Performance Audit Report

Emergency Preparedness at North Dakota State University

Report No. NP-006-17

January 11, 2018

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Office of the State Auditor Division of NDUS Performance Audit

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January 11, 2018

State Board of Higher Education Members of the North Dakota Legislative Assembly

We are pleased to submit this performance audit. The subject matter of this audit included certain aspects of emergency operations at North Dakota State University.

We conducted this audit under the authority granted within North Dakota Century Code Section 54-10-30. Included in the report are the audit scope and objectives, findings and recommendations, and management responses.

The in-charge auditor for this audit was Brian Hermanson. Craig Hashbarger, CPA, CIA, CFE was the audit manager. Inquiries or comments relating to this audit may be directed to the audit manager by calling (701) 239-7274. We wish to express our appreciation to the staff and management of North Dakota State University for the courtesy, cooperation, and assistance they provided to us during this audit.

Respectfully submitted,

/S/

Joshua C. Gallion State Auditor

Executive Summary

Introduction

Emergency operations plans and continuity of operations plans are essential elements of an institution's security policy. The purpose of our audit was to determine the nature and extent of North Dakota State University (NDSU)'s policies and procedures regarding emergency preparedness. Following is a description of the objective and an overview of the findings.

Objective 1

• Does NDSU have an effective strategy regarding the development and implementation of an emergency operations plan?

We determined NDSU has developed an emergency operations plan. However, several opportunities for improvement were identified regarding the development and implementation of the plan.

- NDSU lacks a collaborative planning team consisting of a cross-section of the institution. (pages 7-8)
- NDSU lacks a formalized emergency operations risk assessment process. (pages 8-9)
- NDSU lacks documented goals and objectives regarding emergency operations. (pages 9-10)
- NDSU does not identify procedures for high-risk incidents/emergencies in the EOP (Pages 10-11)
- NDSU lacks formalized minimum training requirements in the EOP. (page 11)
- NDSU lacks formalized minimum exercise requirements in the EOP. (pages 11-12)
- NDSU lacks a formalized process for periodically reviewing and revising the plan at least every 2 years. (page 12-13)

Objective 2

• Does NDSU have an effective continuity of operations plan (COOP)?

We determined NDSU does not have a COOP implemented as required by SBHE Policy 906.

• NDSU lacks a comprehensive COOP. (pages 14-15)

Background Information

Introduction

Institutions of higher education, as with any other public or private entity, are at risk of being impacted by a variety of emergencies, ranging from natural disasters such as floods, blizzards and tornadoes, to fires, active shooter incidents, and pandemics. These disasters can, and do, result in injury and loss of life, as well as damage to infrastructure and business interruptions.

Emergency Operations Plans

The State Board of Higher Education, in recognition of the importance of North Dakota University System's (NDUS) emergency preparedness, adopted Policy 906 (SBHE 906) effective May 16, 2012. SBHE 906 establishes the requirement for all NDUS institutions to "develop and implement comprehensive Emergency Management Plans." SBHE 906 defines an emergency management plan as "a comprehensive, integrated plan that addresses emergency preparedness, emergency management, disaster and emergency response and recovery, mitigation, and continuity of operations."

The Federal Emergency Management Agency (FEMA) states that emergency preparedness "establishes organizational readiness to minimize the adverse impact of these events by means of active responses to protect the health and safety of individuals and the integrity and functioning of physical structures." (Fundamentals of Emergency Management chapter 9 AEMRC). In other words, the purpose of an emergency management plan is to save lives, prevent or mitigate injury, and prevent or reduce damage to critical infrastructure. An emergency management plan also facilitates timely recovery and restoration of the institution's functions.

The federal government recognizes the importance of robust emergency operations plans in the nation's colleges and universities. Accordingly, in 2013 the US Department of Education, in cooperation with six federal agencies, developed a Guide for Developing High Quality Emergency Operations Plans for Institutions of Higher Education (IHE Guide). The IHE Guide recognizes that "postsecondary institutions are entrusted to provide a safe and healthy learning environment for students, faculty, and staff who live, work and study on campus."

The term "emergency management plan" is used by SBHE 906, and "emergency operations plan" is used by FEMA and the IHE guide. Both terms can be used interchangeably for purposes of this report, but for the sake of clarity we will use the term "emergency operations plan," or "EOP."

Continuity of Operations Plans

Institutions of higher learning are at risk of being impacted by a variety of emergencies, ranging from natural disasters such as floods, blizzards and tornadoes, to fires, active shooter incidents, cyber-attacks, and pandemics ("continuity events"). In addition to risking lives, injury and/or property damage, these disasters can, and do, result in disruptions in teaching, research, public service and other business operations. According to *Building a Disaster-Resistant University*, continuity events can harm institutions of higher learning by resulting in "faculty and student departures, decreases in research funding, and increases in insurance premiums."

