

USAWC STRATEGY RESEARCH PROJECT

CONTINUITY OF OPERATIONS PLANNING (COOP):
A STRATEGY FOR IMPLEMENTATION

By

Colonel Calvin D. Lawyer
United States Army

Mr. William Waddell
Project Advisor

This SRP is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, 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. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 18 MAR 2005	2. REPORT TYPE	3. DATES COVERED -			
4. TITLE AND SUBTITLE Continuity of Operations Planning (COOP) A Strategy for Implementation		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S) Calvin Lawyer		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army War College, Carlisle Barracks, Carlisle, PA, 17013-5050		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT See attached.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 29	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

ABSTRACT

AUTHOR: Colonel Calvin D. Lawyer

TITLE: Continuity Of Operations Planning (COOP): A Strategy For Implementation

FORMAT: Strategy Research Project

DATE: 18 March 2005 PAGES: 29 CLASSIFICATION: Unclassified

Federal, state, and local governments must plan for continuity of operations in the event of a disaster or emergency by implementing Continuity of Operations Planning (COOP). COOP is a critical part of daily operations because if a disaster or emergency strikes, it will impact every aspect of the organization; the nature of the event (natural or manmade) will determine whether that impact is major or minor. A successful COOP plan, maintains the highest level of readiness, is capable of implementation with or without warning, can be operational within 6 to 12 hours after activation, has the ability to sustain operations for up to 30 days, takes advantage of the existence of other organizations' infrastructures, is exercised annually and has the commitment from the leaders of the organizations. All organizations within the Department of Defense (DOD) are dependent on people, communications, and a command and control infrastructure to conduct daily operations. Before September 11, 2001, COOP was not a top priority of organizations within the DOD. Since then, however, these organizations have committed to developing a plan that would allow the DOD to carry out its essential functions in the event of an emergency or disaster. This paper will highlight the importance of COOP, examine the challenges that DOD organizations face when developing, executing, and maintaining plans in the event of a disaster and/or emergency, and recommend a strategy of implementation. It will also address major areas of concerns that are involved in the creation of a COOP program.

TABLE OF CONTENTS

ABSTRACT.....	iii
ACKNOWLEDGEMENTS	viii
LIST OF ILLUSTRATIONS	x
CONTINUITY OF OPERATIONS PLANNING (COOP): A STRATEGY FOR IMPLEMENTATION	1
BACKGROUND	1
CONTINUITY OF OPERATIONS PLANNING (COOP): A STRATEGY FOR IMPLEMENTATION	2
GOVERNING DIRECTIVES	3
LEADERS INVOLVEMENT	6
CHALLENGES	6
BUDGET	8
THE CREATION OF A PLAN	8
THE IMPORTANCE OF PLANNING	9
THE WRITTEN PLAN:	10
PERSONNEL IMPACT:	11
TRAINING	11
VITAL RECORDS, DOCUMENTS AND DATA STORAGE	12
FINDING THE RIGHT FACILITY	12
HOT SITE	13
COLD SITE	14
REDUNDANT SITE	14
RECIPROCAL AGREEMENT	14
HYBRIDS.....	15
CONCLUSION	15
ENDNOTES	18
BIBLIOGRAPHY	20

ACKNOWLEDGEMENTS

I would like to start by thanking my Project Advisor, Mr. William Waddell, for his patience, understanding, direction, advice, and guidance through the completion of this research project. I would also like to thank my children, Calyssa and Calvin Jr. for their understanding in allowing me to work on this project and participate in extracurricular activities provided by the United States Army War College. Most importantly, I want to give special thanks to my wife, Rosalind, for her patience and unwavering support in keeping the children and me focused and balanced throughout our year at the United States Army College. Again, Rosalind—thanks, sweetheart.

LIST OF ILLUSTRATIONS

FIGURE 1 GAO ANALYSIS OF AGENCY COOP PLANS5
FIGURE 2 INSTRUCTIONS FOR PLAN DEVELOPMENT.....11

CONTINUITY OF OPERATIONS PLANNING (COOP): A STRATEGY FOR IMPLEMENTATION

BACKGROUND

From July 2002 to July 2004, I was the Chief of the Continuity of Operations Branch for Headquarters Department of the Army, which gave me firsthand knowledge of the challenges and difficulties that an organization faces when trying to develop a COOP plan. While researching this project, I was not surprised by the similarities between what I discovered and what I had experienced for two years as the Branch Chief. I was also reminded of concerns others and I had expressed in his past assignments.

