



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**CONTINUITY OF OPERATIONS PLANS: POLICY AND
STRATEGY FOR K-12 SCHOOLS IN THE STATE OF
FLORIDA**

by

Rodney E. Andreasen

December 2011

Thesis Co-Advisors:

Nadav Morag
Robert Simeral

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE December 2011	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE Continuity of Operations Plans: Policy and Strategy for K-12 Schools in the State of Florida			5. FUNDING NUMBERS	
6. AUTHOR(S)				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol number N/A				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) Schools, especially those at the K-12 academic levels, have, to this point, not been viewed as critical infrastructure, which is especially true for the state of Florida. Consequently, plans have been slow to be developed that address the continuity of this level of education. This oversight would lead to a loss of academic continuity if a school were damaged or rendered unusable for any length of time, which could cause a cascading failure within the community, which has occurred in other states, such as Mississippi, Alabama and Missouri. This loss of such facilities has impacted both the economic and operational response to local disasters, which is especially important in those communities that by their very location, may be affected by disasters more than other locations. This situation is especially true for the state of Florida as it is impacted by numerous factors that could cause the cessation of academic requirements by law. For schools to maintain this academic continuity, Continuity of Operations Plans (COOPs) should be developed. For the state of Florida, guidance is provided, and statutorily identified requirements are identified, for state governmental and university organizations to have COOPs; in the case of K-12 schools, it is not required or identified. This research explores what policy and strategy would be required to develop a K-12 academic level COOP, as well as those elements that would need to be included in its development.				
14. SUBJECT TERMS COOP, Continuity of Operations Plans, United States Department of Homeland Security, Florida Statute 252, FEMA			15. NUMBER OF PAGES 95	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. Z39-18

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

**CONTINUITY OF OPERATIONS PLANS: POLICY AND
STRATEGY FOR K-12 SCHOOLS IN THE STATE OF FLORIDA**

Rodney E. Andreasen
Director of Emergency Management
Jackson County, Florida
B.S., The University of the State of New York-Regents College, 1991
M.S., University of Southern Mississippi, 1997
M.S., Auburn University-Montgomery, 1999

Submitted in Partial fulfillment of the
Requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
December 2011**

Author Rodney E. Andreasen

Approved by: Nadav Morag
 Thesis Co-Advisor

Robert Simeral
Thesis Co-Advisor

Daniel Moran
Chair, Department of National Security Affairs

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

Schools, especially those at the K-12 academic levels, have, to this point, not been viewed as critical infrastructure, which is especially true for the state of Florida. Consequently, plans have been slow to be developed that address the continuity of this level of education. This oversight would lead to a loss of academic continuity if a school were damaged or rendered unusable for any length of time, which could cause a cascading failure within the community, which has occurred in other states, such as Mississippi, Alabama and Missouri. The loss of such facilities has impacted both the economic and operational response to local disasters, which is especially important in those communities that by their very location may be affected by disasters more than other locations. This situation is especially true for the state of Florida as it is impacted by numerous factors that could cause the cessation of academic requirements by law.

For schools to maintain this academic continuity, Continuity of Operations Plans (COOPs) should be developed. For the state of Florida, guidance is provided, and statutorily identified requirements are identified, for state governmental and university organizations to have COOPs; in the case of K-12 schools, it is not required or identified. This research explores what policy and strategy would be required to develop a K-12 academic level COOP, as well as those elements that would need to be included in its development.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	CONTINUITY OF OPERATIONS PLANS: POLICY AND STRATEGY FOR K-12 SCHOOLS IN THE STATE OF FLORIDA	1
A.	PROBLEM STATEMENT	1
B.	RESEARCH QUESTIONS	3
C.	METHOD	3
D.	HYPOTHESIS.....	5
E.	SIGNIFICANCE OF RESEARCH	5
II.	LITERATURE REVIEW	7
A.	GOVERNMENTAL REPORTS	7
B.	JOURNAL ARTICLES.....	11
C.	CONFERENCE REPORTS.....	13
III.	CONTINUITY OF OPERATIONS PLANS—OVERVIEW	15
A.	WHY COOP?	17
IV.	POLICY/STRATEGY ELEMENTS OF K-12 SCHOOL CONTINUITY OF OPERATIONS PLANS (COOP).....	19
A.	ESSENTIAL FUNCTIONS.....	20
B.	ORDER OF SUCCESSION	23
C.	DELEGATION OF AUTHORITY	25
D.	CONTINUITY FACILITIES	26
E.	CONTINUITY COMMUNICATIONS	32
F.	VITAL RECORDS MANAGEMENT	36
G.	HUMAN CAPITAL	39
H.	TEST, TRAINING AND EXERCISE PROGRAM.....	45
I.	DEVOLUTION OF CONTROL AND DIRECTION.....	48
J.	RECONSTITUTION PROGRAM.....	49
K.	SPECIAL CONSIDERATIONS.....	49
L.	SCHOOL RECONSTRUCTION	51
	1. Temporary Facilities.....	52
	2. Equipment and Supplies	52
	3. Relocation	53
M.	DISASTER INTELLIGENCE.....	53
	1. Fusion Centers.....	55
	2. Regional Domestic Security Task Force	55
	3. Emergency Management.....	56
	4. National Weather Service.....	56
V.	CONTINUITY OF OPERATIONS PLAN REVIEW	59
A.	UNIVERSITY OF VIRGINIA.....	59
B.	COLLEGE OF WILLIAM AND MARY	60
C.	LOUISIANA DELTA COMMUNITY COLLEGE	61
D.	PIEDMONT VIRGINIA COMMUNITY COLLEGE	62

E.	LAKE-SUMTER METROPOLITAN PLANNING ORGANIZATION..	62
F.	IDENTIFIED PRACTICES.....	63
VI.	CONCLUSIONS	67
VII.	RECOMMENDATIONS.....	69
	LIST OF REFERENCES.....	73
	INITIAL DISTRIBUTION LIST	79

LIST OF ACRONYMS AND ABBREVIATIONS

ADA	American with Disabilities Act
CAT	Continuity Assistance Tool
CEDAP	Commercial Equipment Direct Assistance Program
COG	Continuity of Government
COOP	Continuity of Operations Plan
DHS	Department of Homeland Security
EM	Emergency Management
EOC	Emergency Operations Centers
FEMA	Federal Emergency Management Administration
GAO	Government Accountability Office
HLS-CAM	Homeland Security Comprehensive Assessment Model
LEA	Local Education Agency
LLIS	Lessons Learned Information Sharing
MOA	Memorandums of Agreement
MOU	Memorandums of Understanding
MPO	Metropolitan Planning Organization
NCEF	National Clearinghouse for Educational Facilities
PA	Public Assistance
PNP	Private Nonprofit Facilities
RDSTF	Regional Domestic Task Force
RPT	Recovery Preparedness Team
SEA	State Education Agency
SEVP	Student and Exchange Visitors Programs
SOP	Standard Operating Procedure
TT&E	Test, Training and Exercise
USDOE	United States Department of Education
WTC	World Trade Center

THIS PAGE INTENTIONALLY LEFT BLANK

EXECUTIVE SUMMARY

The events of 9/11 revealed a fundamental weakness in the continued operation of organizational programs without the means or plans to do so, which was evidenced by the terrorist attacks that resulted in the destruction and loss of the several governmental operations without the means to continue. Prior to this time, Continuity of Government (COG) plans focused on the loss of federal government operations and plans were devised to continue governmental operation in case of a nuclear attack. It was never foreseen that such plans would be needed for other organizational programs, as these were nearly non-existent. As a result of this attack, in combination with other natural disaster events, it was realized that Continuity of Operations Plans (COOPs) would be needed to ensure operational capability is maintained to provide services to the public.

Numerous disasters have impacted the state of Florida over the past 20 years, which have included flooding, severe storms, tornadoes and the ever present threat of hurricanes. As a result, Florida recognized the need for governmental agencies, and those organizations that support the college and universities systems, to develop planning criteria for creating COOPs to support continuing operations. This requirement was promulgated in Florida statutes and requires that these organizations develop such plans to meet the requirements outlined for their operation.

The issue that has emerged, as it concerns COOP, involves the need for Florida K-12 school systems to develop these plans. Florida neither requires, as is identified in statutes, nor has policy or guidance, to develop such plans to meet the requirements of a COOP for this level of academic endeavors. As a result of this need, guidance and policy recommendation are explored and postulated for consideration and inclusion in the development of such plans.

COOP development policy and guidance has been developed and implemented by other governmental organizations in the United States and provides a starting point for the creation of such documentation. Using previously created guidance documents, applicable COOPs can be developed utilizing associated checklists and suggested sub-

categories for inclusion. Each of these sub-categories is explored at length and outlines the basic framework of a viable COOP program. Additionally, specific items that should be considered for each sub-category, as they affect K-12 schools, are provided for consideration. While these suggestions for inclusion are not exhaustive, they do provide a reference point to be used to stimulate further inclusion of identified needs. It is realized that each school will differ in its educational programs, but a basic guidance is provided for consideration in its application.

Educational and governmental organizations throughout the United States have developed and employed COOPs. Five of these plans are reviewed to provide additional informational guidance in the overall planning framework. These plans provide a best practice consideration for inclusion.

Finally, recommendations for COOP development and inclusions are provided for consideration. These recommendations are meant as a starting point for the development of local COOPs, but can be utilized for application across the state of Florida. Additionally, suggested Florida statute change is addressed to provide a legal requirement for the inclusion of K-12 schools along with the requirement of other governmental agencies, universities and schools.

State legislative representatives should consider the application of the suggested inclusions and recommendations to improve continuity of the school system in its academic services.

ACKNOWLEDGMENTS

This thesis is dedicated to the numerous persons who have impacted my studies before, during, and will continue after I have completed this program. First, I would like acknowledge my faith in God as the guide for my actions and successes in my life. This faith has sustained me through many difficult trials during the completion of this program. Second, I would like acknowledge the impact that both my parents, Elton and Sybil Andreasen, had on me as a person and as a professional. A special acknowledgement goes to my father who passed away shortly after my acceptance into the program. His guidance and example provided me the drive to succeed as a person and an example of what a father should be; his presence in my life is greatly missed. A special thank you goes to my mother for her love and guidance in my life. Her efforts, as well as the countless hours she spent reviewing my work, provided the expert feedback on the research I developed; her love for both her sons is boundless. A final acknowledgement goes to my girlfriend Donna who spent evenings, and in many cases days, reviewing the many papers that I developed during the 18-month program. Without her support and love, as well as the others previously mentioned, I would not be at this juncture in my life.

I wish also to acknowledge the support that my organization provided me in my efforts to obtain this prestigious academic goal. A special thank you goes to my county administrator, Mr. Ted Lakey, for his support in allowing me to pursue these academic endeavors.

I would like to thank both my advisors, Dr. Nadav Morag and Dr. Robert Simeral, for their guidance in the development of my thesis. Most importantly, I would like to thank them for their patience and the excellent feedback they provided, which allowed me to complete my academic goals.

Finally, I would like to acknowledge the assistance of my fellow cohort members during the past 18 months. I am truly impressed with the knowledge and professionalism that each member of Cohort 1003/1004 exhibited; I was truly fortunate in being chosen at this time in the program. We arrived as individuals, but leave as part of a team of homeland security professionals, and in many cases, friends and future coworkers.

I. CONTINUITY OF OPERATIONS PLANS: POLICY AND STRATEGY FOR K-12 SCHOOLS IN THE STATE OF FLORIDA

A. PROBLEM STATEMENT

School systems within the state of Florida are not prepared for the possibility of loss of operational capability from an all-hazards incident. Schools in Florida, because of the state's topography, are more susceptible to natural disasters. Hurricanes have impacted the state many times and no point within the state is further than 80 miles from a coast. In addition, many schools are located near possible hazardous materials sites, or other dangers, such as train movement centers and major highways. Despite these dangers, most schools in the state lack Continuity of Operation Plans (COOPs).

At present, the requirement to institute COOPs is limited to institutions of higher education. Naturally, most of the consumers of education in the state are at the K-12 levels; consequently, if schools were rendered unusable for any length of time due to natural or man-made disasters, a serious breach in the continuance of the educational process could occur and affect a wide swath of the population.

Schools in the state of Florida have not sought to design, develop, and test COOPs to ensure functional and recovery capabilities. Issues, such as alternate facilities, computer and informational services, as well as human resources, are not addressed to ensure continual operations of the learning environment. Other capabilities, such as food services and transportation, are also key functions not identified to ensure that the routine of school is re-established and the local community is functioning.

Facilities will be one of the key factors in restoration under a COOP. School buildings represent a safe learning environment for children and provide a symbol for parents that they, at the very least, have some confidence that their children are cared for and continuing their educational endeavors. Furthermore, schools, through legal and statutorily established requirements, may be required to be open to provide instructional operations. In reviewing documentation concerning a COOP for schools, federal entities have not provided specific guidance for the development of continuity plans for K-12

schools. In reviewing directives outlined in homeland security presidential directives, the primary focus has been on the development of plans for the continuity of federal entities, but no requirements at lower levels of government are codified to develop these plans. This fact provides a unique and obviously dangerous circumstance for schools operating within certain localities and certain states.

Florida statutes outline more specificity in the requirements to develop COOPs, but the requirement for the K-12 schools is not evident in the wording of the law. The 2010 Florida Statute 252, Military Affairs and Related Matters, outlines specifically who must develop these plans and who is responsible for them, the Division of Emergency Management. Florida Statute 252:365 (3) states:

These individuals shall be responsible for ensuring that each state agency and facility, such as a prison, office building, or university, has a disaster preparedness plan that is coordinated with the applicable local emergency-management agency and approved by the division. (Emergency Management, 2010)

The mention of K-12 schools does not appear within the statute, and therefore, it must be construed that no such requirement exists. Florida Statute 252:365 (3)(b) further identifies what must be considered when developing a plan to meet continuity requirements, which includes elements, such as:

...identification of essential functions, programs, and personnel; procedures to implement the plan and personal notification and accountability, delegations of authority and lines of succession; identification of alternative facilities and related infrastructure, including those for communication; identification and protection of vital records and data bases; schedules and procedures for periodic test, training, and exercises. (Emergency Management, 2010)

Again, the parameters are established for the development of a COOP, but specifics addressing the need for K-12 schools to do so, is clearly absent. Due to this fact, the requirement, or need to do so, is left up to interpretation of the individual school districts.

Schools represent the normalcy of local life within a community. After a crisis, such as was seen during Hurricane Katrina, the return of children to a school represents the fact that the community is returning to its prior condition before the incident happened. If facilities are destroyed, records compromised and human resources are non-existent to present curriculum, the school ceases to function as a societal entity both in a physical and non-physical sense.

Schools are not prepared to address a situation specifically in which COOP requirements on campus are needed. Even though previous incidences of school loss of operational capability have occurred, the focus, at this point, is still on the all-hazards approach of emergency planning. It is evident that a COOP is required, especially in the state of Florida, for state level organizations by statute, but is not required for local K-12 operations. Florida statutes specifically identify other agencies within the state required to have COOP development and identifies, although in a general framework, the areas that need to be considered when such plans are developed.

B. RESEARCH QUESTIONS

1. What should policy and strategy for COOPs in K-12 schools look like in the state of Florida?
2. What elements should be included in COOPs in K-12 schools for the state of Florida?
3. Does a developed and established COOP assist in continued operations of a K-12 school?