In recognition of the risk posed by disruptions in organizations' essential functions, FEMA provides guidance for development and implementation of continuity of operations plans (COOPs). A COOP provides a framework to enable an organization to continue essential functions if an event at the organization or in the region threatens operations or requires the relocation of select personnel and functions. In 2009, FEMA, to provide guidance to non-federal entities in developing COOPs, issued Continuity Guidance Circular 1, *Continuity Guidance for Non-Federal Entities* (CGC 1).

CGC 1 outlines ten elements deemed necessary for an "effective continuity capability." Some of these ten elements include: identification of an organizations essential functions; continuity facilities; continuity communications; tests, training, and exercises (TT&E) and others. Identification of essential functions is the base of a continuity capability. CGC 1 states, "the primary goal of continuity is the continuation of essential functions."

While a COOP is an important component of an EOP, the mission, goals and objectives of a COOP may not necessarily be the same as those of an EOP. The EOP addresses all aspects of prevention, protection, mitigation, response and recovery, while a COOP focuses on continuing to carry out essential functions of the entity and maintaining them during and after an incident. Moreover, not all emergencies will result in a continuity event, and not all continuity events are a result of an emergency.

Objectives, Scope and Methodology

Purpose and Authority

This performance audit of North Dakota State University's (NDSU) emergency operations plan has been conducted by the Office of the State Auditor pursuant to authority within North Dakota Century Code ("NDCC") Chapter 54-10.

Performance audits are defined as engagements that provide assurance or conclusions based on an evaluation of sufficient, appropriate evidence against stated criteria, such as specific requirements, measures, or defined business practices. Performance audits provide objective analysis so management and those charged with governance and oversight can use the information to improve performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability. The purpose of this report is to provide analysis, findings and recommendations with respect to the audit objectives.

Objectives of the Audit

The objectives of our audit were to answer the following questions:

- Does North Dakota State University have an effective strategy regarding the development and implementation of an emergency operations plan?
- Does NDSU have an effective continuity of operations plan?

Audit Scope

We conducted this performance audit in accordance with *Generally Accepted Government Auditing Standards*. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We primarily used two sources of criteria for developing our findings and conclusions.

SBHE 906, effective May 16, 2012 was implemented with the intention of "meeting federal and state emergency preparedness requirements." SBHE Policy 906 identifies several requirements for all NDUS institutions with respect to the development and implementation of emergency operations plans, including specific elements required to be included in each plan.

The IHE Guide, developed in 2013 in cooperation with various federal agencies, is a source of "good practices and matters to consider for planning and implementation purposes." It is not considered to be a source of laws or regulations; rather, it is a source of overarching principles, best practices and implementation guidance to enable institutions of higher learning to develop and implement effective emergency operations plans.

The subject matter for this objective consisted primarily of the North Dakota State University emergency preparedness policies and procedures in place as of August 31, 2017.

Relevant Laws, Policies, Contracts and Agreements

The most significant applicable policy relating to emergency preparedness is SBHE Policy 906.

SBHE Policy 906.1 states "The Chancellor and each institution president are responsible for ensuring that the NDUS Office and each institution develop and implement a comprehensive Emergency Management Plan, including emergency preparedness and continuity of operations, in order to meet federal and state requirements and NDUS and institution needs."

While federal law is not specifically tested in the scope of this audit, the IHE Guide incorporates several federal laws in its guidance. The most significant of these is the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act (better known as the Clery Act.) The Clery Act includes institutional notification responsibilities, focusing on emergency notification and timely warning requirements. It also includes requirements for reporting crime statistics and security-related policies, as well as performing a minimum number of tests of the institution's "emergency response and evacuation procedures."

Audit Results – Objective 1: Emergency Operations Plan

Statement of Objective and Conclusion

The objective of our audit was to answer the following question:

• Does NDSU have an effective strategy regarding the development and implementation of an emergency operations plan?

We determined NDSU has developed an emergency operations plan. However, several opportunities for improvement were identified regarding the development and implementation of the plan.

We communicated certain matters of lesser significance in a separate letter to management.

Audit Methodologies

To accomplish our objective, we conducted inquiries of members of management responsible and/or knowledgeable about emergency operations and security at NDSU. We also reviewed documented emergency operations policies and procedures.

