Montgomery County, Maryland
Offices of the County Executive
Office of Internal Audit

Continuity of Operation Planning

July 30, 2014

Highlights

Why MCIA Did This Audit

Our audit objective was to determine how effectively the County government is planning for continuity of operations in the event of a disaster. IT business continuity and disaster recovery was considered a high risk area in the Office of Internal Audit (MCIA) May 2010 Countywide Risk Assessment.

Montgomery County (the "County") government has a mission to provide its residents with a responsive and accountable government that residents can rely upon. A business interruption, even for a limited time, could have a severe impact on the critical resources and services that County residents rely upon.

Continuity of Operations Planning (COOP) consists of the processes taken by an organization to prepare for an unexpected business disruption, such as a power outages or hurricanes. The objective of a COOP plan is to minimize the impact of the disruption in order to recover and resume normal business operations as soon as possible. A continuity of operation plan (COOP) is a type of documented plan used by the County to facilitate and define their COOP efforts. Each department has developed their own continuity program to detail their business continuity procedures. The County's Office of Emergency Management Homeland Security (OEMHS) provides guidance for, and oversight of, the department's planning efforts so that they may be resilient and better prepared to respond to disruptions.

What MCIA Recommends

MCIA is offering four recommendations to OEMHS to enhance its planning and oversight of departmental COOP activities. While OEMHS did not indicate any disagreement with the report's recommendations, it disagreed with various findings and asserted that the report did not fully reflect all innovative actions OEMHS has taken to manage the program.

MCIA-15-2

Continuity of Operation Planning

What MCIA Found

The audit was based upon a review of the County's COOPs that existed as of April 2013, interviews and review of documentation provided by departmental COOP Administrators and OEMHS between April 2013 and June 2014. Our review showed that each of the County's 27 Executive Branch Departments has documented a COOP plan. The content of these COOPs were generally developed in accordance with guidance provided by OEMHS. However, improvements are needed by the departments and OEMHS in order to ensure the County's preparedness for a business disruption.

We assessed the content of each of the County's 27 Executive Branch department and office COOPs and identified that approximately 85% of the COOPs were missing at least one critical COOP element, as defined by Federal guidelines. A primary cause is that OEMHS has not established mandatory county-wide requirements for continuity of operations planning.

Our detailed review of the continuity programs for 10 departments and offices identified that programs had one or more of the following control weaknesses: (1) most of departments and offices were unaware if their plan had ever been activated or had not maintained records of when they were; (2) the content of some plans lack sufficient details such as: contact information for personnel supporting the department's essential functions, the quantity and type of equipment and records needed at alternate processing facilities, and procedural steps needed to be taken when implementing the COOP; (3) some departments and offices did not maintain evidence to demonstrate their plans had been tested.

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Objectives

This report summarizes the work performed by Cherry Bekaert LLP on behalf of MCIA in an internal audit of the County's continuity planning efforts. The overall objective of the audit was to determine how effectively the County is planning for continuity of operations in the event of a disaster or other disruptive event. The scope of this engagement focused on (1) identifying the County's continuity planning compliance requirements; (2) verifying that department and office continuity programs exist and contained essential critical elements; and (3) performing a detailed review of specific department and office continuity programs to determine if adequate resources exist, whether testing of the plans is conducted, and whether employees are provided COOP training. We recognize that the number COOP plans have increased since our audit work was completed and the contents of some plans may also have changed.

This internal audit report was performed in accordance with consulting standards established by the American Institute of Certified Public Accountants (AICPA) and generally accepted government auditing standards (GAGAS) established by the Government Accountability Office (GAO), as appropriate. Our proposed procedures, developed to meet the objectives stated above, were reviewed and approved in advance by MCIA. Interviews, documentation review, and field work were conducted from May 2013 to June 2014.

Background

According to the County's OEMHS:

> "In 2009, OEMHS engaged with the County's departments to develop COOP plans and guided the COOP representatives through the COOP development process. As a result, a COOP plan was developed for each department that identified essential functions, alternate facilities, and vital records and equipment.
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> This process resulted introduced and educated many County staff members about continuity planning and the importance of maintaining operations following a disaster or disruptive event. However, the resulting plans, many of which were over 150 pages in length, proved to be cumbersome and difficult to maintain. Beginning in 2011, OEMHS began an effort to improve the County's COOP plans by developing a COOP implementation and exercise program aimed at simplifying the planning effort, making plans easier to access and update, and providing educational testing opportunities to ensure departments are prepared for COOP activation.
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> The program's first step involved taking the plans off of shelves and incorporating them into the County's WebEOC emergency management tool. This online tool allows for easy online access and management of the plans. Additionally, OEMHS worked with the County's larger departments to sub-divide their COOP plans by division to make the planning efforts more manageable. To better educate COOP managers, OEMHS held two COOP courses run by the Federal Emergency Management Agency (FEMA) and developed toolkits to educate department leadership. OEMHS continues to offer COOP training classes, and attendance is required of departmental COOP Program Managers prior to being

granted access to WebEOC. The number of departmental COOP plans has grown from 36 in 2011 to 102 as of April 2014."

Each department and office within the County's Executive Branch is responsible for independently maintaining their continuity program, which is typically assigned to a single point-of-contact within each of the department and offices. Although each department and office operates separately, resources and guidance are available through the County's OEMHS.

