

March 21, 2017

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0920

**Subject:            *Emergency Management and Business Continuity  
Report 2017-07***

The final report for Emergency Management and Business Continuity, Report 2017-07, is attached. We would like to thank all members of the department for their cooperation and assistance during the review.

Because we were able to reach agreement regarding management action plans in response to the audit recommendations, a formal response to the report is not requested. The findings included in this report will be added to our follow-up system. We will contact you at the appropriate time to evaluate the status of the management action plans.

UC wide policy requires that all draft reports be destroyed after the final report is issued. We also request that draft reports not be photocopied or otherwise redistributed.

David Meier  
Director  
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Attachment

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# UC San Diego

AUDIT & MANAGEMENT ADVISORY SERVICES

Emergency Management and Business Continuity

Report No. 2017-07

MARCH 2017

**FINAL REPORT**

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## I. EXECUTIVE SUMMARY

Audit & Management Advisory Services (AMAS) has completed a review of Emergency Management (EM) and Business Continuity (BC) as part of the approved audit plan for Fiscal Year 2016-17. The objective of our review was to assess the effectiveness of the campus's emergency preparedness planning activities and compliance with University policy.

We concluded that the EM and BC programs were generally effective in emergency preparedness planning activities and in compliance with University policy. We also found that the existing transition plan to place BC under EM was appropriate, as a combined unit would enhance overall communication and coordination, increasing the effectiveness and efficiencies in each area.

As of 2004, the University of California, Office of the President (UCOP) Risk Services (RS) adopted the National Fire Protection Association 1600 Standards (the Standards), which integrate emergency and disaster management with BC planning. In collaboration with UCOP RS, EM and BC completes an annual self-assessment of conformance to the Standards. While our review generally agreed with the FY2014-15 self-assessment, we noted opportunities for improvement to better conform to the criteria. This includes completing outstanding business continuity plans and related tabletop exercises, documenting existing prevention and mitigation strategies, conducting a resource needs assessment (RNA), and reassessing the hazard vulnerability assessment (HVA). We also observed the need to evaluate the staffing resources in EM to ensure an efficient and effective program. These enhancements would help to ensure the University's ability to respond and continue its mission in the event of a major disruption. Management Action Plans to address these findings are summarized below:

### Management Action Plans

#### A. Business Continuity Practices

The Business Continuity Manager will:

1. Continue to work with the remaining critical departments to complete outstanding continuity plans.
2. Conduct tabletop exercises on completed continuity plans.

#### B. Emergency Management Practices

EM will:

1. Continue to document their training program, as well as document prevention and mitigation strategies.
2. Reassess the HVA on a regular basis, and conduct an HVA-based RNA.

#### C. Staffing Resources

EM will evaluate staffing resources to ensure the program is able to efficiently and effectively meet its responsibilities, as well as maintain the safety of the UCSD community.

Observations and related Management Action Plans are described in greater detail in section V. of this report.

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## II. BACKGROUND

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Audit & Management Advisory Services (AMAS) has completed a review of Emergency Management and Business Continuity as part of the approved audit plan for Fiscal Year 2016-17. This report summarizes the results of our review.

The mission of the Emergency Management (EM) division is to maximize the safety of students, faculty, staff, and visitors of the University of California, San Diego (UCSD). EM currently consists of an Emergency Services Manager (ESM) and a 1.5 full-time equivalent (FTE) Emergency Services Coordinators (ESCs) to complete the division's tasks. They develop and maintain the Emergency Operations and Incident Management Plan (EOP) and department Emergency Action Plans<sup>1</sup> (EAP); prepare the campus through Campus Emergency Response Team (CERT) training; place and maintain Automatic External Defibrillators (AED) and Emergency Supply containers throughout campus; and host tabletop exercises such as active shooter and power outage exercises. EM is also responsible for the coordination of UCSD's mass notification alert system, Triton Alert.

The EM process is composed of four main phases: mitigation, preparedness, response, and recovery. The EM division fulfills the first three phases through its emergency preparedness programs and project management, training coordination, and support for the Emergency Operations Center (EOC). The recovery phase of EM is generally conducted in coordination with business continuity (BC). BC planning helps an organization continue to provide a minimum acceptable level of service during, and in the immediate aftermath of, a disruption. Continuity planning prepares the University to continue its mission of teaching, research, public service, and patient care through any disruptive event. UCSD's BC activities are currently managed by a Business Continuity Manager (BCM) who provides direct support to departments in all aspects of continuity planning. This includes business impact analysis, recovery plan development, and disaster recovery strategies and options.