Findings, Recommendations, and Responses

Collaborative planning team

The IHE Guide recommends the formation of a "collaborative planning team" for developing and implementing the EOP. The IHE Guide recommends the team include representatives from throughout the institution of higher education (IHE), as well as student and faculty representatives as applicable. This helps to ensure the interests of all significant stakeholders are represented. The IHE Guide also suggests the planning team should include first responders, local emergency managers or others who "have roles and responsibilities in IHE emergency management before, during, and after an incident."

SBHE Policy includes similar requirements of its institutions. SBHE 906.4 requires EOPs to include "establishment of an institution emergency management task force or committee, chaired by the institution's chief emergency officer."

Furthermore, the IHE Guide states that "Each person involved in the development and refinement of the plan should know his or her role and responsibilities in the planning process." These roles ensure that team objectives are met and members are held accountable. SBHE 906 requires "identification of and assignment of responsibilities to officers and employees in different units and various levels within the institution," as well as "clear and complete statements of assigned responsibilities."

NDSU currently has a planning team which consists primarily of members of the office of safety and security department and is led by Mike Borr, Director of Campus Safety and Security. The planning team does not consist of a cross-section of various stakeholders of the university. The roles and responsibilities of the collaborative planning team are not identified or assigned in the EOP.

Recommendation 1-1

We recommend North Dakota State University establish a collaborative planning team consisting of a cross-section of various stakeholders of the university. We further recommend North Dakota State University identify, assign, and document roles and responsibilities to members of the collaborative planning team.

NDSU Response:

Agree. NDSU does have an established collaborative planning/response team consisting of members from University Police and Safety, Finance and Administration, Residence Life, Student Affairs, University Relations, and President's office. Roles for the established collaborative team members have been informally assigned, however these roles will be evaluated for consistency with recommended guidelines and more formally assigned and documented as part of an updated and comprehensive Emergency Operations Plan, currently in draft form, to be completed by June 30, 2018.

Risk Assessment

Upon assembly of the collaborative planning team, SBHE policies and the IHE Guide recommend a formalized risk assessment of potential emergency events. This facilitates an appropriately tailored emergency operation plan which allocates each institution's limited resources to the highest risk threats.

SBHE 906.5 states, in part, that "[emergency operations plans] may also include...a threat analysis and risk assessment of potential natural, technological and adversarial hazards which may impact an institution."

According to the IHE Guide, the emergency operations planning team "first needs to understand the threats and hazards faced by the IHE and surrounding community." In order to develop an appropriately tailored emergency operations plan, management should use its internal expertise, as well as that of outside experts as appropriate, to identify a range of potential threats. Upon identifying those potential threats, management should evaluate the risk posed by each threat or hazard. According to the IHE guide, management should consider the probability a threat or hazard may occur, severity of the impact, time to warn students and other stakeholders, and how long the threat may last. Such assessments may take many forms and involve a wide variety of tools and methods.

Because the nature of certain risks may change over time, the IHE Guide states risk assessments should not only occur upon initial development of the plan, but also on an ongoing basis to "inform updates and revisions to the plan."

North Dakota State University started a risk assessment back in 2007 which identified critical hazards/incidents which could impact the university. However, since 2007, NDSU has not completed a formal documented risk assessment and does not have a formal ongoing risk assessment process to identify and evaluate potential emergency events.

Recommendation 1-2

We recommend North Dakota State University implement a formal risk assessment process to periodically identify and evaluate potential threats and hazards. Furthermore, we recommend North Dakota State University incorporate the identified threats and hazards identified in the formal risk assessment into its EOP.

NDSU Response:

Agree. NDSU has informally evaluated and identified risks, threats and hazards based on institutional knowledge and experience along with what higher education institutions nationwide face. A formalized process for evaluating the threat environment will be documented and included as part of the updated and comprehensive Emergency Operations Plan, currently in draft form, to be completed by June 30, 2018 and continuous improvement efforts will be managed in compliance with SBHE Policy 906.

Goals and Objectives

The IHE Guide recommends the planning team develop goals and objectives for each significant emergency threat and hazard based on the formalized risk assessment. The IHE Guide recommends development of at least three goals for each applicable threat and hazard, indicating the desired outcome before, during, and after the emergency event. Each identified goal should include one or more objective(s) which the IHE Guide define as "specific, measurable actions that are necessary to achieve the goals."

The following is an example identified in the IHE Guide of possible goals for an IHE with respect to the threat of fire. These are only examples and are not intended to serve as a substitute for the judgment of the collaborative planning team:

- Hazard Goal Example 1 *(before):* Prevent a fire from occurring in IHE-governed student housing facilities.
- Hazard Goal Example 2 (*during*): Protect all persons from injury and property from damage by the fire.
- Hazard Goal Example 3 (after): Provide necessary medical attention to those in need.