C. METHOD

In the state of Florida, requirements do not exist for the development of COOPs at the K-12 level. Consequently, present COOPs have been at the behest of the local school district and are not standardized across the state. As of this date in Florida, only one K-12 school COOP has been completed with another in the planning stages. This fact limits any review of these plans for the state as a whole and requires that other venues be reviewed for applicability to the K-12 level of planning.

The case study method is used to review identified plans and to develop recommendations for inclusions in COOPs for the K-12 level. Both the lack of COOP development for K-12 school levels in Florida, as well as a standardized COOP framework, is the reason for this approach.

The first step in the case study application is the review of previous plans developed by various entities located throughout the United States, as well as Florida. This review is designed to elicit best practices and guidance for developing COOPs for K-12 schools.

To assist in the review efforts of the selected case studies, the *Continuity Assistance Tool (CAT) Continuity Assistance for Non-Federal Entities (States, Territories, Tribal, and Local Government Jurisdictions and Private Sector Organizations)* will be consulted to assist in identifying best practice operational areas, which provides a baseline data guide for COOP exploration. The basic premise of the CAT is:

[T]o establish industry-wide benchmarks for the management, overall performance, and readiness of organizations to respond to a continuity event. The tool allows for organizations throughout the United States to examine their continuity capability by utilizing an easy-to-use national and uniform method to identify gaps in the continuity programs and justify the funding and resources needed for improvements. Through identifying and filling these gaps, viable continuity programs can be established to help keep organizations functioning during emergencies. (USDHS, 2009b, p. i)

To ensure an adequate sampling of applicable plans, five COOPs are reviewed from the entities located both inside and outside Florida. These plans are drawn from both the academic and private sectors of application. These five COOPS are the following.

- University of Virginia
- College of William and Mary
- Louisiana Delta Community College

- Piedmont Virginia College
- Lake Sumter-Metropolitan Planning Organization

This review provides an across the board COOP example for operational procedures and programs implementation within the state of Florida.

The final step is a review of sources from government, both federal and state, private industry and other state undergraduate school organizations, to develop applicable policy and strategy components for K-12 schools.

D. HYPOTHESIS

Within the communities of government, universities and businesses, a COOP has become somewhat standardized. While differences are evident in some small areas, the established framework provides the ability to develop policy and guidance using these as a model to provide a framework for implementation within the K-12 school operational environment. It is, therefore, a belief that (1) elements of a viable COOP can be identified to develop and design a framework for implementation, (2) a viable COOP can be developed for schools within the state of Florida, and (3) the developed COOP can be successfully validated in its application.

E. SIGNIFICANCE OF RESEARCH

This thesis examines the various K-12 School COOPs in place within the United States. In the state of Florida, these plans are not statutorily required to be developed; therefore, a significant gap is created in the planning process for schools within the state. Due to the number of disasters that affect the state each year, schools should implement such plans. This lapse in proposed school operational concerns is indicative of other states that will benefit from the results of this research.

The research, once completed, can be used by the state of Florida for further development of a COOP for its individual school districts that have not begun the process to do so. The framework and policy guidance can be employed throughout the United States as a whole and provide a cost effective application for the development of these plans. Those involved in the development of these plans will have an easy to apply

guidance document that can be adapted to their present educational operational framework with little to no cost to the existing budget. The policy and guidance will be of a “non-specific” operational application as to provide the baseline guidance and policy to ease the application of the framework.

II. LITERATURE REVIEW

The literature review is subdivided within the categories of information as they relate to COOPs for schools. These categories are (1) governmental reports, (2) journal articles, and (3) conference reports. Each category was reviewed through available literary information as it affects K-12 school systems.

A. GOVERNMENTAL REPORTS

While many reports dealing with plans have been published concerning emergencies within the school environment most, if not all, do not focus on the specifics of schools continuity. Even less documentation exists concerning the development of frameworks for COOPs. The *2009 National Infrastructure Protection Plan Partnering to Enhance Protection and Resiliency* (Department of Homeland Security, 2009, p. 3) does not specifically mention schools (educational facilities) as part of the infrastructure to protect and only lists it in a subsection in the footnotes. The *2003 National Strategy for the Physical Protection of Critical Infrastructures and Key Assets* mentions schools briefly as it relates to the use of electricity. “Almost every form of productive activity—whether in business, manufacturing plants, schools, hospitals or homes—require electricity” (Department of Homeland Security, 2003, p. 50). The *2007 National Strategy for Homeland Security* (Homeland Security Council, n.d.) fails to mention schools in any of its associated literature.

In other documents published by the Government Accountability Office (GAO), even less information is provided. In two published reports, *Critical Infrastructure Protection Update to National Infrastructure Protection Plan Includes Increased Emphasis on Risk Management and Resilience 2010* (Government Accountability Office, 2010a) and *Critical Infrastructure Protection DHS Efforts to Assess and Promote Resiliency Are Evolving but Program Management Could Be Strengthened* (Government

Accountability Office, 2010b), any mention of “educational facilities” is again relegated to footnotes of the report. No specific information is provided as schools being considered critical infrastructure.

Prior to the completion and publication of these reports, the GAO had submitted two other reports that did provide insight into the protection of schools. The first report, *Emergency Management Status of School Districts’ Planning and Preparedness*, states that:

Few school districts’ emergency plans contain procedures for continuing student education in the event of an extended school closure, such as a pandemic outbreak, although it is a federally recommended practice....[It is estimated]...that 56 of the school districts do not include any...procedures in their plans for the continuation of student education during an extended school closure. Without such procedures school districts may not be able to educate students during a school closure that could last from several days to a year or longer (Government Accountability Office, 2007a, p. 15)

The second report, *Emergency Management Most School Districts Have Developed Emergency Management Plans, but Would Benefit from Additional Federal Guidance*, focused on the fact that “...95% of all school districts have written emergency plans, but content varies” (Government Accountability Office, 2007b, Overview). The report continued to state further that, “...most school districts have procedures in their plans for staff roles and responsibilities, for example, school districts have not widely employed such procedures as, academic instruction via local radio or television, for continuing student education in the event of a school closure....” (Government Accountability Office, 2007b, Overview). The report did highlight a conclusion that identified reasons why more is not done when completing preparation for such events. “Based on [the] survey of districts, we estimate that in 70 per cent of all school districts, officials struggle to balance priorities related to educating students and other administrative responsibilities with activities for emergency management” (Government Accountability Office, 2007b, p. 6). While indicative to any organization that the threat is not a constant, it should not preclude the agencies from developing COOPs to maintain operational capability of schools.

In further review of the government literature available on schools, more emphasis was placed on threats directly after the terrorist attacks of September 11, 2001 than is occurring today. In December 2003, the Federal Emergency Management Administration (FEMA), under the *Risk Management Series*, developed a document to assist in making schools safer, but still did not address the continuity of operation issues that faced schools. The document entitled *Primer to Design Safe School Projects in Case of Terrorist Attacks* (Federal Emergency Management Agency, 2003b) was focused more on the structural and physical issues versus an all-encompassing strategy to provide for the eventuality of loss of educational continuity. Specifically, the information was outlined:

...to provide the design community and school administrators with the basic principles and techniques to make a school that is safe from terrorist attacks and at the same time is functional, aesthetically pleasing, and meets the needs of the students, staff, administration, and general public. (Federal Emergency Management Agency, 2003b, p. i)

FEMA has taken the lead in providing informational guidance on protection strategies, but not so much on developing continuity of operations in educational endeavors. One example of this effort can be found in the publication entitled *Building A Disaster Resistant University* whose main purpose was to provide "... planning guidance to these institutions as they prepare to identify their risk, assess their vulnerability to natural and man-made hazards, and develop a hazard mitigation plan" (Federal Emergency Management Agency, 2003a, p. iii). However, as with other information provided by FEMA, much of the information is "...a multi-hazard approach..." (Federal Emergency Management Agency, 2003a, p. 3). Granted that much of what is covered can be applied in many varied situations, much of the information, however, falls short in applicability where a COOP focus is needed.

Other governmental documents identify the importance of COOP development, one as an afterthought and the other with more specificity in its application. In the *United States Department of Education ERCM Express Creating Emergency Management Plans*, a COOP is treated as something done in the recovery phase of emergency management.

Specifically, “[e]xample of recovery activities include...[d]eveloping and practicing a Continuity of Operations Plan (COOP) at the school and school district levels” (p. 3). Other documents, such as *United States Department of Education Lessons Learned from School Crisis* and *Emergencies Recovering from Natural Disasters: Preparation Is the Key*, provide more specificity in its requirements, but still fall short of an actual application of methods in developing COOPs. The report states that:

A Continuity of Operations Plan (COOP) ensures that both SEAs [State Education Agency] and LEAs [Local Education Agency] will have the capability to continue essential functions across a wide range of hazards. The object of a COOP is to ensure continued performance of essential educational functions, reduce or mitigate disruptions to operations and achieve a timely recovery and reconstitution of the learning environment. COOPs should include procedures to: institute a system for registering out-of-state and district students; registering students into other district schools; identifying, in advance, who has responsibility for closing schools; and sending students and staff to alternate locations. (p. 3)

Again, the specifics for the development of COOPs do not appear in the literature and it must be construed that no such development documentation exists for K-12 schools.

The *2010 Florida Statute 252, Military Affairs and Related Matters* outlines specifically who must develop these plans and who is responsible for them, the Division of Emergency Management. Florida Statute 252:365 (3) states:

These individuals shall be responsible for ensuring that each state agency and facility, such as a prison, office building, or university, has a disaster preparedness plan that is coordinated with the applicable local emergency-management agency and approved by the division. (Emergency Management, 2010)

The mention of K-12 schools does not appear within the statute, and therefore, must be construed that no such requirement exists. The statute further identifies what must be considered when developing a plan to meet continuity requirements. Florida Statute 252:365 (3)(a)(b) states:

The disaster-preparedness plan must outline a comprehensive and effective program to ensure continuity of essential state functions under all circumstances. The plan must identify a baseline of preparedness for a full range of potential emergencies to establish a viable capability to perform essential functions during any emergency or other situation that disrupts normal operations.

The plan must include, at a minimum, the following elements: identification of essential functions, programs, and personnel; procedures to implement the plan and personal notification and accountability, delegations of authority and lines of succession; identification of alternative facilities and related infrastructure, including those for communication; identification and protection of vital records and data bases; schedules and procedures for periodic test, training, and exercises. (Emergency Management, 2010)

Again, the parameters are established for the development of a COOP, but specifics addressing the need for K-12 schools to do so, is clearly absent. Due to this fact, the requirement, or need to do so, is left up to interpretation by the individual school districts. As with many school districts located within the United States, if it is not mandated, it is not completed.

The importance of a COOP is mentioned as it pertains to those schools that support Student and Exchange Visitors Programs (SEVP), and the U.S. Immigration and Customs Enforcement, under United States Department of Homeland Security. *The Fact Sheet, Continuity of Operations Planning for SEVP-Approved School* “...encourages all SEVP-certified schools to explore a Continuity of Operations (COOP) plan” (United States Department of Homeland Security, n.d.g). The term “encourages” does not place specificity in regards to required development of a plan for K-12 schools and leaves open to interpretation the requirements, or necessity, to do so. As previously identified, no developmental requirement or guidance is exhibited.

B. JOURNAL ARTICLES

Much like governmental documents, information concerning COOP development for schools is somewhat limited and only given cursory mention in published articles.

Even though the subject is only touched upon in minute examples, it must be considered within this collection to give support and credence to the need for developing some form of COOP guidance for K-12 level education.

In many journal reports concerning COOPs, explanations are given as to why they should be developed. As Collins (2007) indicates, “In the wake of September 11th and Hurricane Katrina, many school districts reviewed their crisis preparedness plans, instituting changes based on new threats or mistakes made by other institutions suffering through these over whelming events” (p. 46). However, in review of much of the literature available, this is not the case and the planning portion of the COOP is severely lacking in execution. She continues further to identify the underlying failure of many plans developed, when they are developed.

The maintenance of crisis management plans constitutes the final concern for emergency preparation and represents the most-often ignored aspect of crisis plan formation. While failure of an organization to with stand a crisis often transpires due to the sheer lack of an active crisis management plan, more often than not a deteriorated plan reflects the actual culprit of poor response....A deteriorated management plan may represent more of a limitation to an organization’s ability to withstand a crisis than no plan at all as it symbolizes a false sense of security in the midst of an acute event. (p. 52)

In considering a COOP for schools, much reliance rests on the meaning of “emergency plans” and the false sense of security that other agencies will somehow come to their aid when required. Repeatedly, this belief has proven a falsehood and over-dependence on these entities has resulted in a total collapse of the operational status of the educational process.

Regardless of the current situation concerning the idea of education first, “...the first decade has impressed on educators the need for emergency preparedness and a proactive posture with respect to external threats to successful school operation” (Ketterer, 2007, p. 5). To prove this point, consider the events that have occurred, such as Hurricane Katrina that struck the Gulf Coast in 2006 and the tornado that struck the Enterprise High School in Enterprise, AL., in 2007. Due to these incidences, “ ...a plan

for the recovery of essential academic, operational, business and personnel data sets with the aim of restoring normal operations...” (Ketterer, 2007, p. 5) is of paramount importance.

C. CONFERENCE REPORTS

As with other materials found on the subject of COOP development in schools, the subject coverage is minor or, as has been previously identified, considered in minor detail of all-hazards planning. A great deal of the planning and preparation for such topics or threats is left up to the individual community or school itself. *School Safety in the 21st Century: Adapting to New Security Challenges Post 9/11* (National Strategy Forum, 2003, p. 4) clearly indicates that every day over 53,000,000 children are engaged in either the school itself and/or daycare activities. Without a place to continue their education, children will be forced to stay home or attend schools in other districts. This situation also has the effect of hampering parents, especially from the aspect of having to stay home and care for their children, which leads to a ripple effect across a community that causes more widespread strain on the economy and various secondary problems.

As with other reviewed reports, this report again evaluates the possibility of a response as an “all-hazards” approach. Yet again, without a viable COOP, it may not be as effective a strategy versus examining the development of COOPs specifically and what can be done before, during and after as a whole. The report falls far short of what is needed to meet COOP requirements and, like other reports, provides, at best, a list of things that should be considered, but not how to accomplish them. Much of the information, or the planning, is left to the individual schools.

While a great deal of available information exists within federal and state governmental systems, most information is of an all-hazards approach and does not specifically focus on what must be done at the local level to meet COOP requirements for schools. Schools, especially those at the K-12 level, rate only a cursory mention in most of the literature identified. Schools do not meet, according to governmental documentation, the title of “critical infrastructure.” Although schools provide both a

physical and psychological representation of the community, very little information on the development, or concern, of COOP applications is found in literature reviewed on the subject.

III. CONTINUITY OF OPERATIONS PLANS—OVERVIEW

For the state of Florida, as previously identified, COOPs for schools are not statutorily required. Individual initiative by independent school districts has resulted in some schools developing these plans, but this number is extremely small. To provide an overview of viable COOP development, organizations must look towards entities that have developed COOPs for their individual counties or to universities and colleges that have developed COOPs. Numerous counties and city municipal agencies within the state of Florida have developed these plans, and provide an excellent basis and guide for the development of COOPs for schools at the K-12 levels.

The statutory requirement for universities finds that some universities have met this requirement while others have not. Again, agencies must look toward the private sector and universities for examples of COOPs that can be applied to operational environment for schools districts.