Public Safety Article, section 14-101, et seq. of the Annotated Code of Maryland requires each County to maintain an organization for the Office of Emergency Management and to develop and maintain a plan for large scale disaster preparedness. Chapter 25 of the 2004 Laws of Montgomery County, superseded by Chapter 5 of the 2008 Laws of Montgomery County[1], included Section 2-64O to the Montgomery County Code[2] established OEMHS and defined their responsibilities to plan, manage and integrate the County's emergency management and homeland security programs. The mission of OEMHS is to plan, coordinate, prevent, prepare, and protect against major threats that may harm, disrupt, or destroy our communities, commerce, and institutions and to effectively manage and coordinate the County's unified response, mitigation, and recovery from the consequences of such disasters or events should they occur. OEMHS coordinates resources from an Emergency Operations Center to support first responders during disasters.

In preparation for these disruptive events, OEMHS works with departments to develop a County-wide emergency operation plan (EOP). OEMHS also assists departments with creation of their own COOP and facility emergency plans and provides resources and guidance to the departments and offices to assist in their level of preparedness. OEHMS leverages, to an extent, guidance provided by the Federal Emergency Management Agency (FEMA).

FEMA is an agency of the United States Department of Homeland Security, whose primary responsibility is to coordinate the response to a disaster that has occurred in the United States and that overwhelms the resources of local and state authorities.

FEMA has developed Continuity Guidance Circular 1 (CGC 1)[3] and Continuity Guidance Circular 2 (CGC 2)[4], which provides guidance to State and local government jurisdictions for developing continuity plans and programs. However, the ultimate responsibility for determining COOP content requirements lies with individual jurisdictions, such as Montgomery County, and not with FEMA or the Federal Government. Due to the lack of County requirements, we used FEMA as the basis for our review of the County's COOP plans.

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[1] http://www6.montgomerycountymd.gov/content/council/pdf/bill/2008/20080422_4-08.pdf
[2]

http://www.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:montgomeryc o_md_mc
[3] Continuity Guidance Circular 1 (CGC 1), *Continuity Guidance for Non-Federal Entities (States, Territories, Tribal, and Local Government Jurisdictions and Private Sector Organizations)*, dated January 21, 2009 and superseded in July 2013,
[4] Continuity Guidance Circular 2 (CGC 2), *Continuity Guidance for Non-Federal Entities: Mission Essential Functions Identification Process (States, Territories, Tribes, and Local Government Jurisdictions)*, dated July 22, 2010 and superseded in October 2013

According to FEMA guidance:

> "Continuity planning is a fundamental responsibility of public institutions and private entities to citizens. Continuity planning facilitates the performance of essential functions during an emergency situation that disrupts normal operations and/or the timely resumption of normal operations once the emergency has ended. A strong continuity plan provides the organization with the means to address the numerous issues involved in performing essential functions and services during an emergency. Without detailed and coordinated continuity plans and effective continuity programs to implement these plans, jurisdictions risk leaving citizens without vital services in what could be their time of greatest need."

For the purposes of this report, we define a disaster as any natural, environmental or human-driven event that disrupts the normal daily processing elements of the County's departments and offices.

Scope and Methodology

MCIA reviewed COOPs for the County's Executive Branch departments and offices[5] identified as of May 2013 on both a macro and micro level.

- Phase I - On a macro level, we sought to verify the existence of COOPs for all 27 Executive Branch departments and offices and determine whether the contents contained essential critical elements of a COOP as defined by guidance provided FEMA and the County's OEMHS. Criteria used for this macro review, hereinafter referred to as Phase I, is described below. As some departments and offices have multiple COOPs based on their organization and roles within the County, we ultimately reviewed a total of 55 COOPs as part of Phase I. Refer to **Table 1** for a listing of department and office COOPs reviewed by MCIA.

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[5] Executive departments and offices identified within the County's Organizational Chart. See http://www2.montgomerycountymd.gov/MCGAppPortal/Departments.aspx

Table 1 –County's Executive Branch department & office COOP plans[6]

Departments & Offices	Number of COOP Plans
1. Community Engagement Cluster (CEC)	1
2. Community User of Public Facilities (CUPF)	1
3. Consumer Protection (OCP)	1
4. Correction & Rehabilitation (COR)	1
5. County Attorney's Office (CAT)	1
6. County Executive's Office (CEX)	1
7. Economic Development (DED)	1
8. Office of Emergency Management and Homeland Security (OEMHS)	1
9. Environmental Protection (DEP)	2
10. Ethics Commission (ECM)	1
11. Finance (FIN)	6
12. Fire and Rescue Services (FRS)	1
13. General Services (DGS)	5
14. Health & Human Services (HHS)	14
15. Housing and Community Affairs (HCA)	1
16. Human Resources (OHR)	1
17. Human Rights (HR)	1
18. Intergovernmental Relations (IGR)	1
19. Liquor Control (LIQ)	1
20. Office of Management and Budget (OMB)	1
21. Permitting Services (DPS)	1
22. Police (POL)	1
23. Public Information (PIO)	1
24. Public Libraries (LIB)	1
25. Recreation (REC)	1
26. Technology Services (DTS)	1
27. Transportation (MCDOT)	6
Total department and office COOPs reviewed	55

- Phase II - On a micro level we performed a detailed review of 10 departments and offices to assess their level of preparedness to resume business operations following a business disruptive event. We selected departments and offices for the Phase II detailed review were selected based on judgmental factors including organizational size. Criteria used for this micro review, hereinafter referred to as Phase II, are described below. As some of the 10 departments and offices have multiple COOP plans for each of their divisions, we ultimately reviewed a total of 37 continuity programs as part of Phase II. Refer to **Table 2** for details about the departmental continuity programs detailed reviewed by MCIA.

