirations to replace the system rather than upgrade and when Dr. Gilson approached Young about the upgrade he claims that Young informed him that there was no storage for an AFIS upgrade and new hardware would have to be purchased. Dr. Gilson was unaware of the hardware specifics that exist at the County’s CoLo in Columbus and the fact that two identical blade servers lie dormant that were intended (according to Young) for use with the AFIS system. Regardless, Dr. Gilson believes that the equipment purchased for the upgrade was insufficient and would not be compatible with the current AFIS solution environment. Dr. Gilson stated that he was told that “we could just purchase generic hardware” but was unaware of specific requirements other than that he believed that the system had to be a separate environment and not an integrated one “because that’s how a crime lab works.” Dr. Gilson stated that at “no time” was DoIT ever given the impression that the upgrade was to take place with Cogent as a vendor.

When questioned about Fox, Dr. Gilson stated that Fox may have had some minor involvement in the project during the beginning stages but was never involved in high-level discussion due to being a liaison between the ME and Cogent (Gemalto). His primary duty during the early stages of the project was to work on the movement of the AFIS server to a new location. Dr. Gilson stated that he is unaware of any issues between Fox and DoIT that may have hindered his involvement in the project.

F. Procurement Process

1. Grant Compliance Requirements

In order to be compliant with grant requirements pertaining to the procurement method utilized to acquire the servers and other related items for the AFIS project, the Code of Federal Regulations (CFR) 44 part 13 should have been adhered to. The following are specific examples of requirements under CFR 44 part 13 that should have been followed for the AFIS project:

- Section 13.36 requires that sub-grantees use their own procurement procedures which reflect applicable State and local laws and regulations, provided that the methodology conform to applicable federal law and the standards identified in this section;
- Section 13.36(c)(1) requires that all procurement transactions be conducted in a manner providing full and open competition consistent with the standards of section 13.36. Some of the situations considered to be restrictive of competition included but are not limited to: (i) Placing unreasonable requirements on firms in order to qualify to do business, (vi) Specifying only a "brand name" project instead of allowing "an equal" product to be offered and describing the performance of other relevant requirements of the procurement;
- Section 13.36(d)(2)(ii)(A) has the requirement for the invitation for bids that will be publicly advertised, and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time prior to the date set opening the bids.

CFR 44 part 13 requires that the sub-grantees follow their own procurement procedures as well as state and local laws as noted in bullet point one above. Both the Ohio Revised Code ("ORC") and local County procurement procedures have established competitive bidding requirements under ORC Section 307.86 and County Code Section 501.12 respectively. The ORC and County Code both allow for exemptions from competitive bidding, but since CFR 44 part 13 has more stringent requirements that procurement method should have been followed.

2. Summary of the AFIS Procurement Process

The County used an Alternative Procurement process approved by the Board of Control ("BOC") that allowed the use of a non-standard bid format and 5-day solicitation window for the bids. The request for Alternate Procurement process presented to the BOC stated that the exception was necessary "To meet the aggressive timeline, the solicitation is

currently posted with closing date on the 5-day bid of April 25, 2016.” This procurement method was utilized even though they had more than two months to procure the item using a competitive method that would have complied with federal requirements.

The items were submitted during the 5-day period and only vendors in the County’s BSO procurement system were given notification of the request for bid. The items were not posted for bid on the County’s website or through any other medium accessible to the public. This process was in non-compliance with CFR 44-part 13 section 13.36(d)(2)(ii)(A) that the bids must be publicly posted. Additionally, the County used a “brand name” product in the bid specifications which is in non-compliance with CFR 44-part 13 section 13.36(c)(1) that brand name products cannot be included in the bid specifications.

After reviewing the County’s procurement process, OEMA informed the County that using an informal process for quotes and changing the procurement process due to the grant performance period was not allowable under the grant guidelines. For these reasons, the OEMA later rejected the County’s initial request for grant reimbursement.

Furthermore, due to the time restraints DoIT had not established the technical requirements for the servers and other items purchased as required by NIST and a project plan had not been agreed to by all internal parties and the City of Cleveland. At the time of the purchase it was not known whether the servers would be compatible with the AFIS system.