Schools, like businesses, are functional entities that provide a product. By reframing the operations of a school and looking at students as an end product, the school can be seen as a system developing future financial products that will impact other processes that make a community a community. If that process is interrupted, it causes a ripple effect within the entire community and provides for a financial loss to the community as a whole. A COOP is a process that garnered new meaning after the terrorist attacks of 9/11 and has continued to flourish in various businesses and organization right down to the level of the educational and governmental communities. As of this moment, colleges and other governmental agencies have, or are in the process of, developing COOPs for their organizations. However, one key element lost in the development of these plans is the K-12 school system. In a community, the school system is the center of activity for those who have small children and work. Schools also provide a “de facto” childcare center where working parents can place their children and provide a safe location while they work. If not available, the other entities in the community are

impacted, as parents who cannot work at the various businesses must stay home with the children. This effect could be as devastating as if a building were hit that provided financial employment for the community.

In 2011, numerous disasters from fire, hurricanes and tornadoes struck the United States and caused massive loss of life, and damage, from which many communities will never recover. In these disasters, many school districts were impacted and their facilities were rendered useless and unable to continue the educational process. In the city of Joplin, MO, a tornado destroyed significant portions of the school system infrastructure, which caused a significant cessation and disruption of the educational process. With no COOP required, and no COOP established, it took nearly three months for the school to return to operation and most of the educational process was conducted at alternate facilities. These facilities had to be obtained after the disaster struck.

The possibility of loss of a facility from other natural disaster, such as flooding, may cause a COOP to be activated to meet the educational needs of a school system. In Minot, ND:

The overflowing Souris River pushed 11,000 people from their homes and wrecked six schools, three beyond repair. Nearly 20% of the district's 7,000 students will be in replacement classrooms set up in churches, the city auditorium and dozens of portable trailer-like buildings scattered around town, an arrangement that may last two or three years. (Nationline, p. 3A)

As the article indicates, these schools may be operating in these replacement facilities long enough for sophomores to graduate.

In many cases, illness outbreaks may cause schools to become unusable and require the activation of a continuity plan. In South Carolina recently, "...80 students, teacher and other staff were absent at the Honea Path Elementary School because of an infection by the shigella bacteria" (Barker, 2008).

COOPs will never provide all the needed answers to the questions that arise, nor the responses that will be required during and after a disaster; their design is a continual

process of outlining the requirements to reconstitute operations of the school educational processes. The COOP will provide a starting point, and a process, to reestablish operations in a shorter time versus no plan at all.

A. WHY COOP?

The *2007 Emergency Management-Most School Districts Have Developed Emergency Management Plans, but Would Benefit from Additional Federal Guidance* report noted that “[f]ew school districts’ emergency plans contained procedures for continuing student education in the event of an extended school closure, such as a pandemic outbreak, although it is a federally recommended practice” (p. 31). As it concerns COOPs, the inherent weakness in application planning for such an event would seem to be the driving factor for inclusion, or at the very least development, of such plans.

The issue of childrens’ access to education following a disaster is fundamentally the same as access to education at any time. It is incumbent upon education authorities to “expect the unexpected” and to have adequate contingency plans for educational continuity in the face of a variety of know hazards. (Petal, 2008, p. 20)

A COOP is important for the survival of the current operational framework of an institution and is nothing more than good business practice that ensures the survival of the system; it builds resilience into the process. As identified previously, this process has been developed and instituted in the federal government, private business and collegiate organizations to ensure continuity of their identified business processes. However, “...because most districts’ plans do not have procedures to ensure the continuity of education in the event of extended school closures...both urban and rural, are largely not prepared to continue their primary mission of educating students” (Government Accountability Office, 2007b, p. 46). It would, therefore, follow suit that such practices would be needed, or instituted, in the lower levels of the educational process. Again, because these lower levels of the educational system themselves produce a product, the future of U.S. society in school children, it would, therefore, be of the utmost importance to provide for the continuation of this process; a good business practice.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. POLICY/STRATEGY ELEMENTS OF K-12 SCHOOL CONTINUITY OF OPERATIONS PLANS (COOP)

Upper levels of the academic institutions in the state of Florida have been mandated to develop COOPs to maintain the academic environment without disruption. The guidance for the development of these COOPs is, in the statute, non-specific. This non-specificity lends itself to an inaccurate guidance or policy document development for these plans. The identified strategy/policy areas follow the recommended subject categories found at the federal and private organizational level that should be covered within a COOP. These COOPs have met with success with the business community to restore operational capability, and therefore, provide a framework, and example, of what a K-12 COOP should mirror.

While many educational organizations have developed COOPs, many of these fail to address, or mention, these categories. Consequently, a developed operational COOP may not meet requirements and fail in its application. These particular categories, and the suggested information inclusion, are not exclusive, but provide a starting point for COOP development at the K-12 level.

Numerous organizations, at the federal, state and local levels, throughout the United States, have developed COOPs to support their organizational process and maintain continuity. In a great deal of these cases, the focus was on a continuity of business process versus one of continued academic endeavors. When reviewing processes from other organizational entities, the similarity of these processes mirror those found in schools and could be applied in the academic realm to ensure the continuity of education. Therefore, the elements that must be addressed in a COOP can be identified within the school academic process and applied with equal focus. In the following elements, examples have been created as guidance for inclusion in a K-12 COOP and should be used as a baseline informational guide and policy document for the development of the K-12 COOP.

COOPs should be a part of the entire school system in its planning for the possibility of a disaster, or other threat, that may cause cessation of operations. As was previously identified, “[a] Continuity of Operations Plan (COOP) ensures that both SEAs [state educational agencies] and LEAs [local educational agencies] will have the capability to continue essential functions across a wide range of hazards” (United States Department of Education, 2007, p. 3).

At the federal and state levels of government, specific guidance and policy areas for COOPs are outlined. As noted at the K-12 level of schools, these areas are not covered, nor identified, in any specific guidance. Therefore, the federal and state level guidance must be consulted to provide adequate areas for inclusion of those functions that affect a school. Federal and state guidance documents provide an excellent starting point for the development of COOPs and should be applied to develop viable plans that can be employed at every level of the local school system.

For the purpose of K-12 COOP development, the following areas are addressed to provide guidance and policy suggestions for inclusion in the plan. These areas are essential function, orders of succession, delegation of authority, continuity facilities, vital records management, human capital, test, training and exercise program, devolution of control and direction and reconstitution program. These standardized sub-categories are normally located within the federal and state guidance documents.

A. ESSENTIAL FUNCTIONS

Many definitions can be applied to what true essential functions are and what they constitute. One definition for essential functions identifies them as those...job functions or task that an individual must be able to perform with or without a reasonable accommodation (Essential functions, n.d.). The *Continuity Guidance Circular 2 (CGC 2) Continuity Guidance for Non-Federal Entities: Mission Essential Function Identification Process (States, Territories, Tribes, and Local Government Jurisdictions)* definition states they:

...are the limited set of an organization's functions that must be continued throughout or resumed rapidly, following a disruption of normal operations. [They] are those organizational missions required to be performed to provide vital services, exercise civil authority, maintain the safety and health of the public, and sustain the industrial and economic base, during disruption. (United States Department of Homeland Security, 2010a, p. A-1)

A working definition of what constitutes essential functions for school COOPs would be those vital educational job functions that ensure educational operations and environments are continued and sustained during short or long-term disruption.

Within each organizational framework, certain functions must continue to ensure that the organization continues to operate and remain a viable functioning organization. In the case of schools, these functions represent the very school itself. To an outsider looking at the school system as a whole, most would say the school building is the main operational essential function. This observation is based on the fact that the facility represents the very entity of school education in a structural sense. To others, it would be those support elements that comprise the administrative framework to include superintendents, teachers and administrative support personnel, who represent the non-physical aspect of the educational system. All these parts of the educational system provide a starting point for accessing what constitutes those processes that must be continued to ensure the educational foundation remains operational as an institution. When reviewing the essential functions of an organization, as outlined in the *Continuity Guidance Circular 1 (CGC1) Continuity Guidance for Non-Federal Entities: Mission Essential Function Identification Process (States, Territories, Tribal, and Local Government Jurisdictions and Private Sector Organizations)*, organizations must "...recognize that the entire spectrum of essential functions might not be performed or needed in the immediate aftermath of an emergency" (United States Department of Homeland Security, 2009a, p. D-1). Only those basic functions that impact the educational operation at its most basic level should be considered when assessing the program as a whole.

An organization should carefully review all of its missions and functions before determining those that are essential. Improperly identifying functions as “essential” or not identifying as “essential” those functions that are, can impair the effectiveness of the entire continuity operations program.... (United States Department of Homeland Security, 2009a, p. D-1)

In the case of a school, the most basic “essential” function would appear to be the education of student; in other words, the educational process in its purest form. However, without the support of the other aspects of the process, it would not be accomplished. Therefore, when reviewing what essential functions truly are, a school should use a standard methodology to identify what these are within the school system. A first step in this process would be to review what the mission statement of the school contains. By reviewing the mission statement, according to the *Lessons Learned Information Sharing State and Local Government Continuity of Operations Planning: Identifying Essential Function*, a school can “...gather more information on potential essential function[s]” (United States Department of Homeland Security, n.d.c, p. 1). A mission statement provides an over-arching goal of what the school is designed to do, and accomplish, and provides a point for which the schools has been established. A second step would be to consider a legal review of operations within the school. Many school districts “...may be required by federal, state, or local law to provide certain critical services to the public....” (USDHS, n.d.c, p. 2). Within most school districts, legal counsel is always a part of the school board support personnel. The completion of this legal review ensures these functions are addressed and integrated into the framework of the COOP. Finally, documentation that is presently available, or can be developed, should be reviewed to assist in developing a picture of those functions that will assist in the continuance of the educational operation. This process can be accomplished through discussion with members of the organization, from teachers to organizational support personnel. Current organizational documentation by these members, or various other techniques identified by the organization, will assist in gathering this information.

No specific guidance exists on determining what is and is not an essential function within a school system as each school is different in its operation. However, functions may be delineated within a set of criteria that may cause inclusion within the COOP. These functions are outlined as follows.

1. *Essential*. Those functions that, if disrupted for more than 24 hours, will result...in loss of life, confidence in the...[schools system]
2. *Vital*. Functions that will result in any of the above if disrupted for more than 72 hours
3. *Necessary*. Functions that must be resumed within two weeks of disruption
4. *Desired*. Functions that can be disrupted for more than two weeks but are necessary for the normal operations of the...[school]... (United States Department of Homeland Security, n.d.c, p. 3)

Regardless of the methods used, any informational resources that a school has will add to the process of identifying those essential processes required to keep a school operational before and after a natural or man-made disaster.

B. ORDER OF SUCCESSION

To ensure that COOPs are implemented, prior establishment of those to whom authority is granted needs to be codified and agreed to in advance, which is also an important aspect of who will be in charge and who has the authority to implement those operational measures to ensure the educational process is continued. In line with this codification and authorization is the identification of those individuals who will make these decisions if the decision makers are incapacitated or are no longer able to execute the assigned duties. “A continuity of operations (COOP) plan must include lines of succession for key positions to ensure continuity of leadership and the continued support for essential functions and critical services” (United States Department of Homeland Security, n.d.d, p. 1). This succession is not a simple task of identifying those personnel who will be granted the authority to make decisions, but also those personnel who will be trained, and prepared, to conduct associated duties if so identified. These individuals “...must be closely intertwined with identifying essential functions” (United States Department of Homeland Security, n.d.d, p. 1).

With agencies, such as school systems, this process is an especially critical aspect. In a school, an entire administrative staff may become incapacitated and unable to continue or direct day-to-day, much less emergency, operations for the school. Identification of personnel to fill these positions must be made at a depth as to ensure the continued support of the educational process. The succession plan should be three employees in depth... (State of Arizona, n.d., p. 10) and these employees should be cross-trained in functions under their control or for the position they are assigned to fill. In some cases, these individuals may be required to perform additional leadership duties in other areas.

Upon completion of this identification, these individuals should be provided access to the necessary guidance and/or equipment to perform their duties. The school district itself "...should construct a method by which those in the line of succession will have access to information and needed items (computer passwords, calendars, office keys, etc.) should they take over leadership responsibilities" (State of Arizona, n.d., p. 11). This access should be accomplished immediately upon assignment and training of the identified individuals and should be a process that is revisited annually to ensure currency of all associated materials. This process should also be completed each time a member of the staff is promoted, transferred or leaves a current position.

Additional key issues arise, especially in the case of organizational leadership, concerning what these personnel will be authorized to do if so activated. The authority to make key emergency decisions during a COOP event must be clear and compliant with state and local law. "COOPs must delineate and limit the authority that key COOP personnel will have during an event" (United States Department of Homeland Security, n.d.b, p. 3). This authority and direction should be codified and supported by school board personnel through the promulgation of such authority within the COOP and become a complete document for reference, which is further addressed in the delegations of authority section. Whatever decision is made in the establishment of the order of succession, all documents that reference this succession should be considered, and

protected, as vital records and documents just as other documents deemed vital for the operation of the school, to ensure the protection of said documents in case of loss of the facility or support elements during application of continuity operations.

A final element in the application of continuity planning is the continuous training aspect. When the training is initiated, [d]evelop and provide duties and responsibilities briefing[s] to the designated successors of leadership, explain their responsibilities as successors and on any provisions for their relocation. Designated successors should receive annual refresher briefings (United States Department of Homeland Security, 2009a, p. E-2). This training and briefings should include all personnel, teachers and support personnel during annual breaks in the school year to make them aware of these responsibilities and what actions may cause the application of such measures.

C. DELEGATION OF AUTHORITY

Numerous definitions of what constitutes delegation authority abound in organizations in the academic realm, business community and governmental agencies. Schools, because of their decentralized nature, normally operate with a central office containing the superintendent and individual schools with their respective principals. Thus, the following definition is provided as an overall facilitative definition for exploration. Within the school district, it is the “[i]dentification, by position, of the authorities for making policy determinations and decisions [at]...other organizational locations” (United States Department of Homeland Security, 2009a, p. P-2). As previously discussed in the orders of succession, the depth of delegation of authority should be to a point to ensure that the continuity of operations of the educational process is not interrupted for any length of time. The individuals chosen for such positions should be annually trained and/or briefed to ensure they are cognizant of their responsibilities to perform those leadership positions. This authority should be documented “...in advance...[by] legal authority...to make key policy decisions during a continuity situation[s]” (United States Department of Homeland Security, 2009a, p. F-1).

When possible, specific guidance should be developed as to what authority is implied to the individual, which should become part of the overall document and provide what can be done and what cannot be done when this delegation is implemented. In other words, "...the limits of authority and accountability" (United States Department of Homeland Security, 2009a, p. F-1). When leadership individuals are identified for specific positions, it must also be asked if they are willing to accept this responsibility. As previously stated, trainings and briefings in regards to the duties and responsibilities of the delegation of authority process should be completed to ensure the identified personnel are cognizant of, and prepared to assume, this responsibility. This agreement to accept responsibility, promulgated by legal authorities, and training/briefings completed should be contained in the COOP document as a whole.

D. CONTINUITY FACILITIES

School buildings will always be regarded as permanent facilities, and thus, need special consideration of their construction and use. Due to the unique characteristics of the state of Florida, and its susceptibility to hurricanes and various other natural disasters, the chance that a school facility will be rendered useless is always a possibility, which is the key to alternate facility planning. To ensure the continued educational operations of a facility, alternate locations for classrooms, as well as educational support functions, need to be identified in advance. This two-fold process involves not only considering a location to which individuals, because of damage or other issues, must relocate, but also the current location now occupied on a daily basis. "Daily operational facilities should be evaluated for hardness in accordance with applicable standards, and should be consider [sic] the ability to withstand natural disasters and utility failures and to protect people who need to shelter-in-place" (United States Department of Homeland Security, 2009a, p. G-1). This resilience consideration is an added aspect of the continuity operational environment and could assist in the continued operation of the educational process as a whole by mitigating existing structures. However, it must be understood that resilience

alone will not ensure continued educational operations. Herein lies the second part of the process to locate, procure and establish facilities that will provide this operational capability.