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[6] The 55 departmental and office COOPs identified represent the population that was provided to MCIA as of April 2013. Subsequently we learned that a few departments or offices may have some additional COOPs; however, only the 55 originally identified COOPs were included in our audit.

Table 2 –Departmental Continuity Program Sample Selections

Departments	Number of continuity programs Reviewed
1. County Executive's Office (CEX)	1
2. Finance (FIN)	6
3. Fire and Rescue Services (FRS)	1
4. General Services (DGS)	5
5. Human Resources (OHR)	1
6. Health & Human Services (HHS)	14
7. Management and Budget Office (OMB)	1
8. Police (POL)	1
9. Technology (DTS)	1
10. Transportation (MCDOT)	6
Total department and office continuity programs reviewed	37

Phase I began with the identification of the County's continuity planning requirements. We made inquiries with the County's OEMHS, COOP administrators, a similar sized county in the region[7], researched the internet and determined there were no official County requirements for development of COOP plans. While County requirements do not exist, Departments have committed to preparing and implementing business continuity plans as noted within the County's Emergency Operations Plan (EOP). The EOP establishes a single, comprehensive framework for the management of major emergencies and disasters within the County. We noted their commitment includes: participating in approved drills and exercises, maintaining agency-specific COOPs, safeguard vital records, train personnel and periodically review all emergency plans. We identified FEMA as a source for best practice frameworks for non-Federal entities to develop their continuity plans and programs through the FEMA CGC 1 and CGC 2 guidance documents. Additionally, we consulted with the County's OEMHS to discuss their roles and responsibilities for effectively preparing, managing and coordinating the County's response, mitigation, and recovery from a disaster. Based on the discussions and guidance reviewed, we identified eight elements of a COOP plan which we deemed critical. We tested whether each of the 27 Executive Branch department and office COOPs contained the eight elements presented below:

Table 3 –Attributes Tested during Phase I COOP Review

Attributes Tested
1 – Defined mission essential functions
2 – Defined delegation of authority & order of succession
3 – Defined alternative processing facilities
4 – Identification of vital equipment & communication devices
5 – Identification of vital records & databases
6 – Identification of human capital and key personnel
7 – Defined procedures to resume normal business operations following COOP activation
8 – Performance of tests, training and exercise programs

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[7] Prince William County

In the Phase II detailed review, the continuity programs were reviewed based upon continuity program guidance defined within FEMA CGC 1, discussions with OEMHS, Information Systems Audit and Control Association (ISACA) and Institute of Internal Audit (IIA) best practices for continuity planning.. We made in-person and telephone inquiries with department and office COOP Administrators to confirm our understanding of their continuity planning preparedness. Additionally, we examined evidence of monthly training exercises and sign-in sheets sponsored by OEMHS to confirm whether COOPs were periodically being updated and tested. The conclusions we reached during our audit are summarized in the Results section and based on our review of the individual programs and discussions with cognizant department officials. We examined each of the 10 department and offices on the following areas:

Table 4 –Attributes Examined during Phase II Continuity Program Review

Attributes Examined
Continuity Program Management
1 – Has the plan been kept up-to-date?
2 – Do personnel attend periodic continuity planning training exercises?
3 – If the department and/or office activated their COOP in the past 3 years, have results of the COOP activation been documented?
COOP Contents
4 – Have personnel been identified for maintaining the COOP and frequency of updates been defined?
5 – Have adequate details about the essential functions been defined?
6 – Has contact information for key and non-key personnel been documented?
7 - Have individual responsibilities been defined in the order of succession and delegation of authority?
8 - Has contact information for key and non-key personnel been documented?
9 - Have procedural steps for activating and implementing the COOP, as well as reconstitution of normal operations following a COOP event been defined?
10 - Have alternate processing facilities been identified?
11 - Have mechanisms to communicate information to personnel during a COOP event been identified?
12- Do building evacuation areas exist and have personnel been assigned to building evacuation roles?
13 - Has contact information for external vendor stakeholders been defined?
Business Impact Assessment
14 - Have recovery time objectives for essential functions been defined?
15 - Are recovery time objectives periodically reviewed?
Continuity Program Testing
16 - Has the continuity program been periodically tested?
17 - Have results of the continuity program test exercises been documented?
18 - Has continuity program test results been communicated to Management?
19 - Have identified issues during continuity program test exercises been resolved?

Results

Our review found that all of the County's Executive Branch departments and offices noted in **Table 1** above have implemented a continuity program, as noted by their documented COOPs, to reduce or mitigate the level of disruption an event will have on their ability to provide essential services to the County's residents. Continuity plans have generally been developed in accordance with OEMHS and FEMA guidance; however, certain deficiencies exists within the continuity plans and the overall planning program that could prohibit the departments and offices from timely recovering from a disruptive event, as noted in the observations, and Phase I and Phase II testing results. Corrective actions should be implemented to ensure the County's preparedness and ability to recover from a disruptive event, as noted in the recommendations section of this report.

Phase I Testing Results

Table 5 presented below provides details on the number of COOPs that did not include the specified eight critical elements noted in **Table 3** above. As noted in **Table 1**, we reviewed 55 separate COOPs in our Phase I testing.