The County disagreed with the decision by OEMA/FEMA to reject the reimbursement and subsequently sent several communications to OEMA in an attempt to explain the process in further detail and to demonstrate how federal requirements were partially or completely met.

FEMA eventually granted the County’s appeal for the reimbursement. However, OEMA advised the County that it will not be permitted to use an alternative procurement process for future purchases. In July of 2017, the County received the \$293,758.36 reimbursement for the AFIS project.

On March 11, 2019, Pellom self-reported that the equipment purchased with the AFIS grant was being utilized for other purposes within the County and informed OEMA that the County will return the \$293,758.36 to OEMA.

3. Analysis/Conclusions of Procurement Process

The County utilized an alternative procurement method that was non-compliant with CFR 44 part 13 as noted above and OEMA granted a one-time exception to the requirements. It took the County over a year to recoup the funds paid for the purchase of servers and

other items purchased due to the procurement method used. Then, almost two years after the exception was granted by OEMA, the County self-reported that they were in non-compliance with the grant requirements and agreed to pay \$293,738.56 back to OEMA.

G. Grant Management

1. Terms of The Grant

Under the terms of the OEMA grant, "all costs must be incurred within the period of performance to include receipt and installation of all equipment. No funds may be spent on activities or costs that occur outside of the defined grant performance period. **There will be no extensions to the grant performance period listed on the sub-grantees' grant agreement.**" Here, the OEMA grant defined the County's performance period as "September 1, 2014 - June 30, 2016."⁶³

The grant agreement also specifies the following requirements for the Sub-Grantee receiving the grant funds:

- A Bi-Annual Strategy Implementation Report (BSIR) will be completed within the timeframe as required by OEMA;
- Quarterly progress reports will be submitted on the form established by OEMA no later than thirty days after the federal quarter end;
- One grant management workshop will be attended during the grant performance period. Failure to attend could result in future penalties such as the denial of funding for future projects;
- A yearly inventory certification within thirty days after calendar year-end for grant funded assets, including previous awards made must be submitted.

Furthermore, "project managers will be held accountable for meeting the milestones listed in the project application. While there will be a level of flexibility extended, egregious or repetitive lack of progress towards completion of grant funded activities will result in de-obligation of funds. And de-obligated funds will be reprogrammed by the state to projects that can be completed within the period of performance."⁶⁴ The

⁶³ See Exhibit W.

⁶⁴ See Exhibit W.

Grant Agreement identified the PSJS Administrator as the Sub-Grantee Grant Manager.

2. Lack of Adequate Planning, Communication and Oversight.

From the beginning of the AFIS project, planning and communication between departments (DoIT, ME, PSJS) was lacking. At the time of the grant, the departments had not resolved the problems of implementing either existing or new AFIS software on a different database, in a different shared environment, in a different city, with potentially a new vendor.

Moreover, despite the need to solve these imminent issues, there was no formal communication or documentation process in place to ensure that problems were being resolved timely or that any demands for status updates were being conducted by any entity.

Each stakeholder of this project had a different vision of how the project was to be carried out and what the final solution for the AFIS project would be. Those in the ME were under the impression that this was merely a software upgrade and would continue to be run as its own segregated system. Juxtaposed is the DoIT view of the project that was believed to be a replacement for the aging AFIS system. A replacement solution that would operate as part of the County's shared environment.

While the next step in the project was to be implemented, a "bridge" was being constructed to keep the system running until a new system was purchased. The believed goal by the ME was to have the software upgraded using the grant money and eventually move to a new AFIS solution in the future. DoIT believed that the money was to purchase equipment and begin an overhaul of the AFIS solution utilizing the vendor; NEC.

3. Equipment was Purchased within Grant Period of Availability but Non-Compliant with Other Grant Provisions.

With the grant procured in 2016, PSJS and DoIT moved forward with the purchase of necessary equipment. The equipment was deemed to have environment "standards" and architecture that the County's IT infrastructure already supported. This included (but not limited to) HP blades for the Columbus rack location, SQL database licenses, and networking / hardware components necessary for business function. Four HP blades and components were purchased, only two being purchased with the grant money for AFIS purposes.

