

Performance Audit Report

Emergency Preparedness at North Dakota State College of Science

Report No. NP-011-17

March 19, 2018

JOSHUA C. GALLION
STATE AUDITOR

Office of the State Auditor
Division of NDUS Performance Audit

**LEGISLATIVE AUDIT AND FISCAL REVIEW
COMMITTEE MEMBERS**

Senator Jerry Klein – Chairman
Representative Chet Pollert – Vice Chairman

Representatives

*Bert Anderson
Patrick Hatlestad
Mary Johnson
Keith Kempenich
Gary Kreidt
Andrew G. Maragos
Mike Nathe
Marvin E. Nelson
Wayne A. Trottier*

Senators

*Dwight Cook
Judy Lee
Richard Marcellais*

AUDITOR AND COLLEGE PERSONNEL

State Auditor Personnel

Craig Hashbarger, Audit Manager
Beverly Hirn, In-Charge

Primary State College Contacts

Ann McGray, Director of Safety and
Payroll
Dr. John Richman, President
Dennis Gladen, Vice President
Administrative Affairs
Tammy Dolan, Vice Chancellor for
Administrative Affairs
Rick Tonder, Director of Facilities
Planning

Contents

<i>Transmittal Letter</i>	<i>1</i>
<i>NDSCS Emergency Preparedness Report Highlights</i>	<i>2</i>
<i>Emergency Operations Plan</i>	<i>2</i>
<i>Continuity of Operations Plan</i>	<i>2</i>
<i>Glossary</i>	<i>3</i>
<i>Background Information</i>	<i>4</i>
<i>Introduction</i>	<i>4</i>
<i>Emergency Operations Plans</i>	<i>4</i>
<i>Continuity of Operations Plans</i>	<i>4</i>
<i>Objectives, Scope and Methodology</i>	<i>6</i>
<i>Purpose and Authority</i>	<i>6</i>
<i>Objectives of the Audit</i>	<i>6</i>
<i>Audit Scope</i>	<i>6</i>
<i>Relevant Laws, Policies, Contracts and Agreements</i>	<i>7</i>
<i>Audit Results – Objective 1: Emergency Operations Plan</i>	<i>8</i>
<i>Statement of Objective and Conclusion</i>	<i>8</i>
<i>Audit Methodologies</i>	<i>8</i>
<i>Findings, Recommendations, and Responses</i>	<i>8</i>
<i>Audit Results – Objective 2: Continuity of Operations Plans</i>	<i>14</i>
<i>Statement of Objective and Conclusions</i>	<i>14</i>
<i>Audit Methodologies</i>	<i>14</i>
<i>Finding, Recommendation, and Response</i>	<i>14</i>



STATE OF NORTH DAKOTA
OFFICE OF THE STATE AUDITOR
FARGO BRANCH OFFICE
1655 43rd STREET SOUTH, SUITE 203
FARGO, NORTH DAKOTA 58103

Transmittal Letter

March 19, 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 College of Science.

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.

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 the North Dakota State College of Science for the courtesy, cooperation, and assistance they provided to us during this audit.

Respectfully submitted,

/S/

Joshua C. Gallion
State Auditor

NDSCS Emergency Preparedness Report Highlights

Emergency Operations Plan

While North Dakota State College of Science has an emergency operations plan, there are opportunities to improve the design and implementation of the plan consistent with SBHE policy and applicable best practices.

- NDSCS does not conduct a full-scale risk assessment for identifying potential threats or hazards.
- NDSCS has not established formalized disaster-specific related goals and objectives for each significant identified threat or hazard.
- NDSCS has not fully documented the existing training requirements for its crisis management team members in its emergency operations plan.
- NDSCS has not fully documented drills/exercise requirements, other than fire drills, in its emergency operations plan.
- NDSCS's plan lacks a formal process for periodic review, approval and sign-off on revisions to the plan.

We recommend NDSCS update its emergency operations plan in accordance with SBHE policy and applicable best practices.