Table 5 – Summary of Results from Phase I Critical COOP Element Testing

Test Attribute	Total # of COOPs without Defined Test Attribute	Percent of Missing Attributes per 55 COOPs Tested
1. Defined mission essential functions	5	9%
2. Defined delegation of authority & order of succession	4	7%
3. Defined alternate processing facilities	6	11%
4. Identification of vital equipment & communication	16	29%
5. Identification of vital records & databases	17	31%
6. Identification of human capital and key personnel	13	24%
7. Defined procedures to resume normal business operations following COOP activation	48	87%
8. Performance of tests, training, and exercise programs	46	84%

We identified a total of 155 attributes missing from the 55 COOPs tested in **Table 5** above. This represents approximately 35% of the total population of attributes tested (55 COOPs x 8 attributes = 440 total attributes tested).

Upon examination we noted only four departments maintained COOP plans addressing each of the critical COOP elements. The remaining 23 of 27 departments were missing at least one critical COOP element. By percentage, approximately 9% of the COOPs were missing critical COOP elements for Mission Essential Functions (MEFs), delegation of authority & order of succession, and alternate processing facilities. Approximately 28% of the COOPs were missing critical elements that identified vital equipment, records and personnel needed to timely recover and resume processing of its MEFs. The largest critical COOP element missing from over 80% of the plans was procedures for reconstitution of operations and the department and office's testing, training and exercise ("TT&E") programs. However, we noted that the COOP templates provided to the departments and offices by OEMHS did not identify reconstitution procedures and performance of tests, training and exercises as critical elements that should be addressed. OEMHS stated:

> "There was a conscious decision not to include reconstitution procedures in the COOP templates provided to departments and offices as the initial focus was on the identification and documentation of critical recovery components. OEMHS also excluded testing, training, and exercise information from the COOP templates because the information is part of the COOP programs and not the COOP plan."

Below is a summary of the Phase I results related to our review of the COOPs.

1. Undefined County Continuity Requirements:
   The County has not currently developed definitive county-wide requirements for the department and office continuity plans. Therefore, we examined the County's COOPs for critical elements, as defined by FEMA and OEMHS guidance, and noted COOPs did not consistently incorporate each of those critical elements. Over 80% of the County's COOPs did not define the frequency or methods of providing training to their personnel on their responsibilities for recovering from a disaster. Additionally, the COOPs consistently failed to define the frequency and manner in which they assess and validate their preparedness in recovering from a disaster. Additionally, over 80% of the County's departments and offices have not defined the steps they would take to resume normal operations after activating their COOP. Without defining critical elements that need to be incorporated into all COOPs and periodically testing the accuracy of continuity plans, departments and offices may potentially be unabled to timely recover from a disruptive event.

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Phase II Results

Table 6 presented below provides a summary of the number of departmental continuity programs that do not include industry best practices in designing, maintaining, monitoring, and/or testing their continuity plans. As noted in **Table 2**, we examined the continuity programs for the 37 COOPs from the 10 selected departments in our Phase II examination and compared them to 19 industry best practice attributes.

Table 6 – Summary of Results from Phase II Continuity Program Review

Attribute Examined	Total # of Continuity Programs Not Satisfying the Defined Attribute	Percent of Missing Attributes Per 37 Continuity Programs Reviewed
Continuity Program Management		
1 – COOP Plan kept up-to-date	2	5%
2 – Personnel attend periodic COOP training exercises	8	22%
3 – Results of COOP activation documented	29	78%
COOP Content		
4 – Defined COOP Administrators and frequency of updates	35	95%
5 – Mission essential functions are defined	7	19%
6 - Contact information for personnel defined	21	57%
7 – Defined Order of Succession and Delegation of Authority	10	27%
8 – Defined activation and reconstitution procedural steps	0	0%
9 – Identification and quantification of vital records and equipment have been defined	25	68%
10 – Primary and alternate processing facilities defined	5	14%
11 – Method of communicating information to Personnel defined	17	46%
12 – Building evacuation and evacuation roles defined	0	0%
13 – External vendor stakeholder contact information defined	33	89%
Business Impact Assessment		
14 – Recovery time objectives (RTO) defined	5	14%
15 – Recovery time objectives periodically reviewed	13	35%
Continuity Program Testing		
16 – Continuity Program is periodically tested	11	30%
17 – Continuity Program test results are documented	11	30%
18 – Continuity Program test results are communicated to Management	11	30%
19 – Continuity Program test issues are resolved	11	30%

We identified a total of 254 attributes from the 37 COOPs examined in **Table 6** above that did not satisfy the attributes examined. This represents approximately 36% of the total population of attributes examined (37 COOPs x 19 attributes = 703 total attributes).

Since the County has not established requirements for continuity planning, we examined the continuity plans against industry best practices and noted that each of the 10 departments and offices continuity plans detail reviewed had at least one attribute exception.

There was limited oversight provided by each of the department and office COOP Administrators as well as the County's OEMHS to ensure continuity plans are periodically reviewed, personnel attend continuous and periodic training to ensure they are aware of their continuity planning responsibilities, and documentation is maintained to track COOP activations for process improvement purposes.

The content contained within each of the department and office COOPs was not detailed enough to properly prepare personnel to timely recover and resume their MEFs following a disaster. The departmental COOPs should define COOP Administrator responsibilities for maintaining the continuity program, identify essential MEFs, and contact information for internal personnel as well as third-party vendors.