DoIT received the hardware and sent DoIT Engineering down to Columbus to the CoLo to install the hardware in the County's racks. Due to DoIT's improper method of keeping

track of assets and inventory (at the time, 2016), DoIT installed the opposite two HP blades and joined them with the County's integrated environment. The two blades purchased without grant money are technically "dormant" and not a part of the County's shared environment.

Per inquiries made during the investigation, the County was non-compliant with the provisions of the grant agreement. If the provisions had been followed it would have led to enhanced accountability for project management as well as proper tracking of assets purchased. The following are grant provisions that the County was non-compliant with:

- Required Bi-Annual Strategy Implementation Report not completed or submitted to OEMA;
- Required quarterly progress reporting not completed or submitted to OEMA;
- No one attended a grant management workshop as specified in the grant agreement;⁶⁵
- The yearly inventory certification for the equipment purchased with the grant money, or any previous awards, was not completed or submitted to OEMA.
- After Installation, Breakdowns Between DoIT, PSJS and ME Prevented the Application of Prior Software or The Acquisition of New Software.

The County did not have a firm, clear plan for implementation after the installation of the hardware. As a result, after installation, the project began to go off track. During interviews individuals formerly within PSJS and ME stated that DoIT had never brought forth a solution to use a new vendor to overhaul the AFIS solution. However, email documentation shows that on multiple occasions, members of DoIT had presented solutions and demo invites⁶⁶ to investigate and consider a solution by vendor NEC, to the ME office. Throughout Q4 2016 and Q3 2017, the topic of utilizing NEC as a vendor for an AFIS solution was discussed between DoIT and ME, however, the plan still had not been brought up to the AFIS board for approval. The AFIS board meetings appeared to be highly dysfunctional, lacking structure, proper documentation, and attendance by key figures. Another issue with the AFIS board meetings was the lack of consistency - with meetings being frequently cancelled or rescheduled. The plan moving forward with NEC was to ensure that the County and State BCI were on the same platforms to limit compatibility and latency issues.

After attempting to communicate with the City of Cleveland via the ME, Cleveland decided to move the AFIS server to a new location within the city instead of transferring it to the

⁶⁵ PSJS states that two PSJS staff members did not receive notification from OEMA of any offerings of grant training.

⁶⁶ See Exhibit P.

County to be moved down to Columbus. This was not of much alarm as the intentions were to migrate that system in the future.

Confusion surrounding whether the system could run on the purchased hardware raised issues with the current vendor Gemalto (Cogent) and compliance with Criminal Justice Information Systems (CJIS) Security Policy. ME believed that the system was required to be segregated and a stand-alone system while DoIT continued to contend that the virtualized, logical environment that the County implemented could, in fact, host the solution. After extensive review of the CJIS 2016 Security Policy as related to virtual, logical environments it was determined that the County's current environment could be utilized for the AFIS solution using Virtual Local Area Networks as well as segregated storage.

Another claim associated with the use of the County's virtual, integrated environment was the belief that AFIS could not function properly on such a system and that the AFIS solution required an Oracle database and could not operate within a SQL Server environment. Upon contacting and receiving answers from Gemalto (Cogent) about the requirements for the current AFIS solution and other versions of the solution the vendor may offer; it was found that Gemalto (Cogent) has an AFIS solution that is capable of running within an Oracle environment, however, the current system only supports Oracle. Gemalto (Cogent) stated that they have "a strong partnership with Oracle" and that allowed them to give their customers "excellent" discounts.

Gemalto (Cogent) also indicated that they did have an AFIS solution that ran within the SQL database architecture and was able to run on a shared environment. However, this would require the County to acquire new services and licenses – ultimately costing the County more money, essentially becoming the overhaul that DoIT had originally envisioned with moving to a different vendor.

Ultimately, the project slowly tapered off during 2018, with little communication between DoIT, ME, and PSJS regarding the AFIS upgrade aside from some communication regarding the day-to-day operations of the current system as well as a few inquiries made by those working on the project. It appears that after the implementation of the hardware, the project lost focus and went to the back of the minds of many individuals assigned to the project. It is clear that there was poor communication, poor organizational management and planning as well as poor project planning – no documentation or procedures / guidelines / deliverable schedule existed for this project, within DoIT, or within any of the stakeholder's departments.