Alternate facilities, or locations, can be defined as those facilities “...where an agency performs essential functions” (United States Department of Homeland Security, n.d.a, p. 1). For the purpose of exploration, alternate facilities or locations, as they concern themselves with the school environment, are those that in the planned or unplanned event, current educational operations could be reestablished within in a specified time frame. In a given situation, these normally established timeframes are within 12 hours of the disaster. These operations would be required to operate for a minimum of 30 days or more, or until the educational operational environment can be reestablished. In some cases, it may take years for a facility to recover its original operational infrastructure. This standard should be a baseline requirement for all alternate facility considerations and used in the planning process for obtainment of alternate facilities.

When obtaining alternate facilities, it is suggested that existing school facilities located in the area of the disaster be considered first for use. If a municipality or school district has other undamaged schools, these facilities can quickly be modified to accept the students from other schools. A second consideration may involve the use of facilities already performing other educational duties that would include vocational and technical education systems with already established classrooms and mediums for the delivery of classroom instruction. Other local colleges or universities also provide this ability if they are undamaged by the local incident. A third consideration would be the use of other government facilities located within the disaster area if they are not being used for disaster operations. Places, such as meeting facilities, agricultural facilities and other venues, may be considered for such purposes. These locations, in most cases, will already have the infrastructure in place to support operations. A final option may involve support from local commercial real estate offices within the area. While not always the case, facilities that once housed manufacturing or retail sales operations could support school

operational continuance. These facilities would take a minimum of operational employment to bring them to a full operational capacity and can also serve as a financial incentive for the owners of such property as a steady financial income can be provided for the facility versus letting the facility remain empty and idle.

The first step in the process of determining alternate facilities is to consider what is presently being used. If the student population numbers 1,000, it would not assist in developing alternate facilities that would not accommodate, or support, current requirements in an equal, if not greater, capacity. This lack of support or accommodation may be a limiting factor within the jurisdiction if no facilities exist that could provide this surge capacity or, because of other identified issues, would preclude the use of such facilities.

When determining the availability of alternate facilities, numerous considerations beyond what has already been mentioned need to be explored, which is especially true if the use of these alternate facilities is expected to reach beyond the 30-day timeframe. The first considerations would be the location of the permanently fixed or temporary location. Before considering such locations, the school leadership, in concert with safety and security personnel "...should conduct an all-hazards risk assessment for all continuity facilities" (United States Department of Homeland Security, 2009a, p. G-3). If alternate facilities are located in an area in which flooding has occurred before or in an area that may contain hazardous materials or other inherent dangers, a similar situation could occur in the future. , These facilities, because of these issues, may not be a viable option or may not be available for future use.

In extreme cases in which facilities may need to be upgraded to meet requirements of the school operations themselves, consideration will have to be given to these facilities and the cost of such upgrades or enhancements to make these facilities viable options. These improvements may be a decision that coincides with other issues in a cost versus benefit option. The upgrade requirements may cause cost to be so high that the option for use of the facility may have to be negated.

A second consideration involves support logistics for the facility and personnel themselves. Schools become small cities during the school year and provide all the amenities that support the educational environment. In the case of the school itself, food and transportation services, water, and other services are located within the confines of the campus. When an incident occurs that causes the disruption of these services, plans must be in place to ensure these functions continue unabated. In selecting locations to continue the educational process, sites should be located that "...provide the alternate site with power, telecommunications services, and Internet access..." (United States Department of Homeland Security, 2009a, p. G-4), as well as those needs that the previous facility provided. While these may not need to be part of the structure itself, these issues need to be addressed before the facility, as a whole, is considered. These services, just as the facility itself, are support elements that cause the operation to continue and to function.

Food service is a major item in the planning of continuity operations and feeding areas are an integral part of the physical infrastructure. In most cases, schools will have pre-existing contracts for providing feeding operations or have other contracts in place with governmental food stocks for the supply of feeding commodities. In reviewing contracts, agreements should be reviewed that provide for feeding in case the facility is rendered unusable. These alternatives may include mobile feeding stations or other methods to provide meals in a location other than the school campus itself. In determining requirements for feeding, the present facility and its operation would provide the baseline operating picture.

A third consideration would be the availability of electrical power at the alternate facility or near the area under review. Electrical power must be seen as a separate, or disconnected, issue from the school facility. In the event of a major disaster, schools will not be a priority for the reestablishment of power; hospitals and other emergency service will. If possible, alternate facilities located near an area, such as these, may fall within the particular zone, or grid, where these systems are located and be provided expedited

establishment of power requirements. While an extreme case, this option must be considered to provide a faster operational tempo to bring the educational process back on line. Again, this option is preferred but may not be possible to obtain.

One option that must be reviewed is the advent of emergency generator power or the ability to have it installed. Facilities should be examined to see if first, emergency power is available, and second, if it is possible to have emergency power tied into the existing facility in the form of generators. School officials, in searching for such a facility, "...should pre-identify...facilities that require generators to continue operating during power outages. [School officials] should work with those facilities to ensure the installation of generators prior to the next emergency" (United States Department of Homeland Security, n.d.e, p. 1). A second option may involve the placement of transfer switches at such facilities to preclude the storage of such generators at these sites. During a disaster, generators are always a premium, and may be needed elsewhere, which would prevent a stationary generator from being tied to one or two facilities. If needed, generators of the appropriate size may be brought onto the facility grounds and employed within a small timeframe if the transfer switches are already installed. When considering generator power, thought must be given to the power needs of the facility as a whole and those power requirements that may be anticipated as more requirements are put on the system. The establishment of preexisting contracts for the supply of such generators must be considered as part of the overall planning for such an operation. As previously mentioned, generators will become a scarce commodity during an emergency situation and their obtainment may be made difficult or, in more cases than not, completely impossible.

A fourth consideration involves hygiene facilities located within the alternate facility. Adequate facilities should be located in the alternate location to provide sewer and other water supply concerns. Schools are a large consumer of these types of services and must be part of the overall plan when reviewing a particular facility or facilities.

Heating and cooling capabilities of the facility should be major concerns. If the disaster occurs during a major hot or cold season, adequate heating and cooling

requirements will be an issue for the health and well-being of students and staff. If a facility lacks either of these, the building may be rendered unusable for the placement of students or personnel.

A fifth consideration when reviewing alternate facilities is the availability of communications, which can range from simple telephone connectivity to in-house radio communications operations. Without the ability to communicate with operations outside of the facility, coordination of daily operation would be severely hindered or negated totally. Communications to include telephone, fax and two-way radio will all be considerations in choosing the proper alternate facility. The baseline consideration in communication is that it "...should be sufficient to enable performance of all essential business functions" (United States Department of Homeland Security, 2009a, p. G-4). Again, an adequate baseline application of the previous facility should be explored when considering other facilities for their use.

One area of special concern should be issues involving those individuals covered under the regulation dealing with students with disabilities. While schools, during normal operations, are required to meet the established guidance for those with disabilities, students with disabilities would present a unique, and somewhat difficult, challenge to schools involving alternate facilities. When obtaining alternate facilities, these issues must be addressed for not only ensuring identified students with disabilities are able to continue the educational process, but also to ensure the established laws both at the federal and state level are followed and enforced.

Finally, Memorandums of Understanding (MOU)/Memorandums of Agreement (MOA) should be in place to expedite the movement process to the alternate facility. With MOU/MOAs pre-established with vendors, suppliers and facility owners, issues previously identified can be dealt with and the process for movement and acquisition can be fast-tracked to ensure continuity of the educational process. MOUs/MOAs provide a legal basis and planning tool to ensure services are agreed upon and that those items needed will be supplied.

In acquiring alternate facilities for the school district, plans or guidance need to be established for a continual review of those facilities that have been selected. In the case of facilities, such as those owned or operated by private entities, they may become unavailable due to resale. Other issues identified may change as well. Vendors that supply food, power or other commodities may cease to provide these services or go out of business. On at least a yearly basis, alternate facilities locations should be reevaluated for continued applicability.

E. CONTINUITY COMMUNICATIONS

Communications during an event goes far beyond just the basic need to communicate. For the school itself, it involves an entire infrastructure's ability to not only communicate, but also present educational material in a format that supports the educational mission. For schools to educate, they must communicate. "[A schools]...ability to execute its essential...[educational] functions at its primary facility and at its alternate or other continuity facilities...and act under all-hazards conditions, depend upon the availability of effective communications systems" (United States Department of Homeland Security, 2009a, p. H-1). These systems include internally, the ability of school administration to coordinate the daily-required operations of the school system. Externally, this ability includes the assurance that vital services and statutorily required instruction is completed. When viewing each of the processes, most, if not all, of the processes need to be performed simultaneously.

When considering functions of a viable communications continuity forum, five specific areas should be addressed to ensure that educational processes continue. If these five components are not part of the overall continuity concept, then the academic portion of the operation will, in more cases than not, fail in applicability. The five areas normally considered are: "(1) continuation of learning method..., (2) instructor readiness, (3) student readiness, (4) infrastructure support, and, (5) institutional policies" (SchWeber, p. 6).

The continuation of the learning method concerns through which type of medium the instruction will be delivered. In years past, the emergence of 16 MM and stripfilm form presentation gave way to VHS and Beta formats. As technology became more available, these standard formats gave way to computer and DVD productions that provided more interaction with the system versus a one way pedagogical application. Today, social media has become cutting edge in the presentation of material and provides an excellent platform for the presentation of instruction through personal media devices. However, learning does not take place in a vacuum and must be planned well in advance. “Online learning and continuity of learning is more than just providing curriculum in an online format. It involves the planning, training and management of delivery of instruction over a new technologically enabled delivery model” (Continuity of Learning, n.d.).

Textbooks would be another concern for students if the facility were lost. It cannot always be assumed that students will have textbooks available or that they can be replaced quickly. With the advent of books via electronic means, this could provide a short or long-term solution to obtaining textbooks for completion of the class. In a disaster, schools should consider the purchase of electronic systems, such as iPads or eBooks, or other means, and provide students with these systems. The download of textbooks for class would be made via pre-established accounts with book suppliers that would (1) provide a social medium through which students could connect to complete their instruction, and (2) provide the ability to establish an account to provide the books to students. With the financial constraints placed on schools today, these systems would seem value-added assets, as well as a fiscally viable option to provide instruction.

Regardless of the medium chosen, a range of technologies abounds and provides a virtual classroom setting that can deliver a learning environment for the student. These technologies also provide a method of instruction through which educators may maintain baseline educational functions if the facility were rendered unusable.

A second area that must be reviewed prior to the implementation of a specific type of medium involves the readiness of teachers and instructors to be able to teach in

these virtual classrooms. As previously identified, it takes training and planning for this to occur. As teachers have become comfortable with the latest in technology, this process has become easier to achieve and should be emphasized with current and future teacher appointments. For teachers, the development of on-line curriculum should be completed as in-class lessons are developed. Lesson plans do not change much over the years unless new information is discovered or legal requirements cause this change to occur. Therefore, each teacher can prepare lesson plans in advance to include that portion that can be presented on line. This preparation would also provide the ability for teachers to retrieve lesson-planning materials in case of data loss or if a paper-based system of the planning were destroyed because of a natural or man-made disaster.

An additional concern in presenting lessons in a virtual classroom is the readiness of the teachers to operate within this medium of presentation. As new teachers are placed in positions, it does become less likely that they will not be “technically advantaged,” but this concern must be addressed in the planning of the lesson presentation. If teachers are not trained in the nuances of the technological advances of the day then the lessons may not be able to be presented. The same can be said in the virtual world of on-line textbooks for the course.

A third concern is student readiness to learn in this type of environment. Students today have more skill in the virtual world than anyone, with others trying to catch up, which includes teachers and other educators. However, this readiness may not always equate to learning in this type of classroom setting. If students are issued the means to learn, and are able to practice in this type of environment, then the process applicability will be enhanced if the school becomes inoperable. If throughout the year students are allowed, or presented, a course in the on-line format, they gain the valuable skills necessary for the learning process to occur if the classroom is available or not. Again, a value-added aspect is provided when students are sick or unable to attend class for any number of various reasons. They do not miss valuable class time and are able to continue their lessons and instruction in-line, and on-line, with their fellow classmates.

A fourth consideration involves the infrastructure support for the completion of the educational process. As previously stated, the use of electronic educational means could involve the issuance of systems to, at the very least, support issuance of textbook and lesson plan materials. Other means, such as local television broadcast, or development of DVD programs, could assist in the continuance of the learning process. This process could be further enhanced using off-sites methods of instruction. “For example, the New York City Department of Education has created a “learn at home” Web site, complete with downloadable PDF files listing activities in all subjects for students in pre-K through grade 12” (United States Department of Education, n.d.).

Prior to this process being accomplished, the infrastructure must be in place to provide the means to do so. While no one medium of instruction is suggested over the other, methods would need to be discussed with the district current school and state boards of education to determine what the proper means of education would entail. Regardless of the methods chosen, a word of caution must be addressed in the interoperability of all associated systems, which would be especially a concern if plans exist to use other facilities in the area or facilities that may be located outside of the local disaster area. If systems are not compatible then the entire endeavor may not be a viable option.

A final consideration would involve the institutional policies of the state board of education, as well as the local board of education. An all-encompassing set of guidelines must be established at the state and local levels to embrace this form of technology and learning environment. Without this support, and these guidelines, the entire process would not be applied and a large section of the continuity function could be hampered or non-existent.

In the case of providing continuing educational platforms, these new educational mediums provide a large number of venues to continue teaching unabated because of a loss of a facility, pandemic or other natural or man-made disasters impacting school operational functions.

F. VITAL RECORDS MANAGEMENT

Schools must have the ability to maintain school vital information for the continuity of operations following a disaster; this issue should be a process built into the everyday function of the school administration operation. By making this a part of normal day-to-day procedures, operational continuance is eased if the school is no longer able to function at its present location. For the purpose of the school and its administrative operations, the term vital records is all "...information systems and application, electronic and hardcopy documents, references, and records needed to support essential functions during a continuity situation" (United States Department of Homeland Security, 2009a, p. I-1). Due to the unique attributes of each school administration, not to mention each school unto itself, these types of records will need to be identified. Additionally, each of these types of vital records may require different levels of protection to ensure that personal, especially medical, information is neither lost, nor compromised, as a result of this disaster. Normally, vital records fall into two distinct categories and should be considered the starting point for decisions regarding what records are vital and which ones are not. The first category involves those "...records and databases essential to the continued functioning or the reconstitution of an organization during and after a continuity event" (United States Department of Homeland Security, 2009a, p. I-1). These types of records could include any documentation mentioned previously, such as plans that outline the procedures that dictate operations under the COOP as a whole, or any legal or administrative operational guidance that outlines administrative hierarchy.

The second category consists of records that are "...critical to carrying out an organization's essential legal and financial functions, and vital to the protection of legal and financial rights of individuals who are directly affected by that organization's activities" (United States Department of Homeland Security, 2009a, p. I-1). These types of records could include any type of information that addresses financial operations of both the school, as well as the employees. Other records to consider would include MOUs/MOAs that outline what services will be provided on a day-to-day basis, as well as during an emergency. A key record to keep is that of current resources and insurance

policies that cover the school or personnel assigned. These records will be key information components when reconstitution operations are implemented and the replacement of facilities and equipment is required. The list of information necessary to be contained within these two specific categories will differ with each school and school district. Each school district should take the appropriate time to ascertain what key records are of primary importance from both the school district level down to the lowest operational point to ensure that school operations can be successfully continued at other locations.