The IHE guide provided the following example objectives related to these goals:

- Objective 1.1 (*before*): Provide fire prevention training to all students and resident advisors who use combustible materials or equipment.
- Objective 2.1 (*during*): Evacuate all persons from the building immediately.
- Objective 3.1 *(after)*: Immediately notify fire department and EMS personnel of any fire in a student housing facility.

NDSU has not developed formalized goals and objectives with respect to emergency threats or hazards.

Recommendation 1-3

We recommend North Dakota State University establish formalized disasterspecific related goals and objectives for each significant emergency incident. Each significant disaster should have at least three goals and the desired outcome before, during, and after the emergency event.

NDSU Response:

Agree. NDSU has established processes and protocols for responding to threats, hazards, and emergencies, including after action reports, but the current process is not formalized and documented as recommended in the IHE Guide. A formalized protocol and process will be included as part of the updated and comprehensive Emergency Operations Plan, currently in draft form, to be completed by June 30, 2018.

Develop the Emergency Operations Plan

The IHE Guide states that, upon identification of the EOP goals and objectives, the planning team should "develop courses of action for accomplishing each of the objectives identified." In other words, the team should identify and document the specific action items necessary to accomplish the previously determined goals and objectives.

SBHE 906 requires EOPs to include "Procedures for shelter-in-place, evacuations, bomb threats, fires and explosions, chemical spills, tornadoes, floods, winter storms or other natural disasters, etc." The extent to which these individual threats and hazards, as well as other potential emergencies, are addressed within the EOP should be based upon the planning team's individual risk assessment.

NDSU has documented procedures in the campus safety and fire report for several potential emergencies such as severe weather, building lockdown, fire, emergency evacuations, etc. However, these procedures for potential emergencies are not identified in or referenced from the master EOP.

Recommendation 1-4

We recommend North Dakota State University incorporate procedures for potential emergencies, based on disaster-specific goals and objectives, in the EOP. Management may consider using disaster-specific annexes to outline specific procedures, roles, and responsibilities related to the disaster.

NDSU Response:

Agree. NDSU has a Crisis Management Response Plan (CMRP) and procedures for potential emergencies documented in other reports and materials (Annual Security Report and Annual Fire Report) but the current process is not formalized in an Emergency Operations Plan. It should be noted that the existing CMRP, which has been in place for a number of years, has provided the response framework that has allowed NDSU to effectively address a number of emergencies including threats of flooding, fires, bomb threats, campus evacuation, hazardous material spills, etc. This response framework will be an integral to the updated and comprehensive Emergency Operations Plan that is currently being drafted to include these procedures and will be completed by June 30, 2018.

Implement the Emergency Operations Plan

Both SBHE 906 and the IHE Guide provide guidelines for implementing the EOP.

SBHE 906.4 requires each EOP to include "Minimum training requirements...and assignment of training responsibilities." Minimum training requirements further includes Incident Command System (ICS) training for employees in ICS positions. (ICS is a combination of elements within an organization which aid in resource management during incidents.) It also requires the EOP to include "minimum exercise requirements and assignment of exercise responsibilities." The IHE Guide also emphasizes the importance of both training and exercises. Training, as defined by the IHE Guide, involves familiarizing the campus community with the EOP and community partners; and training campus community members on necessary skills to enable them to carry out the EOP.

NDSU's EOP states "designated university officials and staff undergo training related to the National Incident Management System (NIMS) as outlined and prescribed by the department of Homeland Security." Management provided documentation which identifies all members of the university police and safety office have received some level of training regarding NIMS. In our review of NDSU police and safety office position descriptions, we noted two of 15 of these position descriptions included specific training requirements related to ICS/NIMS. However, the plan does not identify specific personnel, or the corresponding training required to execute the roles and responsibilities of each position.

Recommendation 1-5

We recommend North Dakota State University incorporate minimum training requirements into its comprehensive EOP in accordance with SBHE 906. We further recommend North Dakota State University ensure all ICS positions have documented minimum training requirements.

NDSU Response:

Agree. An updated and comprehensive Emergency Operations Plan is currently being drafted to be completed by June 30, 2018 and will include these minimum training requirements. The ICS positions will include documented minimum training requirements at the same time.