No single department shoulders the blame for the failure of the project, but the stakeholder's systemic failure lead to the grant money not being utilized properly and not meeting the timeline designated within the grant terms. This led to the County self-reporting. All individuals interviewed stated that they had taken steps to ensure that a similar event would not happen again.

4. Decision to Return AFIS Grant Funding to OEMA

On March 11 2019, Pellom contacted OEMA Executive Director Sima Merick to inform OEMA and to self-report the “possibility” that equipment that had been acquired with the 2014 State Homeland Security Program Grant had not been properly utilized for the grant’s intended purposes, and as such, it was determined that “Cuyahoga County will need to reimburse \$293,758.36 for IT equipment originally purchased for the Automated Fingerprint Identification System (AFIS) but utilized for another function with the County.”⁶⁷ The County conducted a review to evaluate grant compliance and determined that the \$293,758.36 that was used to purchase IT architecture equipment related to the AFIS update would need to be returned to the state.

County leadership determined that the County could not become compliant with the terms of the grant because: the County did not currently own licenses for AFIS software that could operate on the blades as currently designed within a shared system; continued miscommunications between CPSJO, DoIT and ME made it unlikely that the County could resolve the outstanding technical questions, redraft a request for proposals, and then acquire and install the software within a reasonable time period; and CPSJO and ME were not assured that AFIS software was permitted under CJIS rules to operate in a shared environment. Thus, the County determined that the better option was to return the grant funds.

On March 27, 2019, Merick responded to Pellom’s initial letter which had informed OEMA that PSJS and Pellom believed that the grant would need to be returned to OEMA. In this letter, Merick advised Pellom to contact OEMA to schedule a meeting at OEMA during the week of April 1, 2019, with two members of Merick’s Executive Team to review the self-reported matter. The meeting’s purpose was to discuss the County’s plans to remedy the situation and to prevent any future incidents.⁶⁸

The meeting between OEMA and County representatives (Shannon, Carney, and Pellom) occurred on April 3, 2019 with Jerry Mullins and Holly Welch, OEMA representatives, in Columbus. At this meeting, the parties agreed that the grant funds for the 2014 fiscal year Homeland Security grant would need to be returned to OEMA due to improper utilization of equipment purchased with the money.

On April 12, 2019, Pellom relayed a final communication to Merick affirming that the County would make full reimbursement of grant funds and coordinating PSJS and DoIT fiscal staff to ensure that the funding would be returned in a timely fashion. In this letter, Pellom reiterated that to the best of his, and PSJS’ knowledge that the specific equipment purchased with the grant money was “being utilized for another purpose within the County

⁶⁷ See Exhibit S.

⁶⁸ See Exhibit T.

and will need to be reimbursed.”⁶⁹

H. Responses from Management

1. CPSJO's Response to Draft Report

Carney's response to the Draft AIG/DIA report provided the following comments:

“I had no part of the AFIS operation or decisions in the County. I did not attend the AFIS Committee meetings, or have detail on the set-up, use, and administration of AFIS Countywide. I was the Administrator (then later Director) of the Department of Public Safety & Justice (PSJS), and the AFIS system fell under the Medical Examiner's (ME) Office (previously fell under the Sheriff's Office) and was also a large system used by our Sheriff's Office (SO), but not an operation within PSJS (other than grant/admin support). Neither of these two agencies (ME or SO) were part of PSJS. However, in July of 2018 I took the County Public Safety Chief's position, which includes the SO, ME, PSJS, Clerk's Office and Consumer Affairs.

I did have a general overall understanding of the County having an AFIS system because I have been involved with Cuyahoga Public Safety for many years.

I was approached around 2015 or 16 by County staff leadership and told that the AFIS system had some immediate funding needs, and asked if there were any available funds I was aware of to help them out. This was not an odd request for the Department of Public Safety & Justice, because PSJS administers homeland security grant funding as well as other grants for the entire County, so we are regularly asked by others if money might be available for a project or purchase. I was aware that there may be grant money available, made a call to Ohio Emergency Management Agency to ask about it, and was told that they would be able to support the request (as long as their own requirements were then met, such as allowability, etc). I then had my grants staff work on the project and with the primary agency(cies), just as any other grant project. When I made the call I only provided very generic info to the state, a need for AFIS upgrade, because I did not have tons of detail and did not expect to.