While a majority of the continuity plans had identified their MEFs, approximately 14% of those departments and offices had not assessed how quickly those MEFs needed to be recovered in order to minimize the impact of a disaster. Additionally, 35% of those departments and offices were not periodically reassessing those recovery objectives to ensure they were realistic or had not changed.

While OEMHS sponsored two tabletop exercises in 2013 for departments and offices to test the effectiveness of their continuity programs, not all offices participated in those exercises. When participating in exercises, records should document participants, the type of testing performed, expected and actual outcomes as well as identify areas for improvement. Testing results should be communicated with the appropriate management and any action plans should be resolved in a timely manner.

Although departments do not have independently documented procedures for restoring to normal business operations following COOP activation, it is OEMHS' belief that departments would not operate independently during a major disaster which resulted in the loss of a department's primary operating facility. Instead OEMHS developed a county-wide Pre-Disaster Recovery Plan ("Pre-DR Plan") that defines the framework to manage disaster recovery operations and resumption services for incidents with duration longer than 14 days. We inspected the Pre-DR Plan and confirmed it contains a detailed framework for the County to recover from a disaster.

Below are a summary of Phase II results related to our detailed review of specific departmental continuity plans:

1. Documentation of Continuity Program Results (Attribute 3):
   Approximately 78% of the COOP Administrators we spoke with in the departments and offices were unaware of the last time their COOPs were activated or had not maintained documentation of the results after activating their COOPs. Documenting the results of COOP activation is a best practice in order for a department to measure its ability to timely recover from a disaster. Results should include dates, individuals involved, errors encountered and lessons learned for future COOP activations. COOP Administrators told us they were unaware of the need to document the results of COOP activation due to there being a lack of County requirements for continuity planning.

2. COOP Content (Attributes 4-13)
The County's departments and offices are not periodically updating their continuity plans and the content of their COOPs lack adequate details to fully assist in the recover from a disaster.

- Approximately 95% of the COOP Administrators had not defined a timeframe for updating their COOPs. This lack in updates could result in inaccuracies in employee responsibilities or the type of data needed for recovery.
- Continuity plans have not documented the contact information for third-party vendors who support the County's essential functions for approximately 89% of the COOPs reviewed. Departments and offices may store vendor contact information in other documents besides the COOP, but we were not presented any evidence of this. Without contact information for third-party points-of-contact, the County's departments and offices may not be able to communicate to their vendors that they have had to activate their COOPs or switch to alternate processing facilities.
- In reviewing the content of the COOPs, approximately 68% had insufficient details about the quantity, type, and the availability of equipment and records need at off-site facilities to perform its essential functions. Failure to adequately identify and quantify the equipment and records needed by personnel to perform their daily operations could lead to delays in the recovering from a disruptive event.
- Contact information (e.g. name, address, email, telephone number) for key personnel supporting the department and office mission critical functions as well as contact information for non-key personnel was not documented for approximately 57% of the COOPs reviewed. The contact information for personnel should be documented and accurate to ensure all personnel are properly communicated information during a disaster.

We examined monthly WebEOC COOP drills provided by OEMHS to designated COOP administrators and noted that each monthly drill focused on reviewing and updating one element of the department's plan. Many of the COOP Administrators identified in departmental plans were unaware of the requirements to periodically update their COOPs. Additionally, we noted that COOP administrator designated in WebEOC may not be the same COOP administrators identified in the continuity plans. Inaccurate or unavailable details about the continuity recovery procedures could result in delays to provide its essential functions to the residents of the County.

3. Continuity Program Test Exercises (Attributes 16-19):
Documentation of participation in periodic COOP exercises, including actual situations and OEMHS sponsored exercises, was not evident for approximately 30% of the department and offices. Some departments maintained their exercise results within "after action" reports while other departments maintained sign-in sheets of attendance to the County's OEMHS sponsored tabletop training exercises. The lack of participating in a test of their continuity programs could lead the County's departments and offices to be unprepared for handling real-life disasters.

Currently the County does not have requirements that departments and offices periodically test or exercise their ability to recover from a disaster or disruptive event.

The observation noted below was identified during the course of the audit and has a direct impact on the County's continuity planning preparedness:

- The County's OEMHS has not established continuity planning requirements for its departments and offices to be compliant with. This includes requirements for content, maintenance, and testing of continuity plans. Without these directives, the departments and offices are not able to establish a baseline in which to be compliant with.

Conclusion

The County's departments and office have made significant strides in the development and oversight of its continuity programs and COOPs since their inception in 2009. Through our discussions with OEMHS, we recognize their commitment to improving the continuity programs at a pace that remains cost-effective to the County and prevents the continuity program process from becoming too cumbersome to manage. While the continuity program is relatively young, our audit has identified that there are areas for improvement, such as the incorporation of best practices into the continuity programs, that will assist the County in maturing its continuity programs and ensure departments and offices are properly prepared to mitigate and timely recover from a disaster or other disruption.

Recommendations

We recommend that the Director, OEMHS should:

1. Define critical elements that need to be incorporated into each of the County's continuity plans. COOP plan templates to departments should be updated to reflect any additional critical elements identified.
2. Conduct additional oversight over the County's continuity planning program. As part of this expanded oversight, OEMHS should develop metrics to track departmental and office documentation of COOP plan critical elements, completion of monthly training, and participation in test exercise programs. Results should be periodically reported to the Office of the County Executive.
3. Define continuity planning training requirements for department and office COOP Administrators, key personnel supporting Mission Essential Functions, and other County personnel, reflecting the needs of appropriate levels.
4. Define exercise performance requirements for departments and offices to test the reliability and appropriateness of their programs. The results of these exercises should be documented with details about participants involved, testing scenarios, successes and difficulties, and lessons learned.