In 2004, the University of California (UC) Office of the President (UCOP) Risk Services (RS) adopted the National Fire Protection Association (NFPA) 1600 Standards (the Standards), which integrate emergency and disaster management with BC planning. As the NFPA releases revised Standards triennially, a UCOP RS workgroup develops a benchmarking guide that defines specific measurable performance benchmarks for the varying degrees of conformance with each programmatic criteria. Each campus annually conducts self-assessments of their EM and BC program performances against the benchmarking guide. The self-assessments, along with executive summaries, are compiled into an annual system-wide EM status report.

Historically, UCSD has had an EM-centric program that did not address BC. Following the adoption of the Standards, UCSD's ESM reviewed the existing program and identified the need to conduct hazard identification assessments, create contingency plans, and develop mitigation strategies. As a result, EM hired a BCM through UCOP RS's matching funding program<sup>2</sup> to collaborate with campus

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<sup>1</sup> An EAP contains necessary information to respond to emergency situations (e.g. emergency contact information, assembly areas, etc.).

<sup>2</sup> Since 2009, UCOP RS has offered a matching program funding of up to \$100,000 to staff BC positions at each campus. The matching funding program was created to encourage UC campuses to staff the EM field and is not meant to be permanent funding for the BC program. Funding from RS may not be available in the future.

departments and develop cohesive continuity plans that capture business activities and resources needed to perform those activities.

UCOP RS coordinated with UC Berkeley (UCB) to modify and roll out UCB's existing continuity planning program. In 2009, the program was branded as "UC Ready" and implemented system-wide. UC Ready allowed campus departments to easily produce a continuity plan that identified general information about the department, department essential functions, resources needed to perform those functions, and action items to lessen the impact of any potential crisis. UCSD's BCM set forth to assist over 250 departments and organizational research units to complete their continuity plans. In 2014, UCOP RS noted weaknesses within the existing UC Ready tool and redesigned the tool to address those weaknesses, including a new focus on business impact analysis. The redesigned tool was deployed in July 2015.

In 2013, UCSD's EM and BC were separated through an organizational restructure with EM reporting under the Vice Chancellor (VC) of Resource Management and Planning (VC-RMP) and BC reporting under the VC of the Chief Financial Officer (VC-CFO)<sup>3</sup>. The change in reporting structure, coupled with the deployment of the new UC Ready tool, allowed the BCM and Chief Administrative Officer (CAO) for Business Continuity to re-strategize the approach to complete continuity plans. Instead of creating plans for all campus departments, departments identified as essential to, or contributing directly to, the mission of UCSD would have developed continuity plans. The team, with assistance from campus leadership, identified 55 critical departments.

While the BCM currently reports administratively to the Procurement and Contracts Assistant Director of Business and Analytics, the position requires significant collaboration with the EM division to plan and coordinate meetings/trainings, conduct the annual self-assessment, and maintain conformance with the Standards. In 2015, the VC-RMP and VC-CFO agreed that the campus would benefit from a joint EM and BC program. It was decided that the two programs would transition back together by the end of Fiscal Year 2018, under the stipulation that significant progress was made towards completing department continuity plans for critical business functions within Business and Financial Services (BFS)<sup>4</sup>.

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### III. AUDIT OBJECTIVE, SCOPE, AND PROCEDURES

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The objective of our review was to assess the effectiveness of the campus's emergency preparedness planning activities and compliance with University policy. In order to achieve our objective, we performed the following:

- Reviewed system-wide, local, and national policies/standards, including, but not limited to:
  - UC Business and Finance Bulletin (BFB) Information Security (IS)-12: *Continuity Planning and Disaster Recovery*,
  - UC Policy on Safeguards, Security and Emergency Management,

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<sup>3</sup> BC previously reported to the VC – Business Affairs (VC-BA).

<sup>4</sup> BFS includes the following divisions: Administration, Central Cashier's Office, Office of the Controller, Financial Analysis & Planning, General Accounting, Integrated Procure-to-Pay Solutions, Office of Post Award Financial Services, Payroll, Program Management and Business Integration, and Student Business Services.