I was not asked to then start to participate in the AFIS operation, decision, or project at that time, just like I wouldn't become intimately involved in any other project based on making a call and identifying grant funding. Because I was aware of the limited time allowed to use the grant money within, I did attend an initial meeting with my Grants team and our IT Department (and others) to show the importance of the meeting discussion – which was that IT must follow the county

⁶⁹ See Exhibit U.

purchasing requirements but must also follow the grant purchase requirements. My Grants team lead the meeting/discussion as the subject matter experts, and continued to be the ones who did the grant administration for this project, but the IT department lead the purchase and project implementation (as in question).

My involvement with AFIS operations, including being at meetings and part of discussions regarding location of servers, attending AFIS Committee meetings, etc did not occur for approx. over a year later when I was becoming the Chief, and AFIS was actually a component within the cluster.”

Carney also stated she disagreed with inferences in the draft and attributes many of those to “the fact that this project started in 2016 many years ago, and my transition now into the new role with AFIS has many individuals blending together my involvement over the time (years) passed with the actual involvement or responsibility at that time.”

In reference to Section G, Carney stated that her name was only included here because her “Grants Manager (Fiscal Manager) and Grants Supervisor positions were vacant at the time, otherwise it would have been one of their names” and stated that her “name would likely have been here for any projects at that time.” Additionally, Carney stated that, she had no operational decisions or requirements on the actual individual project(s) with HS funding that were being administered.

Carney’s response also included the following comments/observations:

- PSJS only did the “behind the scenes” grant work which was done by grants staff, as it would be for any project,
- “The ME was the agency lead for the AFIS system, and IT was the project lead for this purchasing and implementation;” and
- “The primary agencies of AFIS are the ME, along with the SO, and IT is the support agency.”
- “A reference in the draft of this not having a project plan was made. While I understand why that would have been very valuable, it was not a requirement for any of the other projects either that I am aware and does not occur. There are a number of reasons for this, although its understandably easy to say one should be completed for every item (one example, often the grant money and request is made **years** in advance of any allocation or money).”
- “One last note, as I stated, I absolutely pushed this project concern, regarding funding up to my superior. I specifically recall discussing this with

my boss, the Chief of Community Protection and Safety, who was then immediately discussing with his boss. (a statement in the previous draft stated that it was not pushed up the chain)."

Carney further wrote that:

- "I appreciate your work. It is unfortunate that this purchase, for many reasons as you state, did not go as smooth as most of our grant purchases and inevitably caused an issue. While I think its fair to state that all players involved acknowledge these errors, most important is that the errors are addressed, and stopped from occurring again. The Public Safety Justice Services Department administers many, many grants daily, and this issue is not common. However, prior to any of the general, public awareness in 2019 on this AFIS project, we (PSJS, grants) had already put in significant measures in place (PSJS now does ALL buying, etc) to further prevent this from happening. Additionally, once there were real answers to the equipment (location, use, etc) from IT to the ME, Public Safety//we initiated the call and ultimately returned of all the money to the state. I hope meaningful measures are addressed on all ends."

Finally, Carney also provided an email dated May 23, 2016 in which she wrote to Patrick Wright:

- "confirming that the 300K portion of the project that the grant money is supporting requires installation/use (County Columbus data center). I know this was discussed/confirmed when the funding was initially received, but wanted to remind the group."

2. ME Response to Draft Report

- Responding to AFIS upgrade vs an AFIS system replacement, Shannon stated that "There was also discussion about a future system replacement and possibly 'piggy backing' on the State (BCI) system but that was not part of the grant funded project as that was years away and would not meet the timeframe of the grant.
- Replying to 'C. AFIS System Compliance with FBI CJIS Requirements Shannon said "The disagreement was not whether the requirements could have be achieved in alternate ways, it is a fundamental misunderstanding of the project, upgrading hardware/software of a current server-based AFIS system on the CPD Public Safety network with blades that ultimately were attached to the County based network, outside of CJIS protections."
- Regarding DoIT's role in the project Shannon stated "In discussions during

the project, DoIT was clear to both PSJS and ME that they could handle the purchase of agnostic equipment to run AFIS and that both PSJS and ME were clear as to what the project deadline was to comply with the grant terms and that the equipment must only be used for the grant purpose.