One of the most important areas to review is what method or form these types of records will be stored in or on what they should be stored. In the past number of years, numerous storage methods have reached a point at which data storage has become more advanced and extremely portable. A belief still exists that records should be stored in a paper-based method, which still appeals to many operational and organizational structures. However, this belief must now be considered a back up as these paper-based storage methods can result in the loss of vital data and information from natural and man-made disasters. In some cases, the storage of such vital records may add to the possibility of such an incident happening due to fire or the increase of chances of this occurring. An additional storage method, but with a reduced danger, is the storage of vital records on the hard drives of computers. Again, this method would present a possibility for the loss of records in case of a natural or man-made disaster. Computer data can be lost via computer viruses or other corruption programs and may not be recoverable. Additionally, in the case of most schools, computers are normally desktop systems and are semi-permanent fixtures not able to be moved to a new location. This possibility leaves the data on the hard drive at the facility and provides no access to the data once the facility is abandoned or made inoperable, which also provides for the susceptibility of loss of all records contained on the computer as a whole.

New storage systems have been developed that on the one hand provide storage capability in a small size and provide an extreme amount of portability in case the facility has to be abandoned and established in another location. Flash drives, also known as

thumb and jump drives, provide an extreme amount of storage space for the placement of vital records in a storage operational mode. These systems are extremely portable and provide the opportunity for schools to store vital records in many different places around the school district and allow for a level of physical security of records that would not be afforded to computer hard drives or paper-based records. These systems also provide the unique portability concept to be able to, in an expedited manner, reestablish operational and administrative functions at an entirely new alternate facility. By having multiple copies of these drives stored at other location within the school district, added access and redundancy, is provided in a primary, secondary and tertiary fashion. Each year, because flash drives are extremely cost efficient, the drives can be replaced at each location for a minimum of cost. The drives previously used would be maintained to provide backup documentation and provide a historical transition of information for future reference.

A second system provides an even better alternative for the maintenance of documentation and provides for a more secure documentation repository. With the new advent of “cloud computing,” databases are maintained off site and on protected servers that may be accessed off site by any authorized individual. “Cloud computing provides computation, software, data access, and storage services that do not require end-user knowledge of the physical location and configuration of the system that delivers the service” (Cloud Computing, n.d.). By using this “cloud computing” method, numerous issues can be addressed at once and provide one of the most secure avenues of documentation for the continuity of the operational framework of the school facility. Cloud computing harkens back to the beginning of the computer age with mainframe computer systems accessed by an offsite access point. These types of mainframes solve numerous problems for access, security and continuity efforts. Each of the aforementioned documents needed to maintain operations of the school district could be stored within these “clouds” and accessed upon initiation of the COOP at the alternate site. These clouds would also include a storage area for each of the teachers to place lesson plans and other associated support materials for continuance of the educational process as a whole. Once Internet connectivity is established, records, MOUs/MOAs and other vital documents can be down loaded and printed. The added option of this type of

system is the everyday maintenance of the information itself. By making the updating of these records a normal day-to-day operational process, the ease of access and the speed of operational tempo for the alternate facility can be exponentially increased.

G. HUMAN CAPITAL

In a COOP, the requirement to continue operations goes far beyond the physical structures or other infrastructure considerations. Much like the requirement of the structure itself, support services, such as electrical power, food operations and equipment to provide the educational continuation, human capital, better known as people, must be a major consideration. Without the identification of those to complete the associated functions previously mentioned, the entire continuity endeavor will fail. “Organizations should establish criteria for identifying critical employees” (Lady, 2011, p. 8). The criteria should identify those individuals first tied to the completion of those essential functions to make the educational operation function to the same level it did prior to the succession of operations. Secondly, those individuals who support other operations, as well as the previously mention individuals critical to daily functions, should be identified as well. It should also be recognized that in the case of “...a physical or pandemic disaster...some critical employees...[will] be unavailable” (Lady, 2011, p. 8).

When identifying personnel critical to the operation of the school environment, consideration must be given to the possibility that the school system as a whole may suffer from numerous hazards that have in the past affected its operation. These hazards will be a consideration of those issues discovered in the disaster intelligence section of the COOP plan and will have a large input on the operational application of the COOP as a whole. Due to the need for a multi-issue approach to this possibility, and other functions of the plan, there is a:

...need for organizations to be prepared for all-hazards emergencies and disasters,...[and the] organization should ensure that its human capital strategies for the continuity staff are adaptable to changing circumstances and a variety of emergencies, and that these strategies and procedures are regularly reviewed and updated as appropriate,... (United States Department of Homeland Security, 2009a, p. J-1)

Six areas should be addressed when developing human capital resources for a school COOP. The first step is schools “...should develop and implement a process to identify, document, communicate with and train continuity personnel” (United States Department of Homeland Security, 2009a, p. J-1). No established criteria exist for the selection of these individuals as many differences are based on legal and governmental frameworks for schools across many of the school districts. However, based on the individual district mission requirements, basic criteria will need to be established to provide baseline information that will be communicated to those individuals fulfilling these mission essential positions. Once identification is completed, documentation of those individuals is required to promulgate the requirements established for these positions formally, which provides the legal basis for those individuals to act in the identified positions, as well as the legal framework for identified individuals to operate. These documents also provide a tactile form to communicate responsibilities to those performing these duties. In many cases, these individuals perform their duties on a recurring basis everyday and no thought is given to the situation ever changing. However, during a disaster, or other disruption, the everyday operation will transform in an instant to an entirely new set of completely unexpected paradigms and parameters.

The final operational piece of this first step is the training of personnel within each of their continuity functions. It is not enough that an individual be identified and then expected to perform. As previously stated, the routine daily operation can be transformed in an instant from normal to chaotic and individuals must be knowledgeable of their operational requirements to be effective. It is imperative that “...continuity personnel should understand their roles and responsibilities and participate in their organization’s continuity TT&E [test, training and exercise] program” (United States Department of Homeland Security, 2009a, p. J-2). When training personnel, the operation of cross training individuals should be implemented to assist in the “three-deep” concept of school operations. Cross training should be standard operating procedure (SOP) if for no other reason than people take vacations, get sick, retire, or quit for any number of reasons (Glenn, 2011, p. 14). This cross training has the effect of not only providing an added operational enhancement, but also provides for increased worker

confidence and trust in the system as a whole. This intrinsic process can provide a value-added aspect to the entire school system as a whole regardless of disaster functions. The training should, at a minimum, be completed annually to ensure that those identified are current in their training and fully understand their roles in the COOP process. This annual review would at the same time identify any changes in personnel due to position realignment, retirement or termination.

The second step of the process is schools “...should provide guidance to continuity personnel on individual preparedness measures that they should take to ensure response to a continuity event” (United States Department of Homeland Security, 2009a, p. J-2). Human nature dictates that an individual’s own survival is paramount as is the survival of those held closest. If those individuals who will fulfill those continuity operations are unavailable because of their own personnel needs, again, the response of the COOP as a whole will be negated. By providing pertinent guidance on ways for individuals to protect themselves and their families, as well as their own property, their ability to report and perform at a high level during the continuity operations is enhanced, which is indicative of first responders as well in the preparation of their families for a natural or man-made disaster. Specific guidance, along with available information resources and training, should be part of the program as a whole. Again, the value-added aspect and a more positive response force when continuity operations are needed will be provided.

The third step of the process is schools “...should implement a process to communicate the organization’s operating status with all staff” (United States Department of Homeland Security, 2009a, p. J-2). In the event of a disaster, natural or man-made, communications may be limited, and in extreme cases, lost completely. This communication process or system should envision the loss of multiple systems in response to a disaster and should include triple redundancy. Due to an over reliance of systems, such as landline telephones, communication in and out of the school system as a whole may be lost. Just as power to a facility is lost due to the loss of the infrastructure that structurally support power lines, phone systems will also fail if the disaster is

widespread. The same could be said of cell phone systems. In many cases, landline fiber optic cables between operational towers carry cell phone calls. If this system is corrupted, or disrupted, no transfer of the data between the towers can occur. Even if this does not happen, towers may be damaged to a point as to make them inoperable, or may be destroyed, which could take months to replace. Pre-established communication methods must be developed to assist those responding to locate where they should report to complete their continuity responsibilities and be provided information on what they should do. “Pre-planned coordinated communication strategies should include both traditional (e.g., phone lines, cell phones) and nontraditional (e.g., ham radios) communication mechanisms and equipment” (United States Department of Education, 2007, p. 6).

The fourth step of the process is schools “...should implement a process to contact and account for all staff in the event of an emergency” (United States Department of Homeland Security, 2009a, p. J-2). As previously stated, communication methods should be triple redundant in case primary or secondary systems are unavailable for use, which could be accomplished in any number of ways through many different organizations. One such method would be to establish MOU/MOAs with other school districts in neighboring counties or counties outside the affected area. Through these school districts, an affected school district would be able to, within 12–24 hours, locate and establish communication with continuity personnel to assist in keeping the entire staff abreast of the situation. These communications could be conducted by either establishing a toll free telephone number or a website that would allow employees to notify the organization of their status (United States Department of Homeland Security, 2009a, p. J-2). This would be predicated on numerous communication possibilities, and thus, requiring the triple redundancy of these systems to provide this information.

To add to the robustness of the systems for contacting individuals, identifying these persons prior to an incident in the COOP would value-add to the entire communication process. Through the development of phone trees or call down rosters, personnel could be both called upon to respond and also be contacted as to their present

physical status and/or location predicated on the operational integrity of the communication system and whether it survived the initial disaster and was in working order. Regardless of the situation, any system devised by the school system that will enhance the response and accounting of personnel will improve the overall operational environment.

The fifth step of the process is schools “...should identify a human capital liaison-a continuity coordinator or continuity manager-to work with the organization’s human resources and emergency planning staff when developing the organization’s emergency plans” (United States Department of Homeland Security, 2009a, p. J-3). This step is an important aspect from not only a legal perspective, as many school personnel are represented and supported by unions, but also to ensure that plans once developed and deployed are kept current, which is especially true when a school is large and has any number of schools within its functional responsibility. A second, and just as important issue, is ensuring documentation of training needs and training completion are kept current. COOPs are not static entities, but living and breathing documents that will only see their significance if and when deployed in an operational event. Even more critical is when they, because of lack of maintenance, fail, which results in the loss of educational personnel and ability.

By identifying a specific person to perform the duties of a human capital liaison, an individual is thus centrally tasked to coordinate all the activities within this area. This tasking provides a focal point to ensure that when plans are developed, they mesh as seamlessly as possible with the COOP process as a whole. In some cases, plans developed by one agency, or in this case, a particular school organization, may be in diametrical opposition of legal requirements or may not be possible to implement because they differ in application. Therefore, it is of paramount importance to identify that individual who will be able to provide all aspects involved within the human element as early as possible in the process to compliment the development of the COOP and other related emergency plans the school system must employ during a natural or man-made disaster.

The sixth and final step of the process is schools "...should implement a process to communicate their human capital guidance for emergencies (pay, leave, staffing and other human resources flexibilities) to managers and make staff aware of that guidance in an effort to help agencies continue essential functions during an emergency" (United States Department of Homeland Security, 2009a, p. J-3). This process could be a simple matter of including guidance within the employee handbook. When personnel are hired, such guidance could be issued as part of their overall informational package and be briefed on its contents. The new employee would sign a statement acknowledging receipt of said guidance in accordance with their new hire orientation. While this does not provide a 100% guarantee that the employee will read the information, it does provide a starting point for the initial understanding of items, such as "...pay, leave, work scheduling, benefits, telework, hiring, etc., authorities and flexibilities" (United States Department of Homeland Security, 2009a, p. J-3). Within this informational guidance, the explanation of the COOP concept and its possible part in its implementation during an emergency could be given.

As previously mentioned, no guarantee exists that the employee will read the material provided. Herein lies the opportunity for further reinforcement during annual training meetings prior to school commencement. Through in-service training sessions or yearly training classes for personnel, an explanation of the COOP and its operational frame, especially the school personnel's part in the process, could be explained. Making each member of the school district responsible for remaining current on maintenance could be stressed to ensure the latest and most current information available is maintained. Any change in procedure or updated material could be made with inserts supplied at the meeting or provided through other means to ensure that all materials are maintained to the level of the latest information, which would be especially true if the threat environment were subject to fluid change and material could become outdated quite frequently.

Additional systems, such as the school district website, can assist in maintaining currency of material. By placing guidance on the website, near real time information can

be displayed and provided to all personnel concerning the application of the COOP and provide the latest information on updates and changes, as well as reduce the need for constantly meeting with individuals to update informational changes.

H. TEST, TRAINING AND EXERCISE PROGRAM

For a COOP to remain viable, and current, a system must be in place to ensure those items identified in the plan will be able to be completed when the COOP is activated, which is the very essence of the TT&E program of the COOP. The TT&E process is one designed "...to ensure that an agency's continuity plan is capable of supporting the continued execution of the agency's essential function throughout the duration of a continuity situation" (United States Department of Homeland Security, 2010b, p. A-6). Exercising and testing the COOP should not be viewed as just a requirement to be accomplished because of statutorily mandated issues, but should be looked upon as an opportunity to apply the design of the plan and be able to ascertain its weak points and as a process for improvement. "TT&E can test the effectiveness of COOP plans and ensure efficient COOP plan implementation" (United States Department of Homeland Security, n.d.f, p. 1). The TT&E program goes far beyond just ascertaining if the plan works in a given situation; it provides a unique opportunity for persons within the organization to work together in the process; a key asset during actual activation. "Training familiarizes continuity personnel with their roles and responsibilities in support of the performance of an organization's essential functions during a continuity event" (United States Department of Homeland Security, 2009a, p. K-1). Through this process, personnel gain an understanding of the process and how they fit into its framework. An added benefit of such a program is that it familiarizes individuals with the equipment they may be required to deploy and provides the opportunity to test the equipment to ensure it is operating properly and is serviceable, which increases confidence in those operating the equipment and has an effect on the morale of those within the organization. These benefits are all value-added aspects of the TT&E program.

"Testing ensures that equipment and procedures are maintained in a constant state of readiness to support continuity activation and operations" (United States Department

of Homeland Security, 2009a, p. K-1). Through a robust testing protocol, those procedures and equipment can be maintained at a high state of readiness. As has been previously identified and suggested, this operation should be continuous as the threat from natural and man-made disasters change. Testing of all identified systems within the COOP should be, at the very least, tested on a yearly basis. In some cases, depending on the ability of the organization, some parts of the COOP should be tested quarterly, which may be necessary as new equipment becomes available, people retire or are moved to another position. Also, because of changing legal requirements, a review of procedures and processes may be required each quarter with updates being communicated to members involved in the COOP operation.

The testing requirement may also extend beyond the school physical grounds as well, which will be especially important as it concerns alternate facilities that will possibly be used. Each facility should be tested for compliance and usability at least annually to include activation of MOU/MOAs to ensure the building will provide the operational environment required to support the continuance of the educational process, as well as all associated support functions for provision of power, communications and food services in addition to other identified needs.