Continuity of Operations Plan

We determined NDSCS does not have a continuity of operations plan in place in accordance with SBHE policy and applicable best practices.

We recommend NDSCS develop and implement a continuity of operations plan.

Glossary

Base Plan – Document(s) that provide an overview of the institution’s emergency response organization and policies and a general understanding of the institution’s approach to emergency response and recovery.

Collaborative Planning Team – a team of representatives from across the IHE who have roles and responsibilities in IHE emergency management before, during, and after an incident.

Continuity of Operations Plan (COOP) – A plan to assure the capability exists to continue essential functions across a wide range of potential disasters or emergencies.

Emergency Operations Plan (EOP) – A comprehensive, integrated plan that addresses emergency preparedness, emergency management, and continuity of operations.

Exercises – A tool to prepare for and practice potential emergency situations in a risk-free environment.

Federal Emergency Management Agency (FEMA) – Federal agency whose stated mission is “helping people before, during, and after disasters.”

Goals – Broad, general statements that indicate the desired outcome in response to the threat or hazard identified by planners in the risk assessment.

Institution of Higher Education (IHE) – College or University.

Objectives – Specific, measurable actions that are necessary to achieve the goals. Often, planners need to identify multiple objectives in support of a single goal.

Risk Assessment – A process that collects information and assigns a value to risks for the purpose of informing priorities, developing or comparing courses of action, and informing decision making.

Training – Teaching that provides knowledge, skills and abilities needed to perform key tasks

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

Emergencies, in addition to endangering lives, causing injury and/or property damage, have the potential of causing disruptions in teaching, research, public service and other business operations (continuity events). 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 organization's essential functions; continuity facilities; continuity communications; tests, training, and exercises (TT&E) and others. Identification of essential functions is the basis 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 The North Dakota State College of Science's (NDSCS) 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:

- To what extent is NDSCS's emergency operations plan designed and implemented in accordance with SBHE policy and applicable best practices?
- To what extent is NDSCS's continuity of operations plan designed and implemented in accordance with applicable best practices?

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 College of Science's 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 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:

- To what extent is NDSCS's emergency operations plan designed and implemented in accordance with SBHE policy and applicable best practices?

We determined that while the North Dakota State College of Science has an emergency operations plan, there are opportunities to improve the design and implementation of the plan consistent with SBHE policy and applicable best practices.

Audit Methodologies

To accomplish our objective, we conducted inquiries of members of management responsible and/or knowledgeable about emergency operations and security at NDSCS. We also reviewed documented emergency operations policies and procedures, and meeting minutes of the crisis management team and loss control committee, if available.

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.”

NDSCS has a planning team which consists of a cross-section of various stakeholders of the college. The roles and responsibilities of the collaborative planning team are identified and assigned in the emergency operations plan.

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 hazard 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."

NDSCS conducts an annual physical survey to assess if there are any hazards likely to be encountered in evacuation routes. In addition, NDSCS contacted the ND State and Local Intelligence Center (NDSLIC) to perform a security and vulnerability assessment. Although the assessment by NDSLIC provided valuable information regarding potential hazard areas and areas of concern, along with recommendations, due to its scope the assessment didn't address a full range of potential events (such as weather events). Also, the current risk assessment elements do not assess the probability that each potential threat or hazard will occur, the severity of the impact, or time constraints. In addition, it did not prioritize the threats and hazards to determine which should be included in the EOP.

Recommendation 1-1

We recommend North Dakota State College of Science implement a periodic formal risk assessment process to identify and evaluate potential threats and hazards for the purpose of updating its EOP.

NDSCS Response:

Agree. NDSCS will implement a formal risk assessment process to identify and evaluate potential threats and hazards as part of the annual approval of the EOP. This will be in place by June 30, 2019.

Develop Emergency Operations Plan- Base Plan

While there are numerous potential forms an EOP could take, both SBHE 906 and the IHE Guide specifically identify a “traditional” plan format, which includes a basic/base plan accompanied by functional and hazard-specific annexes.