In my twenty-three years of service, I have served at various levels of assignments, from platoon through staff assignment at Department of Defense. At all levels there was concern about being able to relocate, jump or hand over operational control to another location within our organization. At the tactical level they were trained to relocate or hand over control of the command post or Tactical Operations Center (TOC), while not giving much attention to the garrison location. The combination of researching this project and my last assignment has caused me to become passionate about the need for a COOP program. I feel that if organizations within the DOD fail to develop and/or improve their COOP program, the oversight may have an incomprehensible impact that could cause the American people undo frustration, distress, and in some cases, death. This paper will highlight the importance of Continuity of Operations Plan (COOP) and examine the challenges that COOP planners face when developing, implementing, executing, and maintaining plans in case of a disaster. It will also recommend steps for DOD organizations to begin creating a COOP plan to ensure essential government services are available in the event of emergencies.

Dear Mr. Chairman

As you know Federal operations and facilities have been disrupted by a range of events, including the terrorist attacks on September 11, 2001; the Oklahoma City bombing; localized shutdowns due to severe weather conditions, such as the closure of federal offices in Denver for 3 days in March 2003 due to snow; and building-level events, such as asbestos contamination at the Department of the Interior's headquarters. Such disruptions, particularly if prolonged, can lead to interruptions in essential government services. Prudent management, therefore, requires that federal agencies develop plans for dealing with emergency situations, including maintaining services, ensuring proper authority for government actions, and protecting vital assets.²³

The terrorist attack of September 11, 2001 caught the federal government by surprise. The Department of Defense, along with other federal agencies, was not fully prepared to relocate to an alternate site and continue to carry out its Title 10 Essential Functions. Had the

attacks continued for some time, the DOD would have been in a position of building an alternate command and control site from ground zero, with little time or thought going into the functions, capacities and relationships that make a Continuity of Operations Planning (COOP) plan function well. The strategic impact of this lack of preparation would have been indescribable.

It is critical that all organizations within the DOD appreciate the importance of developing a good COOP program—and take seriously the consequences if they do not. While most understand COOP, it is not a top priority and in many cases it is not resourced properly and lacks the necessary elements to make it viable. COOP programs within the DOD should be integrated into the operations of all DOD organizations and exercised regularly, and they must be provided with the resources to make the program physically and fundamentally sound. Organizations that fail to do this must understand the impact this may have on the American people.

CONTINUITY OF OPERATIONS PLANNING (COOP): A STRATEGY FOR IMPLEMENTATION

The policy of the United States government is to have in place a comprehensive and effective program to ensure the continuity of essential federal functions under all circumstances, including potential emergencies and/or disasters. COOP is simply a good business practice—part of the fundamental mission of agencies to be responsible and reliable public institutions. For years, COOP planning had been an individual agency responsibility, implemented primarily in response to emergencies and/or disasters within the confines of the organization²⁴ and the content and structure of COOP plans, operational standards, and interagency coordination were left to the discretion of the agency. The changing threat environment and recent emergencies (including acts of nature, accidents, and terrorist attacks) has shifted awareness to the need for COOP capabilities that enable agencies to continue their essential functions. The potential for terrorist use of weapons of mass destruction has also emphasized the need to provide the President with the ability to ensure continuity of essential government functions across the Federal and Executive Branches.

The goal of COOP planning is the development of an assurance that capabilities exist to continue essential functions of an organization across a wide range of potential emergencies. These objectives include ensuring the continuous performance of essential functions/operations during an emergency; protecting essential facilities, equipment, records, and other assets; reducing or mitigating disruptions to operations; reducing loss of life, minimizing damage and losses; and achieving a timely and orderly recovery from an emergency and resumption of full service of operations. Guidelines and directives have been established for the President, DOD

and other federal agencies that help with the identification and development of organization objectives for COOP planning.²⁵

GOVERNING DIRECTIVES

Continuity of Operations started to gain national attention and momentum with the publication of the DOD Directive 3020.26 dated May 26, 1995. This directive mandated that all DOD components must have the capability to continue essential functions without unacceptable interruption. COOP planning includes preparatory measures, response actions, and restoration activities to maintain effectiveness, readiness, and survivability.²⁶