“Training familiarizes continuity personnel with their procedures, tasks, roles, and responsibilities in executing...[the schools] essential functions in a continuity environment” (United States Department of Homeland Security, 2009a, p. K-2). The training should be considered in phases to assure a 100% application for personnel assigned not only to those positions that involve the COOP itself, but also the members of the entire schools system so that they can become familiar with the process as a whole. This training provides redundancy of the system. For initial employment of any individual within the school system, training should be accomplished to provide an overall view of the requirements of COOP operations. If the new employee is to be assigned certain duties within the activation of the COOP, then this identified requirement should be provided through this initial training opportunity. If a newly identified individual is a long-time employee, this training will involve more in-depth

familiarization of the specific role within the COOP operation. However, a brief overview of the entire COOP picture would be advisable to provide clarification of the process in its entirety. Finally, at least on an annual basis, training should be provided to all personnel, even to those not directly involved in the COOP operational framework. This process serves to provide buy-in from all personnel in the school and provides familiarity with the process as a whole. By doing so, support of other personnel who may, in an emergency, have to fill positions or perform task not previously identified in the basic outline of the plans is increased.

When all training has been completed, this information should be captured to the extent possible as established by current school district guidelines or those outlined within the COOP itself. As part of the training program, “the...[school] should document the training conducted, the date of training, those completing the training, and by whom” (United States Department of Homeland Security, 2009a, p. K–2). By memorializing this training, numerous documentation issues are completed that should be treated as vital records when considering important records.

First, providing training documents, for legal review, that it has been completed and the utmost concern has been addressed for the school and personnel. Documentation would thus be provided that the process was well conceived prior to the implementation of the COOP and that all precautions taken to ensure the safety, security and educational process for the school. This documentation may be used later for any legal issues and questions that may arise concerning implementation of the COOP. Secondly, by documenting the completion of COOP training within the school system, the individual identified is therefore responsible for maintaining that training level and for performing the required duties if the COOP were implemented. A formal notification to the individual of this responsibility is then provided, as well as the opportunity for that individual to identify any weaknesses in the training provided for the position. If weaknesses are identified during this time, they can be corrected and noted within the training documentation. Finally, documentation can assist in determining what further training may be needed to accomplish the COOP operation. By involving school

personnel in the process, “out-of-the-box” thinking is provided that may detect other areas that need to be considered for inclusion when implementing a full COOP program. Many times those heavily involved in the development of the plan miss the subtle nuances of other areas that others outside the process have addressed in the past. Those completing certain tasks know more about how the process works than those directing the tasks.

Plans are excellent outlines to possess when determining what direction an organization needs to travel, which is especially true when disaster strikes. However, without a comprehensive exercise program to test such plans, it becomes useless in their practical application. In completing a continuity exercise, the main issue is “...evaluating capabilities or an element of a capability...in a simulated situation” (United States Department of Homeland Security, 2009a, p. K-2). When a disaster strikes, the plan is no longer a conceptual issue developed to meet the threat, but must be that operational application to bring all the elements together to ensure continual operation of the educational framework. If the plan has not been exercised prior to this time, the possibility of failure is great and the plan becomes nothing but a concept with applicability issues.

I. DEVOLUTION OF CONTROL AND DIRECTION

The devolution of control and direction is the very essence of the COOP in its basic application. The process serves two functions in that it is designed to outline “...how an organization will identify and transfer essential functions and/or leadership authorities away from the primary facility or facilities, and to a location that offers a safe and secure environment in which essential function can be performed” (United States Department of Homeland Security, 2009a, p. L-1). The process will involve all the elements of the alternate facilities, their activations and any logistic concerns that may arise that necessitate the need to move.

The second function addresses steps required if the primary, secondary or tertiary facilities are not available for occupation. If the incident, whether man-made or natural, is

of such a large magnitude, alternate facilities may also be rendered unusable. If such a worst-case scenario does occur, continuity operations will need to be conducted in a fashion that will bring operational functions on-line as quickly as possible at a location other than that previously identified. Portable facilities, or other temporary operational buildings, may be placed in the immediate area and the need to establish operations within these facilities would need to be implemented. The devolution of control and direction contains all the elements previously addressed and covered.

One of the key issues in addressing this section of the COOP plan will be those indicators when the COOP will be activated, which is not such a simple process given the environment in which these decisions will be made. This section must identify at what points this decision will be made, and most importantly, who will make that decision, all of which should be previously identified and codified through legal promulgation. These decisions will not be made in a vacuum and will not be made without the advent of some form of information that will drive the beginning of this process.

J. RECONSTITUTION PROGRAM

The reconstitution phase of operation is implemented when operations are assumed ready to transition back to a normal operational environment. This phase may not be a move back to the original facility or location, but a move to a different facility that will support the operations of the school itself. Examples may include repair of the original school facility to begin classes or a move to another facility that better supports the school environment, which would be the case if numerous portable classrooms had been placed in a different location and a need existed to move to one or two larger facilities. In either case, just as with the movement completed originally in the COOP, facilities and personnel should be prepared through the reconstitution program to complete this move and lessen the educational impact on all personnel, students and staff.

K. SPECIAL CONSIDERATIONS

One area of special consideration should be those issues that concern those individuals covered under the regulation dealing with students with disabilities, which

was briefly covered in the alternate facilities section, but should be reemphasized to ensure facilities meet the needed requirement of students with disabilities. While schools, during normal operations, are required to meet the established guidance for those with disabilities, a unique, and somewhat difficult, challenge to schools involving alternate facilities is presented, which is a major consideration when schools are not meeting these requirements at the main campus of the school. The *2007 Emergency Management-Most School Districts Have Developed Emergency Management Plans, but Would Benefit from Additional Federal Guidance* indicates that "...officials in three school districts stated that the districts' school building are not all in compliance with the Americans with Disabilities Act standards, thus limiting the district's ability to adequately plan for students with special needs" (p. 42). While this number is only a reflection of a specific area surveyed, the issue may be present in other school districts located across the United States, which adds an additional issue that must be explored and rectified.

Since 1990, public schools have been subject to Title II of the American with Disabilities Act (ADA), which requires schools to be built after January 26, 1992, to comply with federal ADA Accessibility guidelines. Schools built prior to this date are not required to comply, but they must "make each program, service, activity, when viewed in its entirety," accessible by reassigning services to an accessible location; purchasing, redesigning, or relocating equipment; assigning personal aides; or making physical changes to facilities. (National Clearinghouse for Educational Facilities, 2008, p. 2)

When obtaining alternate facilities, these unique challenges must be addressed for not only ensuring identified students with disabilities are able to continue the educational process, but also to ensure the established laws both at the federal and state level are followed and enforced. When locating these facilities, entities must "...give special consideration to the unique needs of staff and students with disabilities when developing the crisis plan. Evacuation and relocation procedures will need to address mental, physical, motor, developmental, and sensory limitations" (National Clearinghouse for Educational Facilities, 2008, p. 3). As previously identified, schools at the K-12 level are not included in the requirement for the development of COOPs. It is, therefore, postulated that issues outlined by the ADA have not been considered as well.

L. SCHOOL RECONSTRUCTION

COOPs normally will not include issues that deal with the reconstruction of school facilities as a whole. The main concern with COOPs is ensuring that the learning environment for students is continued without interruption or, at the very least, minimum disruptions. However, a concern still exists that must be examined in how school districts will be supported during this operational period and what measures will be available to assist in this endeavor to ensure the COOP process is successful. *The Federal Emergency Management Agency (FEMA) Public Assistance-Public Assistance Guide FEMA 322 (June 2007)* provides an excellent source of information to assist school districts in determining what sources of assistance are available in implementing the COOP and reconstructing the school facility. For the purpose of this exploration, first it is required that the eligible agencies be identified for inclusion in this process.

State and local governments agencies are eligible applicants for Public Assistance....A multitude of local governments..., including...regional authorities organized under State law, school districts, and rural unincorporated communities represented by the State or a political subdivision of the state. The general principle for eligibility is that the facilities must be open to the public. (United States Department of Homeland Security, 2007, p. 9)

While this definition provides a general overall provision for schools to receive assistance in the obtainment of funding, further clarification is required under this guidance. Schools, because of their non-profit nature in providing educational service within the community, are termed as Private Nonprofit Facilities (PNP). Eligible PNPs are those facilities that provide "...education, medical, custodial care, emergency, utility, certain irrigation facilities, and other essential governmental service" (United States Department of Homeland Security, 2007, p. 10). Educational PNPs...are defined in terms of primary, secondary, and higher education schools. For primary and secondary schools, an educational institution is a day or residential school that provides primary and secondary education as determined under state law (United States Department of Homeland Security, 2007, p. 15).

1. Temporary Facilities

When the primary educational facility is rendered unusable for any length of time, it will be necessary to either move, under the COOP guidance, to another facility, or have the ability to obtain temporary educational facilities, which could either be buildings previously identified through MOUs/MOAs or modular facilities for use on the school grounds or elsewhere. Under the public assistance (PA) program, included would be the “...construction of a temporary bridge or detour road to replace an essential crossing facility, temporary hookup of utilities, and essential temporary buildings for schools or government offices” (United States Department of Homeland Security, 2007, p. 73).

2. Equipment and Supplies

When an educational facility is lost, or is damaged beyond its ability to operate, much of the associated equipment that supported the educational process, not just the buildings themselves, will be lost. “Eligible educational facilities include buildings, housing, classrooms plus related supplies, equipment, machinery, and utilities of an educational institution necessary or appropriate for instructional, administrative, and support purposes” (United States Department of Homeland Security, 2007, p. 16). Items, such as furniture, equipment, books and other consumable items that supported the educational operation, are included.

Transportation is another area of equipment that would need to be considered. For many school age children, busses may be the only form of transportation available to transport them to school. If busses are rendered useless, or are being used for other emergency operations, a need for temporary or permanent replacements will need to be addressed. The emergency transportation, such as “...additional school buses to transport relocated student, or new bus routes, may be eligible for assistance, but only through Direct Federal Assistance” (United States Department of Homeland Security, 2007, p. 75).

3. Relocation

Relocation of facilities falls into two distinct categories for schools. In the case of the COOP plan, the first category will be the relocation to temporary facilities to continue the educational environment. Whether the school building is damaged to a point where it cannot be used until the damage has been corrected or whether the facility is render non-accessible, these costs can be claimed under the PA programs. Any related cost for movement to the alternate facility or to another location to reestablish the educational process will also be a reimbursable cost under this program. If facilities are required to be used, such as another commercial building or the rental of temporary facilities, these would also be a reimbursable cost.

The second category is a permanent movement due to the location of the existing facility. If the facility is located in an area that had numerous issues in the past, such as flooding, or because of previously existing hazardous conditions, this would be a consideration under the existing PA guidance. “An applicable federal, state or local standard, such as a floodplain management regulation, may require that a damaged facility be relocated away from a hazardous area” (United States Department of Homeland Security, 2007, p. 39). Because of these regulations, caution should be exercised when this type of facility relocation is considered. According to the guidance, ...FEMA will provide assistance for the relocation project only if it is cost effective and not barred by any other FEMA regulations or polices” (United States Department of Homeland Security, 2007, p. 39).

M. DISASTER INTELLIGENCE

This process in the COOP will assist in the development of specific needs of a school and assist in planning scenarios. In most cases, schools will not need formal, in-place informational or intelligence gathering systems. However, because schools are a vulnerable asset to the community, numerous informational operational considerations must be reviewed to assist schools in formulating their respective COOPs.

Before, during and after disasters, these information resources will assist in planning options that could not be realized without them. The number and sources of such information are limited only by the imagination of the local individual tasked with such responsibility. “Establishing a strong relationship with state and local public safety officials, emergency operations centers, local first responders, community partners...and developing interdistrict and interagency agreements will foster the sharing of human and material resources well before a disaster occurs” (United States Department of Education, 2007, p. 7).

Disaster intelligence “...identifies the type of information needed, where it is expected to come from, who uses the information, how the information is shared, the format for providing the information, and any specific times the information is needed” (United States Department of Homeland Security, 2010b, p. 24). Schools must be able to reach out to community programs to address threats continually that schools may face and be able to adapt COOPs based on the aforementioned information. With school locations near nuclear power plants, hazardous materials sites and the threat posed by severe weather events, all have a major impact on the operations of the COOP for school recovery. Other issues, such as terrorism, criminal and gang threats, can also be issues that will impact the development of COOPs for schools. As Barnes (2011) clearly identifies, developing an idea of those hazards that may affect a local school district or municipality includes such areas as crime or school incidence statistics; local facilities housing hazardous materials storage; major interstates and highways, public works projects and facilities, military installations and prisons (p. 15). While many issues can affect the process for a COOP, the greatest threat to the operation of a school will normally come in the form of a natural disaster. Florida, therefore, may be more prone to these types of events and must consider these issues. To meet this threat, as well as others, numerous programs, and opportunities, for informational distribution can be found at the local, state and federal levels. Each of these programs will assist a school in developing these plans and provide real time information for detailing when, and to what level, a COOP should be activated.

1. Fusion Centers

After the terrorist attacks of 9/11, agencies found that information that could have indicated the attack was occurring was tied up in a bureaucratic framework that did not allow for the cross-feed of threat information. As a result of this failure, fusion centers were developed to help receive and distribute threat information to organizational entities within the affected area. According the *Fusion Center Guidelines-Developing and Sharing Information and Intelligence in a New Era*, “[a] fusion center is an effective and efficient mechanism to exchange information and intelligence, maximize resources, streamline operations, and improve the ability to fight crime and terrorism by merging data from various sources” (United States Department of Homeland Security, n.d.f, p. 3). Fusions centers provide a one-stop operational information program whereby schools, through their designated representative, can garnish information that may pertain to threats against schools within the particular area; this capability is presently being considered. Through this liaison, information can be used to develop specific plans to meet the threat that a school faces and provide real time warning application for administration and teachers. This informational source can provide valuable planning considerations and save planning time for pertinent threats versus preparing for threats that do not exist within the area.

2. Regional Domestic Security Task Force

The Regional Domestic Task Force (RDSTF) concept is one of bringing professional experts together to provide guidance and informational systems to specific operational areas. The *2009–2011 Florida Domestic Security Strategic Plan, Partners: Taking Steps to Ensure a Safer Tomorrow* states, “Each RDSTF consists of local representatives from disciplines involved in prevention and response, including: law enforcement, fire/rescue, emergency medical services, emergency management, hospitals, public health, schools and businesses” (p. 6). RDSTFs are currently developing guidelines through identified sub-committees to develop appropriate programs to ensure school safety. These programs can provide appropriate training activities to school personnel, as well as provide informational sources for appropriate threat awareness.

3. Emergency Management

Emergency Management (EM) and Emergency Operations Centers (EOC) within Florida are operational in every county and provide numerous resources for the support of COOP development and initiation. “Local, state and federal emergency management agencies can often provide [schools] with free training, as well as other necessities before, during and after a crisis” (Dorn, 2009). Emergency management directors can provide pertinent threat information that may be present within the area of the school, as well as specific guidance on how to meet this threat. In the state of Florida, every school is under a threat of severe weather and liaison with local EOCs can provide real time information that will supply the warning framework to make COOP initiation a more timely function. EOCs have access to systems and data that can warn of severe weather issues that will affect the operational aspect of school. Most recently, this warning was evident in the tornado outbreak of April 2011 where numerous schools were either damaged or destroyed. While these programs cannot stop a natural disaster from occurring, they can provide specific information to develop planning scenarios that can then be applied against COOP operational parameters. This informational platform would provide the ability to test plans against site-specific scenarios without disrupting the educational process.