SBHE 906 recommends institution EOPs include “A Base Plan that provides an overview of the institution’s emergency response organization and policies, and a general understanding of the institution’s approach to emergency response and recovery for all involved departments and offices”.

The IHE Guide states that “The Basic Plan section of the higher ed EOP provides an overview of the IHE’s approach to operations before, during, and after an emergency. This section addresses the overarching activities the IHE undertakes regardless of the function, threat, or hazard. The content in this section provides a solid foundation for the IHE’s operations.”

Based on our testing, NDSCS has incorporated the elements of a base plan into its emergency operations plan as recommended by the IHE Guide and SBHE 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.

NDSCS does outline general goals of the EOP and includes various disaster-specific annexes in its EOP. However, NDSCS has not developed formalized goals and objectives with respect to emergency threats or hazards.

Recommendation 1-2

We recommend North Dakota State College of Science establish formalized disaster-specific 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.

NDSCS Response:

Agree. NDSCS will implement goals and objectives for high risk threats and hazards. This will be in place by June 30, 2019.

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.” 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.

NDSCS requires all crisis management team members to undergo emergency training provided by FEMA and keeps a training log. However, NDSCS’s requirements identifying specific crisis management team member positions and the corresponding training are not documented in its EOP.

Recommendation 1-3

We recommend North Dakota State College of Science incorporate training requirements, including assignment of training responsibilities to team members, in its comprehensive EOP.

NDSCS Response:

Agree. NDSCS will document required training for Emergency Response Team in the EOP. This will be done by August 15, 2018.

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.

NDSCS' EOP includes a requirement to conduct periodic fire drills, and NDSCS conducts and logs these fire drills. NDSCS has also conducted an "active aggressor" drill. However, except for the requirement to conduct fire drills, there are no exercise requirements or assignment of exercise responsibilities identified in the EOP.

Recommendation 1-4

We recommend North Dakota State College of Science expand the exercise requirements and assignment of responsibilities in its EOP based on potential threats determined to be high-risk.

NDSCS Response:

Agree. NDSCS has conducted and reviewed an Active Aggressor drill in 2017. We will conduct an Active Aggressor drill at NDSCS Fargo in 2018. We will continue to comply with the minimum requirements of the Clery Act and SBHE Policy 906. We will update our EOP with the annual exercise requirement. This will be in place by June 30, 2019.

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.

Although NDSCS's EOP states the plan will be reviewed at least annually, there is no documented process for approval and sign-off of the plan. Thus, users may not know whether they have the most current version of the plan, and there isn't a formal record that revisions have occurred.

Recommendation 1-5

We recommend North Dakota State College of Science implement a process for formal approval and sign-off on revisions to its EOP.

NDSCS Response:

Agree. NDSCS will implement a formal process for approval and signing off on revisions. This will be done by June 30, 2019.

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:

- To what extent is NDSCS's continuity of operations plan designed in accordance with applicable best practices?

We determined that NDSCS did not have an effective Continuity Of Operations Plan (COOP) developed or implemented.

Audit Methodologies

To accomplish our objective, we inquired with management regarding the existence of a COOP implemented at the college and reviewed a draft copy.

Finding, Recommendation, and Response

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."

NDSCS is in the process of drafting a COOP, however, in its current form, the draft lacks the departmental annexes needed to constitute a functional COOP. As a result, in an emergency or other continuity event, there is an increased risk of extended interruption of some of NDSCS's essential functions, or excess cost and effort needed to maintain such functions.

Recommendation 2-1

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

NDSCS Response:

Agree. NDSCS will implement a Continuity of Operations Plan in compliance with SBHE Policy 906. This will be done by June 30, 2019.

You may obtain audit reports on the internet at:

www.nd.gov/auditor

or by contacting the Office of the State Auditor at:

Email: ndsao@nd.gov

Phone: (701) 328-2241

Office of the State Auditor

600 East Boulevard Avenue – Department 117

Bismarck, ND 58505-0060