On October 21, 1998 Presidential Decision Directive (PDD) 67, "Enduring Constitutional Government and Continuity of Government Operations," was published. While PDD 67 was classified, the unclassified version was published in the Federal Preparedness Circular (FPC) 65, Federal Emergency Management Agency (FEMA) dated July 26, 1999, and again on April 30, 2001. The 1999 documents mandated that all federal agencies have a viable COOP capability in place, which ensures the performance of their essential functions during any emergency or situation that may disrupt normal operations²⁷ The overall objective of FPC 66 (published April 30, 2001) was the development of a Training, Test and Exercise Program (TT&E) to implement and institutionalize a comprehensive, all-hazard program to improve the ability of organizations to effectively manage and execute their COOP plans.²⁸ DOD Directive 3020.26 updated September 8, 2004 established the Defense Continuity Program (DCP) and the Defense Continuity Executive Steering Group (Continuity ESG). The updated document revised continuity policies and assigned responsibilities for developing and maintaining the DCP to enhance the DOD readiness posture.²⁹ The entire list of COOP documentation helps reinforce the need for federal organizations to develop a COOP plan to continue their essential functions.

While the need for COOP planning should be apparent to all individuals in any DOD organization, this is often not the case. Some organizations have very good plans in place and exercise them in accordance with governing directives. However, other organizations have not planned, and in some cases COOP receives only "lip service" or becomes just a paper drill to get through the next inspection. Unfortunately, COOP often only becomes very important to a DOD organization after an actual disaster takes place, and the failure is staring the organization in its face³⁰ COOP is difficult and expensive to implement, but the difficulty and expense endured by the nation increases exponentially if a disaster occurs and there is no plan in place.

The taxpayers believe DOD is working in the best interest of the American people, and we must never fail that trust.

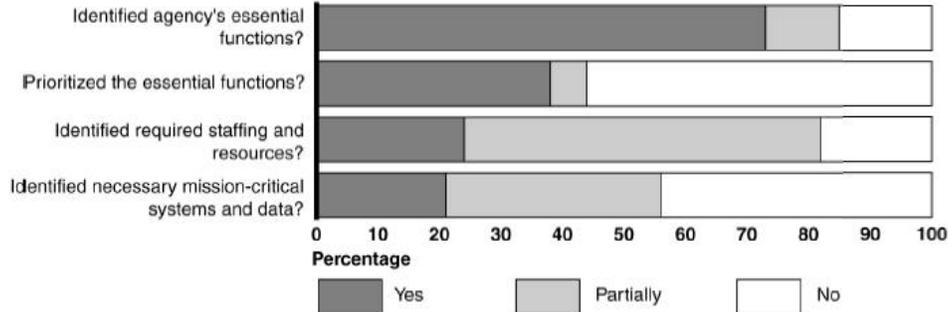
A COOP plan should always protect people, information and equipment, which is critical to any organization. Understanding how the elements work together to meet the goals of an organization is crucial to a successful COOP and an annual assessment of needs and goals are value-added in developing a plan. Realistically, the failure to assess and address the risks associated with a biological incident, civil unrest, earthquake, fire, hazardous materials spill, severe heat wave, hurricane, nuclear attack, nuclear power plant incident, power outages, terrorism, tornado, or severe winter storm, would have significant adverse impact on an organization and its people.³¹

All organizations should conduct a systematic risk assessment annually, or as needed, based on other identified factors. An assessment of 34 COOP plans by the General Accounting Office (GAO) in 2004 found that most agencies identified at least one function as essential. However, the number of functions in each plan varied widely from 3 to 399, and included some that appeared to be of secondary importance to carrying out daily operations while at the same time omitting programs that had been previously defined as high-impact. One department included a questioner to speeches and articles for the Secretary and Deputy Secretary as high-impact among its essential functions, but did not include 9 of 10 high-impact programs for which it is responsible.

Several factors contributed to these shortcomings. FPC 65 did not provide specific criteria for identifying essential functions. FEMA did not review the essential functions identified when it assessed COOP planning, and it did not conduct tests or exercises to confirm that the essential functions were correctly identified. Unless agencies' essential functions are correctly and completely identified, their COOP plans may not effectively ensure that the most vital government services can be maintained in an emergency.³² Although all but three of the agencies reviewed had developed and documented some of the elements of a viable COOP plan, none of the agencies could demonstrate that they were following all the guidelines in FPC 65. As the chart in Figure 1 shows, there is a wide variation in the number of organizations that addressed various elements identified in the guidelines.

Elements That Were Included in Agency COOP Plans in Place as of October 1, 2002

Of the 34 COOP plans reviewed, how many ...