Comments and MCIA Evaluation

We requested OEMHS to comment on a draft of this report and OEMHS did so in a July 16, 2014 memorandum and attachment (see Appendix A). OEMHS did not disagree with the recommendations in the report. It was concerned that the tone of the report did not accurately portray its accomplishments and innovative approaches, which it implemented to develop and maintain the County's COOP programs. Specifically, OEMHS highlighted its national awards, metrics, training and test exercises, Crisis Information Management System (CIMS) for departments and offices to manage and update their COOP plans, and County-wide Disaster Recovery Plan. As a result, we have made revisions to the report to highlight where we accounted for the new OEMHS approaches and the impact it had on our testing results.

We believe that the report provides a balanced assessment of the County's preparedness to handle a business disruption. We recognize the evolution of changes the County has taken since 2008 to develop and maintain COOP plans. However, through our discussions with COOP Administrators and OEMHS officials' as well as documentation we reviewed, we identified areas for improvement the County should address.

OEMHS also stated that that several criteria we audited went beyond the scope of our work. We disagree. These items were discussed as being in scope during our entrance meeting with OEMHS at the start of our audit. Specifically, we discussed the audit scope would include a review of all COOP Plans available as of April 2013 and an assessment of whether the content of those plans met Federal, State and County requirements or guidelines (Phase I testing). Additionally, we discussed the audit scope would include a more comprehensive review of a sample of departments to assess the effect of their continuity programs on their preparedness to handle a business disruption (Phase II testing).

OEMHS in its comment #1 in the attachment to its July 16, 2014 memo asserted that they lacked the authority to require departments to utilize COOP templates and that no Federal, State, and County COOP requirements currently existed. We agree no firm requirements existed. Therefore, without a minimum baseline standard that all department COOPs must abide by, we compared the content of the COOPs in Phase 1, as well as OEMHS guidance to departments, against FEMA suggested guidance. We did this because FEMA is the nationally recognized entity dealing with emergency planning and we wanted to determine whether all adequate content areas expected to be in a large organization's plans, such as the County, were being addressed.

OEMHS comment #2 disagreed with our test results that showed that approximately 87% of the departments did not have documented reconstitution procedures. OEMHS asserted their belief that departments would be covered under the county-wide Disaster Recovery Plan. We inspected the Pre-Disaster Recovery Plan provided to us by OEMHS and revised the report to note how a county-wide comprehensive approach has been established for resumption of normal business operations following a disaster. We updated our testing results to note this attribute is in place for all departments.

In its comment #3, OEMHS disagreed with the approximately 84% rate of missing attributes (referred to as an "error rate" in an earlier draft of this report) we calculated

regarding the "Performance of tests, training, and exercise programs" in Table 5 of the report. OEMHS stated we should remove the 84% rate from the report. We reviewed the supplemental evidence OEMHS provided us, but made the determination that it had no effect on the results of Table 5 because the audit scope of Phase I testing focused only on the content of information contained within the COOP plans provided to us by OEMHS as of April 2013. The minimum baseline standard we utilized to assess the content of all COOP Plans included an examination of whether the COOP Plans addressed their participation in tests, training and exercise programs. We did not expect to see actual test, training and exercise results within the COOP Plans, but we did expect the COOP Plans would define how department and offices are provided training and COOP plans are tested.

The evidence OEMHS provided us did have an effect on the results of our Phase 2 testing by demonstrating that many of the COOP Administrators were participating in training and exercise activities. We updated the results in Table 6 to reflect our assessment of the evidence presented to us. However, the evidence presented did not clearly demonstrate the assigned COOP Administrator, as identified within the COOP Plans, had completed training or exercises. We noted that COOP Administrators within the COOP plans did not always match the COOP Administrators identified within the WebEOC system. Additionally, some users were identified as COOP Administrators for multiple departmental users within the WebEOC system, yet the evidence provided to us by OEMHS only displayed a single entry of updating a COOP plan. In our opinion, this was not adequate enough to confirm whether the COOP Administrators were making updates for all departmental offices he/she was assigned to.

OEMHS comment #4 disagreed with our finding that 78% of departments and offices were unaware or had not maintained documented results of their last COOP activation. While we agree with OEMHS' statement that only a small percentage of departments and offices may have ever activated their COOP, we expected the COOP Administrators to know with certainty the COOP activation history, especially if the plans have only been in place since 2008. Those instances where COOP Administrators knew with certainty their plans had never been activated were excluded from our testing results.

OEMHS comment #5 disagreed with our testing results that 95% of COOP Administrators had not defined a timeframe to update their COOP Plans. We reviewed the supplemental evidence provided to us by OEMHS and confirmed departments and offices were participating in monthly exercises through the WebEOC system to keep their COOP plans up-to-date. This result of this evidence was reflected within the updated testing results for test attribute #1 within Table 6. The 95% omission rate for test attribute #4 related to whether COOP Administrators we spoke to were aware of the frequency of COOP plans being updated. We acknowledge in the body of the report that this high rate of omission may be the result of COOP Administrators we spoke with not being the same COOP Administrators as defined within the WebEOC system.