Exercising the EOP is separate from training. The IHE Guide defines "exercises" as follows: "Exercises provide opportunities to practice with community partners including first responders and local emergency management as well as to identify gaps and weaknesses in the plan." In other words, exercising the plan involves practicing the implementation of the plan under various emergency scenarios. Exercises typically include some combination of tabletop exercises, drills, functional exercises, and full-scale exercises. NDSU conducted a variety of exercises and tabletops during 2015 and 2016 regarding fire evacuations, active shooter, and chemical spills. However, there are no minimum exercise requirements or assignment of exercise responsibilities identified in the EOP.

Recommendation 1-6

We recommend North Dakota State University identify minimum requirements related to conducting and reviewing exercises in its EOP, in accordance with SBHE Policy 906.

NDSU Response:

Agree. NDSU has conducted and reviewed at least one exercise annually, as required by the Federal Clery Act. Minimum requirements will be documented in the updated and comprehensive Emergency Operations Plan, currently being drafted, to be in accordance with SBHE Policy 906 and will be completed by June 30, 2018.

Maintain the Plan

As with any statement of policies and procedures, the EOP should include a process for reviewing, revising, and maintaining the plan. As the planning team learns new information and insight, or the risk related to certain events increases or decreases, the plan should be modified accordingly.

SBHE 906 includes several requirements related to maintaining, reviewing and updating the EOP. SBHE 906.4 requires each plan to include "a process to review and update the Plan as necessary, not less frequently than every four years."

The IHE Guide suggests the collaborative planning team, in addition to developing the plan, review and maintain the plan. The IHE Guide further suggests that each part of the plan should be reviewed and revised at least once every two years. It suggests that an IHE may find it useful to review specific portions of the plan rather than reviewing the entire plan all at once. It also recommends each institution consider reviewing and updating the plan after certain events such as actual emergencies, formal exercises, changes in key personnel, or changes in threats or hazards.

NDSU currently does not have a formal review process for the EOP and the other appropriate documents. The EOP states, "this plan is not intended to be all inclusive and is understood to be a "living document" which will need to be reviewed and updated as events necessitate." Furthermore, the EOP states that "housekeeping updates to the plan, such as changes in flow chart staffing names and numbers, may be conducted by the University Police and Safety Office and provided to plan holders." Upon inspection of the current version of the EOP, the plan was last adopted and reviewed by other members of management in 2010.

Recommendation 1-7

We recommend North Dakota State University implement formal policies for periodically reviewing and revising the EOP involving the collaborative planning team. The policy for reviewing the EOP should provide for updates arising from actual emergencies, drills, and exercises (and subsequent after-action meetings). It should also ensure all parts of the plan are reviewed at least every two years.

NDSU Response:

Agree. The updated and comprehensive EOP plan will document the process, policies and frequency for the periodic review and revision of the plan including the involvement of the collaborative planning team. Currently, after-action reports are completed after actual emergencies and are available for resource and reference; however, a more formalized process will be included in the updated and comprehensive plan completed by June 30,2018, to be in accordance with SBHE Policy 906.

Audit Results – Objective 2: Continuity of Operations Plan

Statement of Objective and Conclusions

The second objective of our audit was to answer the following question:

• Does NDSU have an effective Continuity of Operations Plan (COOP)?

We determined that NDSU did not have an effective COOP developed or implemented.

Audit Methodologies

To accomplish our objective, we inquired with management regarding a COOP implemented at the university. However, management did not have a documented/implemented COOP to provide.

Continuity of Operations Plan (COOP)

In addition to risks of injury, loss of life, and property damage, emergencies can also cause an interruption of the organization's important functions. SBHE 906 defines Continuity of Operations as "a plan to assure the capability exists to continue essential agency or institution functions across a wide range of potential disasters or emergencies." In other words, a Continuity of Operations Plan (COOP) is a plan in which the institution identifies its essential functions and identifies the means to carry out those functions if an emergency event occurs.

SBHE 906.1 requires each institution to have a continuity of operations plan as part of its comprehensive EOP. SBHE 906.4 requires institutional EOPs to include "identification of critical infrastructure, key assets and **essential functions**." (emphasis added)

The IHE Guide provides some examples of "essential functions" applicable in a higher education setting. These may include: business services such as payroll or purchasing, facilities maintenance, safety and security, and continuity of instruction. The IHE Guide suggests that the COOP should be designed "so that it can be activated at any time and [the identified essential functions] sustained for up to 30 days."

NDSU does not have a formalized COOP in place. As a result, in an emergency or other continuity event, there is an increased risk of extended interruption of some of NDSU's essential functions, or excess cost and effort needed to maintain such functions.

Recommendation 2-1

We recommend North Dakota State University implement a comprehensive continuity of operations plan.

NDSU Response:

Agree. The EOP currently being drafted will incorporate the COOP framework, and will be implemented in compliance with SBHE Policy 906.

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