4. National Weather Service

The National Weather Service offices, in concert with the local and state emergency operations centers, can provide informational guidance before, during and after a severe weather outbreak. One key element of this process is the Storm Ready program available to local and state agencies, as well as schools. The Storm Ready program is designed to develop guidance for ensuring a facility or organization is prepared to meet the threat of natural disasters that may impact the area. Through this program, schools can enhance informational reception that can warn of the approach of natural disasters that may threaten the area and particularly the school location itself.

While this list of informational sources is not exhaustive, it does provide a starting point for COOP planners in establishing operational areas for the development of programs and guidance.

THIS PAGE INTENTIONALLY LEFT BLANK

V. CONTINUITY OF OPERATIONS PLAN REVIEW

Since a lack in statutorily required laws for COOPs to be established at the K-12 level in the state of Florida exists, COOPs were either non-existent or would not be provided by school organizations. Consequently, COOPs developed at the collegiate and governmental levels were reviewed to determine key points that would need to be considered for inclusion in a K-12 COOP.

A. UNIVERSITY OF VIRGINIA

“The University of Virginia-COOP is a concise document for use by the school administration and staff. The plan specifically outlines its purpose in maintaining operational capability of its essential function as follows.

- Sustain the safety and welfare of university employees, students, and visitors
- Maintain health services
- Deliver academic programs to the students
- Preserve critical research
- Maintain critical businesses, finance and infrastructure operations” (University of Virginia, 2010, p. 1).

A key element of the plan is the inclusion of personnel, especially its key personnel, to assist in the continued development of the plan and its implementation.

The University relies on human capital resources and their flexibility to assist COOP team members and the rest of the University population in an emergency. University leadership is expected to:

- Be fully informed and understand human capital tools, flexibilities, and strategies
- Regularly review and update personnel contact information and notification protocols to assure that information remains current
- Ensure employees have a clear understanding of their role in an emergency
- Develop, review, and update emergency guides as needed (University of Virginia, 2010, p. 6).

This statement in the plan provides a university-wide approach to the COOP process as a whole and provides focus for leadership to guide the implementation of the plan. This paragraph provides for the development of those who will implement the plan and for the document to be a living and breathing document that does not allow for stagnation.

The basic plan follows the general guidance as outlined in the federal COOP guidance documents, such as essential functions, alternate facilities, orders of succession, delegation of authority, vital records and communications. The plan does go beyond these basic titles and includes annexes for each of these functions, which provides a basic guidance document for the overall school, as well as for an ease of obtaining more specific information under these titles and of maintenance as the plan matures.

One of the most unique aspects of the University of Virginia COOP is the use of what is termed “scenario specific considerations” (University of Virginia, 2010, p. 13) designed to provide prior planning responses within a safe environment. These scenarios provide an outline of the most appropriate response without encumbering day-to-day operations. The scenarios recognize that while the basic plan provides an all-hazard approach, nuances will always occur that are indicative of the numerous operations within the school and need to be addressed.

B. COLLEGE OF WILLIAM AND MARY

The College of William and Mary plan follows part of the outlined subject areas in the federal COOP guidance documents. The college specifically identifies essential functions, alternate facilities, orders of succession, delegation of authority, and testing and training. Other areas, such as communications and vital records, are not addressed in the plan. The COOP is developed as a basic plan with departmental annexes designed by specific departments to meet their specific needs. The annexes are based on a standardized template, which ensures a uniform guidance and understanding across departments.

The College of William and Mary has taken action that provides for a more comprehensive approach in identifying the specific needs of the university. “[T]he College was awarded a Commercial Equipment Direct Assistance Program (CEDAP) grant that provided the college with the Homeland Security Comprehensive Assessment Model ((HLS-CAM) to perform a comprehensive threat assessment of the college” (Common Wealth of Virginia, 2007, p. 13). As a result of this review and assessment, similar to the COOP established by the University of Virginia, scenarios have been created to provide a specific response action to identified threats. These scenarios provide the ability to apply specific threat responses prior to an actual incident occurring.

C. LOUISIANA DELTA COMMUNITY COLLEGE

The Louisiana Delta Community College COOP does not follow the standard outline provided by federal guidelines except in one area. The vital records component of the COOP is extensive in its application and coverage, and, in several instances, provides redundant backup for all documentation.

Each member of the Recovery Preparedness Team (RPT) ensures that each department under their supervision stores back-up files of all critical data to the IT server and then documents the location of the back-up files on the server. Delta’s IT Department stores back-up files of the IT server data at an off-site location....Computer files are stored in a safe deposit box at Bank One and paper files are stored at the Spare Room. (Louisiana Delta, n.d., p. 4)

Each department has a specified cross-section of information for inventory identification of vital files and various storage mediums divided between paper copies, files located on servers and electronic storage devices. While the data documentation requirements provide electronic back up files, some do not. This difference would create a disparity when attempting to recover all the documentation. Some of the documentation is completely paper based and could be lost in an incident with no back up provided. One aspect of preparation involves the use of thumb drives to maintain the information. This requirement adds to the portability of the information if these same thumb drives were to be added to the drive away kits.

D. **PIEDMONT VIRGINIA COMMUNITY COLLEGE**

The Piedmont Virginia Community College COOP does not follow the standard outline provided by federal guidelines except in one area concerning the testing and exercise of the plan. The plan is extremely generic and provides only a direction where information concerning specific aspects of the continuity of the plan can be found. The COOP does refer to a confidential portion of the plan annex, which was not available and may bring into question persons who would have access to it in case of an emergency. The plan does provide a succession of authority to activate the plan, but does not indicate in any portion of the plan where this has been codified or promulgated as a legal document. The plan as a whole is extremely generic and would be difficult to institute prior or during a disaster. One key area of the plan that should be considered for all plans is the continual assessment of the risk as it involves the business view of the process.

A risk assessment of college business functions will be conducted once each calendar year. The assessment will be used to determine which business functions have the greatest impact on continuing operations. In particular, the assessment will include information regarding the impact of service delays and the adequacy of contingency plans in the event of emergency conditions. (Piedmont Virginia Community College, 2011, p. 20)

In a number of cases, COOPs are developed and then not updated until the next incident has occurred that causes an update to be implemented. In more cases than not, this update is applied too late to prevent a loss of operational application. This statement within the plan provides a notice that these plans will be visited at least yearly to ensure that applicable business practices are addressed and the plan stays current with a fluid environment.

E. **LAKE-SUMTER METROPOLITAN PLANNING ORGANIZATION**

The Lake-Sumter Metropolitan Planning Organization (MPO) COOP is one of the most extensive plans reviewed. The plan follows the outlined guidance established by federal guidelines and provides a concise informational base to follow in the application of the continuity of operations. The line of succession is clearly identified with three

persons being identified by name and position. Additionally, the delegation of authority is clearly outlined in line with the line of succession and provides, at least in name and position, the authority of said person to make decisions. One key point identified as missing concerns the promulgation of legal documentation that outlines these fundamental identifications, which may or may not be a requirement at this level and within this organization. This dissemination may be a consideration because of the damage that the area received from tornadoes in 2007 and would need to be addressed in the plan as a whole. As with the previously reviewed plan, a specifically defined time frame during which the plan will be reviewed exists. “The COOP will be examined on an annual basis. It is not anticipated that the MPO should need a multi-year strategy and program management plan” (Lake-Sumter MPO, 2007, p. 9). The Lake-Sumter Metropolitan Planning COOP provides an excellent base plan for other organizations to consider and adapt for their organizational application.

F. IDENTIFIED PRACTICES

While the depth of each plan differs, the basic guidance outline for a COOP development remains constant in some of the plans reviewed. Each plan has specific points that should be included in the COOP process to develop viable plans for K-12 schools and aid in the continued operation of the school after a disaster. These points, when incorporated with the previously discussed areas identified for inclusion, could develop an excellent baseline guidance and policy for a K-12 COOP. As with any plan developed to meet certain threats or needs, it must be compared to the processes and needs unique to that particular institution. Once these plans are developed, they can only be tested through application in an actual disaster or through a specific exercise to cause further development of the plan. The *Test, Training and Exercise Program* section of COOPs addresses this process and should be used to improve the overall process.

Each of the plans focuses on different areas of the COOP process and each provides its own unique application for continued operations. Due to the different levels and need of schools in general, no individual plan can address every situation. However, some key elements do emerge that should be included in the operational development of

the COOP for K-12 schools. Each of these elements, in concert with those provided previously in the *Policy/Strategy Elements of K-12 School Continuity of Operations Plan (COOP)* portion of this document, would need to be included, or at the very least considered, in the development of a COOP.

- **Personnel Inclusion.** Through the inclusion of all personnel from administration, staff and support personnel, the ability to identify specifically those elements that impact the academic process are addressed, which would be evidenced at a lower level by identifying those specific needs of the support facilities in case a school must be relocated. The support staff can provide an idea of what the alternate facilities would require to meet current standards of the academic facility. The same could be said of the teaching staff, as it would be in the best position to identify what is required to keep the academic process intact and operating. This process also provides familiarity with the specific operations of the COOP and support for the plan.
- **Specific Annexes.** Through the development of a basic plan, a general direction and overview of the COOP is provided to the academic staff. The plan is general in its application as not to lock in a specific department, or other agency in the school, into a plan that may not address the department's operational parameters. Through the development of standardized framework annexes, specific nuances can be developed by each department to meet the overall strategy of the COOP and to provide a greater ability to maintain a living, breathing document and reduce time requirements to keep the COOP updated.
- **Data Backup.** Complete data backup utilizing internal and external systems provides the ability to save, and change, data as needed. Internal information needed to support operational functions of the organization can be accomplished utilizing systems, such as thumb or flash drives. These drives can provide ease of update for the individual departments, as well as everyday use for presentation of the academic materials. Also provided is the ability for departments to place these drives in a drive away kit to move all documentation to an alternate facility if required. Data backup can be accomplished as well through offsite backup systems. Through a "cloud computing" network, remote computers at the alternate sites could access files. The cloud computing technique would allow the greatest security for associated materials, but would need to be backed up by every department on thumb or flash drives. The cloud computing access would be primarily for those items requiring increased security to prevent disclosure.

- Authorities and References. These authorities and references provide the legal bases for the implementation and operation of the COOP as a whole. While some organization may not be required by local ordinances or other legal requirements to have these referenced, basic documents as they pertain to state and federal operations may need to be considered for inclusion. At the very least, source documents at the federal level, as they involve COOP operational planning, should be included to provide baseline information for those involved in COOP application. These documents could assist these personnel in fully understanding the applicable directives outlined and the reason for such issues.
- Reviews. Review dates should be established and codified in the plan to guide those responsible for development, and maintenance, of the plan to provide continued applicability to those COOP processes. In many cases, plans are developed as a statutorily identified process with no follow up, or requirements, for their continued maintenance. This fact may cause a plan to become dated and ineffective.

THIS PAGE INTENTIONALLY LEFT BLANK

VI. CONCLUSIONS

Florida is unique in that it has experienced a myriad of disasters over the past 20 years that have affected critical infrastructure. Additionally, it has the benefit of a robust state and local emergency management organizational structure for consultation and advisement. This structure provides a readily available informational network, or disaster intelligence outlet, that can provide up-to-date and real time information. These two factors alone provide a starting point for the development of COOPs for the Florida K-12 school system.

A COOP is not a new concept, but one of necessity because of differing catastrophic events. The terrorist attacks on the United States on September 11, 2001 and the landfall of Hurricane Katrina in Louisiana, showed the need for a comprehensive plan to continue operations after a disaster or other operational failure. Due to such a threat, Florida mandated that continuity plans be developed for entities within the university system, as well as other governmental agencies, which is promulgated by statute. As the research indicates; however, this has not been the case for other educational institutions at the lower levels. This fact leaves K-12 at a unique disadvantage if a disaster were to occur affecting a school anywhere in the state.

During a normal day in the United States, approximately 53 million children are involved at some level of K-12 school or daycare, which represents approximately one-sixth of the population of the United States. Applying this same percentage of children attending school in the United States to those attending school in the state of Florida, 3 million children could possibly be affected by a disaster. “Florida itself has been struck by more storms than any other state and, is in fact...the most hurricane-prone and fourth most populous state in the country” (Peltier, 2011, p. 37) and would be the largest benefactor of a COOP process. If coupled with the fact that the state has “...18.1 million people, most of whom live within 10 miles of the state’s 1,200-mile coastline...” (Peltier, 2011, p. 37), the need for a COOP process is paramount.

It is evident, through the research, that policy and guidance has been developed within other organizational frameworks. Schools, at the upper levels of the academic realm, located both in and out of the state of Florida, as well as governmental and private organizations, have developed some level of COOP policy and guidance to ensure continued operations in case of disruption or disaster. These COOPs provide the basic standard framework that K-12 school COOPs should mirror in their application. Areas for consideration or inclusion, such as vital records, and human capital, have also been standardized in documentation found at these levels, as well as policy and guidance documents developed by federal entities for other federal and non-federal organizations. Two of these federal guidance documents that should be consulted include the *Continuity Assistance Tool (CAT) Continuity Assistance for Non-Federal Entities (States, Territories, Tribal, and Local Government Jurisdictions and Private Sector Organizations)* and the *Continuity Guidance Circular 2 (CGC 2) Continuity Guidance for Non-Federal Entities: Mission Essential Functions Identification Process, States, Territories, Tribes, and Local Government Jurisdictions*. These documents provide innumerable amounts of information in their application and provide excellent examples of what a K-12 COOP should include. By utilizing the previously identified information, as well as the guidance and checklists provided by federal COOP programs, a K-12 COOP can be developed that meets the minimum requirements needed for a viable program.

Due to these facts, and the unique location of the state, ample opportunity is provided for the application and testing of a school district K-12 COOP. At this point of research, it can only be ascertained as to the effectiveness of the COOP by following a prescribed testing and exercise application of the plan; no full COOP implementation has been completed within the K-12 school system. Until such time as the plan is utilized in an actual situation in which the school implements the partial, or full, COOP plan, this testing and exercise requirement will remain the only procedure for, and only means of, determining validity for the state of Florida developed K-12 COOPs.

VII. RECOMMENDATIONS

The events of 9/11 and Hurricane Katrina brought renewed focus of the importance of COOP in enhancing required federal, state and local entities response in maintaining operational capability to serve the public. However, lost in all this pre-planning and preparation, was the importance of planning for the future operational needs of the K-12 school system, which was still not a consideration after numerous disasters impacted K-12 schools around the country and disrupted the educational process as demonstrated by the devastating tornadoes, which in 2007 and 2011, heavily damaged, or destroyed, many schools beyond repair or reoccupation. A statement was made after the tornado outbreak of April 2011, which destroyed several schools, that a procedure for bringing a school back into operation after such an event had yet been written. However, the basic plan and guidance for such procedures was written many years prior to these incidences occurring and were never considered for application at this level. The framework for such plans lay in guidance developed for federal, state and many local governments in the development of COOPs for their parent organization. By utilizing existing guidance, and applying it in the academic framework, COOPs, to meet the needs of the K-12 schools levels, can be developed and applied.

As for the state of Florida, utilizing existing COOP frameworks from other entities can provide the basic guidance for developing a viable and operational COOP that can meet identified threats for the state. Since Florida statutes have outlined COOP requirements for governmental agencies, as well as universities operating in the state, policy and guidance has already been created at this level. By incorporating the same principles to the K-12 level of the academic environment, an effective COOP may be developed for a school district. While different nuances will exist in the operations of a university, or even a business, many of the same requirements for the K-12 school will be evident in the process. By utilizing guidance and associated checklists found in such documentation as the *Continuity Assistance Tool (CAT) Continuity Assistance for Non-Federal Entities (States, Territories, Tribal, and Local Government Jurisdictions and*

Private Sector Organizations) a starting point for the COOP development process is already established. Additionally, the *Continuity Guidance Circular 2 (CGC 2) Continuity Guidance for Non-Federal Entities: Mission Essential Functions Identification Process, States, Territories, Tribes, and Local Government Jurisdictions*, should be utilized to further enhance this process.