- Page 6: "In late 2018, the ME recognized that the grant had not been used as intended." Shannon added that ME conducted inquiries, "informing PSJS through PSJS Chief Carney of suspicions and findings."

3. DoIT Response Regarding Improvements to Procurement Process

Fiscal and DoIT purchasing processes, such as the Technical Advisory Board (TAC), have been formalized and reviewed since this item was procured. There are technical processes to audit via IT, Agencies, and the Department of Internal Audit after this item was procured and additionally since the Procurement Audit conducted in 2018.

- Grants have not and will not go through DoIT and DoIT will only assist agencies and departments going forward.
- DoIT is in the process of reviewing the DoIT Project Management Office (PMO) to formalize standard project management processes. Various staff have gone through the Six Sigma⁷⁰ Yellow belt training and additional are signed up for more yellow belt and green belt training through the Cuyahoga County Office of Innovation.

4. PSJS Response to Draft Report

PSJS provided responses regarding its views regarding grants training, quarterly reporting and process changes. The first two topics are incorporated or addressed above. The changes described by PSJS regarding process improvements are set forth below:

Process Changes Made. Included below are three notable changes to the way Fiscal/Grants have changed processes since 2016.

- All grant procurement is done by PSJS Fiscal/Grants staff unless specifically authorized by Ohio EMA (implemented Sep 2016). Note: only one exception granted. Ohio EMA allowed City of Cleveland to procurement printing as part of its FY 2016 UASI sub-recipient agreement for the hiring of Emergency Management Planners.
- All equipment and/or supplies checked-in by PSJS Fiscal/Grants staff and asset tagged (as applicable) before deployment (implemented Sep 2016).

⁷⁰ Six Sigma is a set of techniques and tools for process improvement.

In situations where equipment/supplies are delivered off-site, PSJS Fiscal/Grants staff travel to the location to conduct verification.

- All quarterly reports are reviewed by the Business Services Manager prior to submission. A checklist is used to make sure no reports are missed. The Grants Supervisor backs-up the Business Services Manager (implemented Dec 2017).

IV. CONCLUSIONS & RECOMMENDATIONS

From the beginning of the AFIS project, the County lacked a clear and concise path that would deliver the AFIS solution, mainly due to the short timeframe during which the grant funds were required to be spent. This led to the purchase of servers which at the time of purchase were not known to be compatible with the software offered by the existing vendor, Cogent. Even after the servers were purchased, proper project planning, coordination, and communication was not established between PSJS, ME and DoIT to ensure the success of the project.

Based on the evidence gathered during the joint investigation the following are specific examples why the project ultimately failed, and the grant funds needed to be returned to OEMA:

- A lack of understanding and poor communication led DoIT to utilize a procurement method and bid specifications that were not compliant with grant requirements;
- Non-compliance with provisions in the grant agreement, including required quarterly and bi-annual reporting to OEMA, not attending required training for administering grants and sending a yearly certified inventory listing to OEMA;
- TAC approval was not sought which would have required a formal review by TAC to ensure that the purchase adhered to County IT security standards and compatibility with project requirements;
- The project manager in DoIT never developed a project plan and DoIT did not develop security documentation as required by NIST standards. AFIS also had to be compliant with CJIS requirements and there was confusion around whether DoIT's plan for the servers would be compliant. DoIT never provided the ME or PSJS with support that their solution would be CJIS compliant, even though this investigation did find that the logical partitioning of the system is allowable under CJIS;
- The requirements for the system implementation were never formally defined and

authorized as to whether the project would consist of an upgrade to the existing system or an entirely new solution being promoted by DoIT;