Source: GAO analysis of agency COOP plans.

FIGURE 1 GAO ANALYSIS OF AGENCY COOP PLANS

Also contributing to the deficiencies in agency COOP plans is the level of FEMA oversight. In 1999, FEMA conducted an assessment of agency compliance with FPC 65, but it had not conducted oversight that was sufficiently regular and extensive to ensure that agencies corrected the deficiencies identified. Because the resulting COOP plans do not include all the elements of a viable plan as defined by FPC 65, agency efforts to provide services during an emergency could be impaired.³³

LEADERS INVOLVEMENT

Prior to Y2K and even more since September 11, 2001, organizations have begun paying more attention to COOP and expanding their emergency response capabilities to include the resumption of operations.³⁴ Over the years, it is important to note that most organizations did not begin planning for Continuity of Operations until their leaders felt the impact of an interruption. In many cases, they were not even moved by auditor findings or best practices recommendations.³⁵ Legal and regulatory requirements generally resulted in fundamental planning simply to satisfy the requirements to get through the audit. However, organizations that have experienced interruptions in the past usually have workable plan.³⁶ The demonstration of potential loss due to interruption caused by a disaster has always been a key factor in moving leaders and their organizations towards the development of a Continuity of Operations plan.

Ultimately, COOP planning is the leader's responsibility, all the way up the chain to senior leaders. This is not only the result of mandates by the governing directives, but because of "duty of trust" and "due diligence" required of junior and senior leaders³⁷. This will prove to be critical in obtaining executive senior level support for COOP exercising and funding. Most of the time organizations with the best plans have leaders that understand their needs and are aware of the impact if a disaster occurs. Organizations with leaders that are forward thinking and who wish to avoid poor performance or the receipt of negative publicity due to a disaster will usually have a strong COOP plan.³⁸

CHALLENGES

Continuity of Operations Planners must have an active senior leader supporting their efforts; the senior leader will champion the effort and be the heavy lifter for the COOP planners. Only with their support can planners expect and receive the required participation of the whole organization to make all the plans functional. Planners must be able to demonstrate to the senior leaders how the organization will benefit from the planning and how they will be successful in the end. Most good senior leaders are optimists, looking beyond obstacles and focusing on opportunities to improve the organization. There is little appeal for them in looking at a small likelihood of huge disasters. Keeping leaders focused on an effort that will address the safety of the organization's people, soften the impact on services, and maintain the well-being of the organization are much more powerful motivators for senior management.³⁹ Having leader support will most likely motivate all the staff members to actively participate in the planning.

A COOP plan is only effective if it has command and control over all of the people and staff sections within the organization it serves. Obtaining cooperation from many different functional areas within an organization, especially a large diversified organization like the DOD, is a challenge.

Also, many organizations that have just begun implementing their COOP plan will be faced with extraordinary integration problems. A first-class COOP plan will replace existing nonintegrated Emergency Response Plans, Data Center Recovery Plans and Natural Disaster Plans. These existing plans may or may not involve formal documentation or directives, and organizations may face resistance from staff being asked to allocate time from day-to-day operations to put an official plan together. Many staff members, upon being told to write their plans, may make some of the following comments:

- “Why should we write a plan?”
- “We know what to do.”
- “An attack like September 11 will not happen again. “

Planners will get some resistance but must never give up until a plan is developed and is exercised in accordance with DOD directives.

Another challenge is keeping the COOP plan updated as staff and resources change. Most organizations in the DOD change their personnel out yearly, if not sooner. Information systems and other technology often change rapidly as well. Therefore, everything in a plan needs to be reviewed and modifications submitted to the planners to take these changes into account.

The COOP plan is a living document and must to be updated annually. A plan that is a year old and has not been tested is probably somewhat obsolete, as numerous personnel changes may have taken place, as well as the organization's recall rosters. Minimally, the COOP plan should be thoroughly reviewed and exercised semi-annually to keep up with the flux of changes in an organization.

BUDGET

Developing and implementing a COOP plan will cost money, as will updates to the plan, exercises, supplies, maintenance, and the hiring of contractor support at various stages if needed. The organization must have a COOP plan that is current in order to help defend the budget it will need to resource and run a successful program. This means that the COOP planners need to have an understanding of the DOD budget process. Plans for site upgrades, information technology replacement and facility improvements should also be included in the process of obtaining funds to initiate the COOP efforts.