The following recommendations are provided to foster this development and application to ensure academic continuity for schools in the state and provide a guidance and policy document to ferment this application.

- Mandate COOP Requirements for K-12 Programs. Florida statutes already require universities and other governmental organizations to develop these plans; the same should be required of the K-12 schools system as a whole. Through this process, the state of Florida would provide a universal application, as well as policy and guidance, of the process, which would enhance the process in that state would have one COOP program and provide a basic starting point for all agencies.
- Explore Similar COOPs from Other Programs. This assessment is a basic process of reviewing what already exists; it provides a cost-effective solution without incurring a large cost to K-12 academic organizations. In reviewing COOPs from various organizations, both in the public and private industry, commonality abounds in the application of the process to include also a review of other state educational organizations COOPs to garner the best practices exhibited by these programs. Thus, an opportunity would be provided to see what is, or is not, applicable if these plans have been activated in an actual incident. Plans created by these organizations can provide a blueprint and guide for development of COOPs for local schools across the state. This process need not be one of creating new documents, but one of adapting current operational policies and issues schools have or are considering.
- Use Existing Guidance. Policies and guidance created at the federal and state levels can be adapted to the K-12 school level and provide a basic document that all schools across the state can employ to meet their basic requirements. New guidance documents do not need to be created, just adapted. These documents, along with the elements identified in the *Policy/Strategy Elements of K-12 School Continuity of Operations Plans (COOPs)*, can provide the necessary direction for plan development.
- Create a Lessons Learned/Best Practices Database. COOPs have been developed by many organizations, including some involving K-12 schools, but are not being shared with outside organizations to use as a best

practice knowledge base. The DHS)has established the password protected Lessons Learned Information Sharing (LLIS) database for use by organizations across the United States. This database provides best practice information that has been applied to numerous situations with results and suggestions. The same program should be established in Florida to provide a readily available database for schools at every academic level. This ability to exchange COOP ideas, and offer best practice suggestions, provides a cost effective system to develop applicable plans. As schools develop COOP plans of their own, they could, and should, be placed in this database to provide a readily accessible informational product to incorporate in developing plans for other schools.

- COOPS Should Not Remain Static. COOP development will not be a fixed or static process and should never be locked into the process upon completion. As situations and threats change, the COOP must adapt its operational guidance to ensure it is still applicable. The review process as identified, including the testing application, will assist in identifying current issues and failures, as well as ensure the plan remains viable.
- Consider the All Scenarios. COOP development will be based off many factors and scenarios that may affect the academic process. Just because something has not happened before, does not mean that it cannot occur now, or in the future. While requirements and current threats will drive this process, this fact will always be a critical-thinking necessity. The ability to think about, and consider, all options beyond the here and now will provide benefits that could not be realized by thinking of only the possible, or unlikely, occurring. Be reminded that before the Columbine High School incident in 1999, no one considered such a violent incident happening. In the early 1900s, an incident similar to Columbine High School occurred involving a school, but was quickly forgotten in the annals of history. Prior to September 11, 2001, no one considered such an attack on the World Trade Center (WTC) occurring, much less utilizing fueled aircraft as manned cruise missiles. The fact that a terrorist attack had occurred in 1993 on the WTC was still fresh in the memories of New York citizens; somehow, this event was lost on those responsible for preventing it.

While these recommendations, as well as those identified in the *Policy/Strategy Elements of K-12 School Continuity of Operations Plan (COOP)* section are not exhaustive, they provide a beginning point for COOP development for Florida K-12 schools. By executing a comprehensive review of policy and guidance in existing plans, as well as previously created federal documentation, an effective plan can be developed for the continuance of the educational process. It has been proven that organizations that

develop such plans within the private and governmental levels, recover quicker and with less disruption. The same result could be realized with a well developed and executed K-12 COOP utilizing suggested, and previously established, policy and guidance documents.

LIST OF REFERENCES

- Barker, A. (2011, 28 October). Number of students sickened by shigella increases. Retrieved from Fox Carolina website:
<http://www.foxcarolina.com/story/15898196/number-of-students-sickened-by-shigella-in...>
- Barnes, J. (2011, May/June). 5 essentials of Emergency planning. *Leadership*. Retrieved from association of California school administrators website:
<http://www.acsa.org/FunctionalMenuCategories/Media/LeadershipMagazine/2011-archives/MayJune-2011.aspx>
- Cloud Computing. (n.d.). Retrieved from Wikipedia website:
http://en.wikipedia.org/wiki/Cloud_computing
- Collins, C. L. (2007). Threat assessment in the post-Columbine public school system: the use of crisis management plans in the public school sector as a means to address and mitigate school gun violence. *International Journal of Educational Advancement*, 7(1). doi:10.1057/palgrave.ijea.2150043
- Common Wealth of Virginia. Virginia Department of Emergency Management. (2007). *2008 College of William and Mary comprehensive continuity of operations plan*. Retrieved from William and Mary website:
http://www.wm.edu/about/administration.emergency/documents/2008_coop_web.pdf
- Continuity of Learning. (n.d.). *International association for K-12 on-line learning*. Retrieved from iNACOL website: <http://www.inacol.org/col/index.php>
- Department of Homeland Security. (2003). *National strategy for protection of critical infrastructure and key assets*. Retrieved from
http://www.dhs.gov/xlibrary/assets/Physical_Strategy.pdf
- Department of Homeland Security. (2009) *National infrastructure protection plan partnering to enhance protection and resiliency*. Retrieved from
http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf
- Dorn, M. (2009). Emergency managers can be valuable resources. Retrieved from Campus Safety Magazine website:
www.campusafetymagazine.com/Channel/Emergency-Management/Articles/Print/S...
- Emergency Management. *Fl. Stat.* 252 (2010).

- Essential Functions. (n.d.). Retrieved from Human Resources IQ website:
<http://www.humanresourcesiq.com/glossary/essential-functions/>
- Federal Emergency Management Agency. (2003a). *Building a disaster resistant university*. Retrieved from
http://www.fema.gov/library/file?type=publishedFile&file=dru_report.pdf&fileid=e16021a0-79a5-11db-9b42-000bdba87d5b
- Federal Emergency Management Agency. (2003b). *Primer to design safe school projects in case of terrorist attacks*. Retrieved from
<http://www.fema.gov/pdf/plan/prevent/rms/428/fema428.pdf>
- Glenn, J. (2011, Spring). Cross-training should be SOP. *Disaster Recovery Journal*, 24(2).
- Government Accountability Office. (2007a). *Testimony before the committee on homeland security, House of Representatives. Emergency management. Status of school districts' planning and preparedness. Statement of Cornelia M. Ashby, director education, workforce, and income security* (GAO-07-821T). Retrieved from U.S. Government Accountability Office website:
<http://www.gao.gov/new.items/d07821t.pdf>
- Government Accountability Office. (2007b). *Report to Congressional requestors. Emergency management. Most school districts have developed emergency management plans, but would benefit from additional federal guidance planning, overview* (GAO-07-609). Retrieved from U.S. Government Accountability Office website: <http://www.gao.gov/new.items/d07609.pdf>
- Government Accountability Office. (2010a). *Report to Congressional requestors. Critical infrastructure protection update to national infrastructure protection plan includes increased emphasis on risk management and resilience* (GAO-10-296). Retrieved from U.S. Government Accountability Office website:
<http://www.gao.gov/new.item/d10296.pdf>
- Government Accountability Office. (2010b). *Report to Congressional requestors. Critical infrastructure protection DHS efforts to assess and promote resiliency are evolving but program management could be strengthen* (GAO-10-772). Retrieved from U.S. Government Accountability Office website:
<http://www.gao.gov/new.items/d10772.pdf>
- Homeland Security Council, (2007). *Homeland strategy for homeland security*. Retrieved from http://www.dhs.gov/xlibrary/assets/nat_strat_homelandsecurity_2007.pdf

- Ketterer, J. J., & Price, B. J. (2007). The business continuity plan: Outline for school disaster recovery, 3(4). *International Management Review*. Retrieved from International Management Review (IMA) website: <http://www.usimr.org/IMR-4-2007/v3n407-art1.pdf>
- Lady, F. (2011, Spring). Addressing the 'critical employee' quandry . *Disaster Recovery Journal*, 24(2), p. 8.
- Lake-Sumter Metropolitan Planning Organization. (2007). *Lake-sumter metropolitan planning organization continuity of (COOP) operations plan*. Retrieved from http://www.lakesumtermpo.com/pdfs/Continuity_of_Operations_Plan.pdf
- Louisiana Delta Community College. (n.d.). *Disaster recovery & business continuity plan*. Retrieved from <http://www.ladelta.edu/institutionalEffectiveness/sacs/Disaster Recovery.pdf>
- National Clearinghouse for Educational Facilities at the National Institute of Building Science. (2008). *An investigation of best practices for evaluating and sheltering individuals with special needs and disabilities*. Retrieved from http://www.ncef.org/pubs/evacuating_special_needs.pdf
- National Strategy Forum, Schools: Prudent Preparations for A Catastrophic Terrorism Incident. (2003). *School Safety in the 21st Century: Adapting to New Security Challenges Post 9/11*. Retrieved from National School Safety and Security Services website: http://www.schoolsecurity.org/school_terrorism_NSF.pdf
- Nationline. (2011, September 6). N.D. schools open late after summer of floods. *USA Today*.
- Peltier, M. (2011). Public safety hurricane season 2011: The man from Walmart.. Retrieved from Homeland Security Today website: <http://www.hstoday.us/focused-topics/public-safety/single-article-page/hurricane-season-2011-the-man-from-walmart/d4731ce9293356148305eb31b186fb94.html>
- Petal, M. (2008). Disaster prevention for schools guidance for education sector decision-makers. Retrieved from the Prevention Web website: http://www.preventionweb.net/files/7556_7344DPforSchoolssm1.pdf
- Piedmont Virginia Community College. (2011). *Safety and security emergency response continuity of operations plan*. Retrieved from http://www.pvcc.edu/docs/emergency_response_coop_safety.pdf
- SchWeber, C. (n.d.). EDUCATION ACCESS=ENTRY+ACADEMIC CONTINUITY. *University of Maryland, University College, United States*. Retrieved from Sloan Corporation website: <http://www.academiccontinuity.org/?=node/319>

- State of Arizona. Pandemic Influenza Planning Guide. (n.d.). *Cross training-succession planning*. Retrieved from http://www.hr.state.az.us?State_Employee/PDF/News_Crosstrain.pdf
- United States Department of Education. Emergency Response and Crisis Management (ERCM) Technical Assistance Center. (n.d.). Creating emergency management plans. *ERCM Express*, 2(8). Retrieved from Readiness and Emergency Management for Schools Technical Assistance Center website: <http://rem.s.ed.gov/docs/CreatingPlans.pdf>
- United States Department of Education. Lessons Learned From School Crises and Emergencies. Emergency Response and Crisis Management (ERCM) Technical Assistance Center. (2007). Recovering from natural disasters: Preparation is key. *U.S. Department of Education*, 2(5). Retrieved from Readiness and Emergency Management for Schools Technical Assistance Center website: http://rem.s.ed.gov/docs/LL_Vol2Issue5.pdf
- United States Department of Education. (n.d.). *Preparing for the flu during the 2009-2010 school year-questions and answers for school*. Retrieved from <http://www2.ed.gov/admins/lead/safety/emergencyplan/pandemic/guidance/continuity-qa.pdf>
- United States Department of Homeland Security. Federal Emergency Management Agency. (2007). *Public assistance guide, FEMA 322*. p. 1A. Washington, DC: Government Printing Office.
- United States Department of Homeland Security. Federal Emergency Management Agency. (2009a). *Continuity guidance circular 1 (CGC 1) continuity guidance for non-federal entities (states, territories, tribal, and local government jurisdictions and private sector organizations)*. Retrieved from http://www.fema.gov/pdf/about/org/ncyc/cont_guidance1.pdf
- United States Department of Homeland Security. Federal Emergency Management Agency. (2009b). *FEMA continuity assistance tools (cat) (states, territories, tribal, and local government jurisdictions and private sector organizations)*. Retrieved from <http://www.fema.gov/pdf/about/org/ncp/cat.pdf>
- United States Department of Homeland Security. Federal Emergency Management Agency (2010a). *Continuity guidance circular 2 (CGC 2) continuity guidance for non-federal entities: Mission essential functions identification process, states, territories, tribes, and local government jurisdictions*. Retrieved from http://www.fema.gov/pdf/about/org/ncp/coop/cont_guidance.pdf
- United States Department of Homeland Security. Homeland Security. (2010b). *Continuity of operations plan template*. Retrieved from <http://www.hsdl.org/?view&did=18195>

United States Department of Homeland Security. Lessons Learned Information Sharing, Best Practices. (n.d.a). *State and local government continuity of operations planning: Alternate operating locations*. Retrieved from <https://www.llis.dhs.gov/docdetails/details.do?contentID=11047>

United States Department of Homeland Security. Lessons Learned Information Sharing, Best Practices. (n.d.b). *State and local government continuity of operations planning: Elements of a Continuity of Operations Plan*. Retrieved from http://highereds.wiley.com/l3egacy/college/perry/0471920770/chap_resource/ch08/coop_elements.pdf

United States Department of Homeland Security. Lessons Learned Information Sharing, Best Practices. (n.d.c). *State and local government continuity of operations planning: Identifying essential functions*. Retrieved from <https://www.llis.dhs.gov/displayContent?contentID=11042&milliseconds=1304468648373>

United States Department of Homeland Security, Lessons Learned Information Sharing, Best Practices. (n.d.d). *State and local government continuity of operations planning: Order of succession*. Retrieved from <https://www.llis.dhs.gov/docdetails/details.do?contentID=11044>

United States Department of Homeland Security. Lessons Learned Information Sharing, Best Practices. (n.d.e). *State and local government continuity of operations planning: Preidentifying critical facilities that require generators during power outages*. Retrieved from <https://www.llis.dhs.gov/displayContent?contentID=37629&milliseconds=1304470116824>

United States Department of Homeland Security. Lessons Learned Information Sharing, Best Practices. (n.d.f). *State and local government continuity of operations planning: Training, test, and exercises*. Retrieved from <https://www.llis.dhs.gov/displayContent?contentID=11048&milliseconds=1304468236155>

United States Department of Homeland Security. United States Department of Justice. (n.d.f). *Fusion center guidelines, developing and sharing information and intelligence in a new era, guidelines for establishing and operating fusion centers at the local, state, and federal levels, law enforcement intelligence, public safety, and the private sector-executive summary*. Retrieved from Institute for Intergovernmental research website: http://it.ojp.gov/documents/fusion_center_executive_summary.pdf

United States Department of Homeland Security. U.S. Immigration and Customs Enforcement. (n.d.g). *Fact sheet. Continuity of Operations Planning for SEVP-Approved Schools*. Retrieved from http://www.ice.gov/doclib/sevis/pdf/coop_planning_fact_sheet.pdf

University of Virginia. (2010). *Continuity of operations plan*. Retrieved from http://www.virginia.edu/emergencypreparedness/documents/UVAEnterprisesCOOPPlanVersion2.1_April2010_finalforwebposting.pdf

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California