- DoIT purchased Microsoft SQL Server Core database licenses for \$59,945.76 that were installed and activated on the County's shared environment. The AFIS system utilizes the Oracle database software to store and query data. The Microsoft SQL Server licenses were not compatible with the AFIS system and were not used in conjunction with the purpose of the OEMA grant;
- DoIT did not implement the upgrade to the existing system that both the ME and PSJS thought would and should be completed;
- DoIT failed to adequately track the servers purchased and used the servers purchased with the grant monies for general county usage. The other two servers purchased for \$233,812.60 with County monies were unused from the time of purchase until this investigation commenced, over three years after their initial purchase date;
- The grant manager in PSJS and project sponsor (ME) failed to ensure that the project was completed within the grant's period of availability and that the purchases made were used for their intended purpose.

The most critical aspect that led to the failure of the project was the lack of planning for system implementation. While DoIT had an assigned project manager all parties, including the grant manager and project sponsor, are responsible for project governance. Proper project planning aligned with the Project Management Institute's (PMI) Best Practices^[1] should include:

- Defined life cycles and project milestones
- Requirements and project scope
- Defined organization and roles
- Quality assurance
- Planned commitments that include scheduling, budgeting, and personnel devoted to the project
- Documented progress tracking
- Variance analysis
- Corrective decision documentation
- Escalation and issue management
- Work authorization
- and change control documentation.

In alignment with the "requirements and project scope" of PMI's best practices all stakeholders should have been aware of and ensured compliance with the requirements

of the grant. For future grants the County should comply with all grant requirements for bidding and period of allowability by ensuring that alternative procurement methods are not used in lieu of one that would meet the grant requirements. All departments involved in this project should obtain training for applicable staff on best practices for project management and also how to properly administer grants to ensure successful outcomes and compliance with all grant provisions.

Additionally, DoIT should comply with NIST standards for future projects in the following areas:

- Before hardware for the upgrade was ever purchased, a proper security and authorization should have been conducted in accordance with NIST. This could have been achieved by presenting the project to TAC. CA-2^[2] control that states, among other things, that an organization should develop a security assessment plan, security controls and enhancements, and provide the final assessment results to an organization defined individual.
- NIST CM-2^[3] relates to information systems configurations. It is recommended that DoIT establish a baseline for the information system and components related to the system. These configurations should be well documented and formally reviewed after agreeing upon a set of specifications for the related information system.
- NIST PL-2^[4] and PL-8^[5] relate to system security planning and security architecture. It is recommended that when implementing a new project, DoIT should develop the appropriate security architecture for a project's information system that documents all requirements and approaches dealing with confidentiality, integrity, and availability of information being utilized by the system. Additionally, everyone involved in CJIS projects, such as AFIS, should review and undergo FBI CJIS training and stay updated on the yearly release of the CJIS Security Policy updates.
- NIST CM-8 relates to maintaining an asset inventory, including the need for the organization to update the inventory of information system components as an integral part of component installations, removals, and information system updates. The County DoIT currently has a solution (SolarWinds) for tracking hardware and software inventory for purchases and implementation which should be utilized for any future projects.

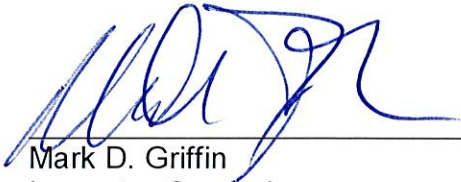
In its efforts to obtain federal grant funds, the County moved precipitously to advance the AFIS project before its technical and organizational issues had been resolved. The breakdown between County departments led to a failure to solve these problems. Once it became clear that inter-department cooperation was lacking, these issues should have been escalated to the highest levels. As more specifically described in this report, better

planning and management could have eliminated the need to return the OEMA grant funds.



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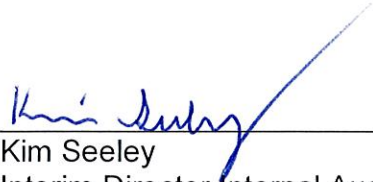
Approval as to conclusions and recommendations:



Mark D. Griffin
Inspector General

9-5-19

Date



Kim Seeley
Interim Director Internal Audit

9-5-19

Date