OEMHS comment #6 detailed their belief that the results of this report are now inaccurate due to changes in the COOP plans and programs since the start of the audit in April 2013. We acknowledged within the report that COOP Plans and the number of COOP plans may have changed since our initial review, but our audit scope for Phase I testing, as documented in Table 5, was limited only to the 55 COOP plans provided to us by OEMHS as of April 2013. We disagree with OEMHS' assertion that the report results in Table 6 have not been updated to reflect how COOP plans and participation in test

exercises is now stored electronically. We inspected the supplemental evidence presented to us by OEMHS; however, the evidence did not clearly demonstrate that assigned COOP Administrators for each department and office had participated.

OEMHS comment #7 dealt with OEMHS' concern that Table 5 of the report had not been updated with the supplemental evidence they provided us. We inspected the supplemental evidence provided by OEMHS, but made the determination that it had no effect on the results of Table 5 because the audit scope of Phase I testing focused only on the content of information contained within the COOP Plans.

Appendix A

OFFICE OF EMERGENCY MANAGEMENT
AND HOMELAND SECURITY

Isiah Leggett
County Executive

Chris G. Voss
Director

MEMORANDUM
July 16, 2014

TO: Larry Dyckman, Manager
           Office of Internal Audit

FROM   Chris Voss, Director
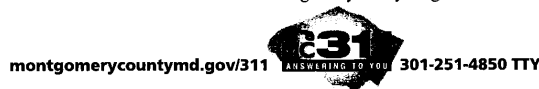   Office of Emergency Management and Homeland Security

SUBJECT: OEMHS Comments Regarding the Continuity of Operations Planning Internal
           Audit

This memo is in response to the COOP Audit performed by the Montgomery County Office of Internal Audit. This audit included a review of plans developed prior to April 2013, which were part of a program that was in its third year. As our program enters its 5th year, we have evolved from the 55 plans the County had developed and the auditor reviewed to 102 plans as of May 2014. Along with these additional plans, have been metrics, training, and exercises to improve the program even more. The COOP program has come extremely far in the last few years and OEMHS does not believe the tone in this report accurately portrays the county's accomplishments and was concerned the audit did not consider innovative approaches to the county's COOP program. OEMHS was also concerned material provided to the auditor was not reviewed and several criteria audited were beyond the scope of work.

In 2008, Montgomery County did not have a Continuity of Operations Program or a single Continuity of Operations Plan (COOP) plan for any of the 27 executive branch departments. No training was being offered, no exercises were being conducted, and most employees had never even heard of the term COOP. In 2009, the Office of Emergency Management and Homeland Security (OEMHS) began working with departments on development of a program that would help departments maintain critical operational activities after an emergency. Some highlights of the Montgomery County COOP program include:

1) We have won national awards for our COOP program.
2) The county has over 100 COOP plans and every department has at least one plan (some departments have several - One for each division).
3) Each office has a COOP representative (someone responsible for the plan).
4) Annual COOP training and exercises are offered by OEMHS to the Departmental COOP representatives.

5) OEMHS evaluates the COOP plans and provides feedback to the departments. (Of the 102 plans reviewed at the end of 2013, the average plan was more than 80% complete).
6) In developing this program, OEMHS has not requested any local funding. (All training and exercises have been grant funded).
7) The county does not have a single, full-time employee that focuses on COOP. (I have one person that reviews plans part-time, and they are grant funded).
8) There is no Federal or State mandate that we have this program. (I would categorize it as a best practice program).

The COOP program was initiated at the same time the county departments were experiencing departmental budget and staffing cuts. In order to develop a comprehensive program with little funding, the county reviewed Federal COOP guidelines and made several changes which have proved to be more efficient, more effective, and even award-winning. This audit did not take into account that the Montgomery County approach may be more effective. Two examples of the changes OEMHS made were:

1) OEMHS requested departments to develop plans in an electronic format using a Crisis Information Management System (CIMS) rather than a simple word processing system. The electronic format allows OEMHS to easily review departmental plans and to create a training program where monthly drills are utilized to further the plans advancement. Each month, the program manager for each departmental COOP is asked to log onto the system and follow a set of steps. Through this process, the departments are regularly updating and reviewing their plans. OEMHS was awarded a NACO award in 2012 for this approach. An additional advantage of centrally storing the COOP plans in WebEOC, (the CIMS in use in Montgomery County), is that it is a high-availability system, helping to ensure that departments will be able to access their COOP plans during an emergency. Unfortunately, the auditor did not review our system and how it is being used.

2) OEMHS decided not to include some elements of the Federal guidance because that same information was either already contained in other plans, or because it was inappropriate from an authority standpoint to do so. One element not included in the current OEMHS COOP template provided to departments was "Reconstitution". Federal guidance defines Reconstitution Planning as the "the process by which surviving and/or replacement agency personnel resume normal agency operations from the original or replacement primary operating facility". It was and is OEMHS' belief that events resulting in the death of county employees and the destruction of county facilities are not likely to be managed solely within a department or a division within a department. Rather than having each of the 102 COOP program managers develop this section independently, OEMHS developed a County wide Recovery Plan using Federal Guidance. This is another situation where OEMHS feels an improvement was documented in the report as a deficiency.

The two examples above are just a few improvements we have made to the Montgomery County Continuity of Operations Program. Unfortunately, these new progressive approaches to supporting COOP, which save the taxpayers money and result in better plans and a better program, also resulted in "error rates".