- UCSD Health Medical Center Policy (MCP) 801.4: *Disaster Recovery and Business Continuity Plan*, and
- The 2010, 2013, and 2016 NFPA 1600 Standards.
- Interviewed the following personnel:
  - Current and former ESMs,
  - Current and former ESCs,
  - Environment, Health, & Safety (EH&S) Director,
  - EH&S Associate VC,
  - Current and former BCM,
  - UCSD Health System Emergency Manager,
  - Procurement and Contracts Assistant Director of Business and Analytics,
  - Campus Police Chief,
  - Former CAO for Business Continuity, and
  - UCOP Emergency Management & Environmental Protection Program Manager;
- Reviewed the following documents:
  - 2015 Systemwide Emergency Management Status Report,
  - 2012 Peer Review of EM and BC,
  - UCSD's Hazard Vulnerability Assessments (HVA),
  - Program organizational charts,
  - BC Planning overview and strategic plan,
  - UCOP HVA Summary Report,
  - UCOP Hazard Mitigation Progress Report,
  - UCOP Crisis Communications Plan, and
  - UCOP Management Response Plan; and
- Evaluated completed continuity plans, the EOP, and other related documents to determine conformance to the Standards.

We did not evaluate the system in use for emergency notifications, and corresponding business practices, because the campus is in the process of evaluating software options.

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## IV. CONCLUSION

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Based on our review, we concluded that the EM and BC programs were generally effective in emergency preparedness planning activities and in compliance with University policy.

We found the transition plan to place BC under EM to be appropriate. There was a consensus among the personnel interviewed that UCSD would benefit from a single cohesive department to house the EM and BC programs. For instance, it would alleviate confusion for departments that need to complete both an EAP and a continuity plan. Currently, the ESCs and BCM will contact departments separately to complete their EAP and continuity plans, respectively. However, departments view the two programs as being the same, resulting in a need to clarify the differences between the two plans. Although the programs attempt to coordinate department interactions, a combined unit would enhance overall communication and coordination, thereby increasing the effectiveness and efficiencies in each area. At the time of our review UCSD, UC Los Angeles, and UC Merced were the only campuses in the system with separate EM and BC programs. UC Merced also has plans to consolidate the two programs.

While our review generally agreed with the FY2014-15 self-assessment, we noted opportunities for improvement to better conform to the criteria. These enhancements would ensure the University's ability to respond and continue its mission in the event of a major disruption. Our observations are discussed in further detail in the balance of this report.

## V. OBSERVATIONS REQUIRING MANAGEMENT ACTION

|   |  |
|---|--|
| <b>A.</b>   | <b>Business Continuity Practices</b>   |
| Continuity plans had not been completed for all critical departments under the new UC Ready tool. In addition, tabletop exercises had not been conducted on the completed plans.  |  |
| <b>Risk Statement/Effect</b>  |  |
| Incomplete continuity plans may decrease the ability to provide vital services, may delay recovery in the event of a disruption, and may negatively impact UCSD's ability to continue its mission. Additionally, untested continuity plans may not provide sufficient information, affecting a department's ability to recover. |  |
| <b>Management Action Plan</b>   |  |
|   | The BCM will:  |
| A.1   | Continue to work with the remaining critical departments to complete outstanding continuity plans. |
| A.2   | Conduct tabletop exercises on completed continuity plans.  |

### A. Business Continuity Practices – Detailed Discussion

While the newly designed UC Ready tool provides meaningful information, it does not appear user-friendly, requiring the BCM to meet with departments to create the plans. Since the tool deployed in July 2015, 27 continuity plans have been completed and 14 are currently in process. Once completed, the plans require annual reviews as they are living documents with regularly changing information. As a stipulation of the transition plan, the BC team must make significant progress with the continuity plans of critical business functions within BFS (e.g. Payroll and Human Resources) before transitioning the function back under EM. These plans are expected to be completed by the end of calendar year 2017.