According to the Maryland Emergency Management Agency, most counties in Maryland do not have a Continuity of Operations Program. OEMHS believes an evaluation of local programs currently in place would have made a better comparison and would have better shown the advantages and disadvantages to our program and the programmatic approaches. While we have utilized federal guidance in the development of our own program, it is not the only source of information that has led us to develop our departmental plan template. Understanding that there may be more than one successful way to approach developing a COOP program was not considered by the auditor.

We thank you for including the audit recommendations provided by OEMHS in this latest version. Additional comments are contained in Attachment A – COOP Audit Comments:

Cc: Fariba Kassiri, ACAO
Tom Street, ACAO

Attachment A – COOP Audit Comments

Comment 1 – Page 2, last paragraph:

FEMA has developed Continuity Guidance Circular 1 (CGC 1)[1] and Continuity Guidance Circular 2 (CGC 2)[2], which provides guidance to State and local government jurisdictions for developing continuity plans and programs. However, the ultimate responsibility for determining COOP content requirements lies with individual jurisdictions, such as Montgomery County, and not with FEMA or the Federal Government. Due to the lack of County requirements, we used FEMA as the basis for our review of the County's COOP plans.

The report correctly indicates that local governments are to develop their own guidance. However, OEMHS disagrees with the report statement that there is a lack of County guidance for COOP development. OEMHS has provided departments with a template for them to complete related to COOP. The template includes Orders of Succession and Delegation of Authority, Mission Essential Functions, Alternate Facilities, COOP Program Manager, Human Capital Management, Vital Records, and Vital Equipment. These requirements are also stressed in the WebEOC COOP training and in the monthly drills. OEMHS maintains a COOP scorecard in which departmental plans are scored based upon the completeness of each of these elements. We therefore feel that the auditor approached this audit incorrectly by using FEMA "guidance", rather than using the specific criteria requested of departments by OEMHS. The auditor further expanded upon this error by not reviewing information provided by OEMHS that supports our COOP program, but is not contained within specific departmental plans.

Table 6 on page 9 of the report should be limited to criteria specified in the current OEMHS template. As stated earlier, this template includes:

- Orders of Succession/Delegation of Authority
- Mission Essential Functions
- Alternate Facilities
- Program Manager
- Human Capital Management
- Vital Records
- Vital Equipment

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[1] Continuity Guidance Circular 1 (CGC 1), *Continuity Guidance for Non-Federal Entities (States, Territories, Tribal, and Local Government Jurisdictions and Private Sector Organizations)*, dated January 21, 2009 and superseded in July 2013,
[2] Continuity Guidance Circular 2 (CGC 2), *Continuity Guidance for Non-Federal Entities: Mission Essential Functions Identification Process (States, Territories, Tribes, and Local Government Jurisdictions)*, dated July 22, 2010 and superseded in October 2013

Other categories that the auditor reviewed in Table 6 should also be excluded because they may be captured as part of a separate or different program and, in some instances, are not appropriate for COOP plans. For instance, the auditor reviewed current COOP plans for "Building Evacuation and Evacuation Roles Defined". Information regarding building evacuation, including specific evacuation roles, is included in the Facility Emergency Action Plans (FEAPs); these plans are available to everyone, and evacuation maps are posted. OEMHS is glad to see this information was evaluated and that a zero failure rate was witnessed, but maintains that departmental COOP plans should not be scored based upon whether or not they include this information.

Comment 2 – Table 5, Item 7:

For the Test Attribute of *"Defined procedures to resume normal business operations following COOP activation"*, the report identifies an error rate of 87%, but fails to report additional Federal guidance provided to local governments in 2011 related to this topic. Montgomery County is currently the only local jurisdiction in the State of Maryland with a completed Recovery Plan following guidance from the National Disaster Recovery Framework. This plan, which was provided to the auditor, addresses reconstitution planning (defined as "the process by which surviving and/or replacement agency personnel resume normal agency operations from the original or replacement primary operating facility." It is OEMHS' belief that a department would not be 'on its own' if the facility was lost and dozens of employees were killed. This is why a plan to approach these types of significant events was developed with the County as the lead as opposed to relying upon over 100 individual COOP plans where departments or divisions would be the lead. Either an explanation of our current best practice process to support recovery should be included, or this measure should be removed.

Comment 3 – Table 5, Item 8:

For the Test Attribute of *"Performance of tests, training, and exercise programs"*, the report identifies an error rate of 84%; however, it is the belief of OEMHS that documentation of tests, training, and exercises are part of a COOP *program* and not part of a COOP *plan*. Throughout the report, the auditor erroneously uses these two terms interchangeably. The reported error rate also does not take into account the departments' participation in tabletop exercises, functional exercises, and Senior Level Exercises that OEMHS has facilitated, at the departmental level and County-wide government. OEMHS provided the auditor with records of participating departments and after-action reports for these exercises. Based on the documents provided, OEMHS believes that the 84% error rate is grossly inaccurate and should be removed from the report. From an OEMHS review of the documents provided to the auditor, we have calculated an error rate of 2% for participation in exercises, based on departmental participation in the Senior Leadership exercise and/or the pandemic tabletop exercise. For training, we have calculated an error rate of 5%, based on the requirement for departmental COOP administrators to attend OEMHS-facilitated COOP training prior to gaining access to WebEOC.