Additionally, the Standards state that exercises and tests should be conducted to “evaluate program plans, procedures, training, and capabilities to identify opportunities for improvement.” Tabletop exercises of department continuity plans would allow the departments to evaluate the completeness of the plans and determine if it is sufficient to recover critical operations. During our review, the BCM indicated tabletop exercises had not yet been conducted on the plans. The current approach is to conduct the exercises upon full completion of all critical departments' plans.

|   |   |
|---|---|
| <b>B.</b>   | <b>Emergency Management Practices</b>   |
| Some recommended best practices, such as prevention/mitigation strategies and a resource needs assessment (RNA), were not documented or conducted. Additionally, the HVA was not assessed on a regular basis. |   |
| <b>Risk Statement/Effect</b>  |   |
| The absences of best practices may weaken or impact UCSD’s readiness and ability to continue its mission in the event of a hazardous event.   |   |
| <b>Management Action Plan</b>   |   |
|   | EM will:  |
| B.1   | Document prevention and mitigation strategies, and continue to document their training program. |
| B.2   | Reassess the HVA on a regular basis, and conduct an HVA-based RNA.                              |

**B. Emergency Management Practices – Detailed Discussion**

The Standards provide specific details on components that should be included in an EM program. For example, a strategy should be developed “to prevent an incident that threatens life, property, operations, information, and the environment.” Additionally, the program should “develop and implement a mitigation strategy that includes measures to be taken to limit or control the consequences, extent, or severity of an incident that cannot be prevented.” The EOP includes their current training program, as well as a section on mitigation and preparedness. However, a documented explanation of the prevention and mitigation strategies did not exist.

Furthermore, we found that the HVA, which identifies UCSD’s hazards and monitors the likelihood and severity of their occurrence over time, had not been reassessed on a regular basis. Only the 2005 and 2014 HVA records were available for our review. While the Standards do not mandate a specific time period to conduct reassessments, they indicate that it should be performed as changes to the entity and hazard/risk exposure occur and as available knowledge develops. Although fairly current and accurate, the 2014 reassessment was conducted prior to the current ESM’s hire. A more recent assessment would allow the new ESM to better understand the hazards that threaten UCSD’s mission and evaluate the adequacy of existing prevention and mitigation strategies.

During our review we found that an RNA based on the HVA had not been conducted. This assessment is essential to determine the types and quantities of resources necessary (e.g. human resources, equipment, facilities, and technology), as well as the time frames within which they will be needed.

|   |                           |
|---|---------------------------|
| <b>C.</b>   | <b>Staffing Resources</b> |
| During our review, we noted that limited staffing resources in EM impacts the ability to complete the program’s tasks in a timely manner. |                           |

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|---|---|
| <b>Risk Statement/Effect</b>  |   |
| The lack of available resources impacts the ability to provide an efficient and effective EM program, which reduces the ability to meet the program’s mission of maximizing the safety of students, staff, faculty, and visitors. |   |
| <b>Management Action Plan</b>   |   |
| C.1   | EM will evaluate staffing resources to ensure the program is able to efficiently and effectively meet its responsibilities, as well as maintain the safety of the UCSD community. |

### C. Staffing Resources – Detailed Discussion

In prior years, the EM and BC program was staffed with an ESM and 2.5 FTE ESCs/BCM. Although the two separated programs operate with similar staffing resources, the workload of EM has greatly increased. They have found the need to conduct more frequent EOC and CERT trainings to ensure readiness and awareness of EOC and community members. Additional efforts have also been expended to implement a mass notification system, complete department EAPs, and manage the AED and Emergency Supply programs. With the current staffing, the 2.5 FTE assigned to EM appeared insufficient to meet the goals of the program. The ESM has found that tasks are taking longer to complete because of their increased workload. The staff are unable to be proactive in completing necessary duties and are only able to shift their focus as deadlines approach. During the development of the FY16-17 funding request, the ESM was relatively new to the budgeting process and had not known to include a formal request for additional staffing resources.

In addition to the EM tasks, the EM unit provides resources to the Behavioral Threat Assessment and Management Team (BTAMT). The ESM co-chairs the BTAMT with the Director of Student Affairs Case Management Services. The BTAMT function exists to mitigate behavioral threats on campus through an integrated process of communication, education, prevention, problem identification, assessment, intervention, and response to incidents. Due to the escalating number of public safety-threatening situations, elevated emphasis has been placed on behavioral threat. Other EM-related items that fall under the ESM may lose priority in order to accommodate the time-sensitive behavioral threat cases.