In comparison to the overall DOD budget, the COOP budget is a small percentage. In the early phases of developing a plan, the funds for COOP will likely be reallocated from within the organization's existing budget, or from specially allocated funds set aside for emergencies by the senior leader responsible for the COOP plan development.⁴⁰

THE CREATION OF A PLAN

Every organization should set their COOP planning process in motion by conducting a complete and comprehensive Impact Analysis (IA). An IA involves identifying the critical functions within an organization and determining the impact if these functions are not

performed. The IA is a very important document because it identifies the potential loss of function and the impact it will have on the organization. The IA is the document that will be presented to the senior leader and will become the cornerstone of developing the COOP plan.

In the IA, the planners must include a look at the risks that a full range of disasters pose to the organization. The disasters that an organization should be prepared for include but are not limited to:

- **Natural** (floods, fire, seismic activity, winds, snow and ice, volcanic eruption, tornado and hurricane)
- **Human Threats** (robbery, bombing, embezzlement, extortion, terrorism, chemical spill, war NBC contamination, airplane crash and labor strike)
- **Technical Disasters** (power failure, telecommunications failure, gas leaks, failure of CPU and electromagnetic pulse)

Planners should keep in mind other problems that may pose no threat to the physical structure of the facilities, but may prohibit the staff from coming to work (e.g., bad weather, road damages, etc). Most organizations in DOD have essential personnel who are critical to their operations. There may also be several sensitive functions in the organization that must be performed. It must be kept in mind that personnel may be dependent on staff in other sections to accomplish their sensitive functions; organizations must recognize this dependence and integrate that process into the plan.⁴¹

The critical needs of each staff section within the organization must be evaluated carefully. Mission Essential Functional, Key Personnel, Information Systems, Service Provider, and Critical Record Keeping should be included in the Impact Analysis (IA). Each organization must make a vigorous effort at analyzing their day-to-day functions. A good IA will provide a detailed record of activities on the organization to the planners, some which may be transparent to the senior leader and the employees who execute them, but are actually critical to the success of the organization on a daily basis. An analysis over a specific time period can indicate the principal functions performed inside and outside the organization to determine the critical needs questions the IA should address, such as how long the organization could function without the needed equipment. Other questions should identify the high priority tasks to include and how often the tasks must be performed. The analysis will also address equipment and staffing needed to perform the Mission Essential Functions, and what it will take to replace them in a disaster. Planners must also address any outsourced functions that are performed by contractors.⁴²

Prioritization of the critical Mission Essential Functions is also important; prioritization will be the first document that describes the order in which functions will be re-energized after a disaster takes place. A first-class COOP plan would include a very detailed prioritization list and since the planners will follow this list while building the COOP plan, it will be crucial to its implementation.

THE IMPORTANCE OF PLANNING

A COOP plan could be the most important document to ensure that the organization will survive a disaster. Proper planning will provide the guidance, direction, and proper actions to survive an emergency and resume operations. A plan must be developed for individual staff sections, the local organization and national level disasters. The planners must consider that the primary facility may be non-functional or that access may be restricted due to safety concerns or law enforcement investigations. Planners should prepare for the possibility of being kept out of their facility for at least 30 days or more. After the attack of September 11, 2001 on the Pentagon, the Army G1 had to relocate to offices at Human Resource Command in the local area in Crystal City, VA near the Pentagon. The G1 moved because of office damage and law enforcement investigation. (G1 was not the only office to relocate: G3 moved to the Army Operations Center.)

The primary element of the plan is the development of an Emergency Operations Center (EOC). The EOC Chief is a senior leader, and is supported by personnel from every function of the organization. The EOC Chief must be empowered with the necessary authority to recover or reconstitute the organization. This authority will include not only the ability to draw upon internal resources at a moment's notice, but also the authority to bind the organization contractually for required services from vendors and suppliers.⁴³

The subordinate organizations to the EOC are the Capability Assessment Teams (CATs). These teams are responsible for determining the level of loss for the organization and reporting accurate information to the EOC so that options may be identified. CATs will be comprised of personnel from all functional areas within the organization. The CATs will not only perform visual inspections of the work area, but will also run technical tests and examination of Data Centers and Information Systems if suitable. The CATs are the eyes and ears of the EOC Chief.⁴⁴

THE WRITTEN PLAN:

With leadership involvement the written plan will be embraced by every section of the organization. Each section in the plan will include actions to take place before, during and after

a disaster. It must be understood that the end users of the plan will probably never read or use the entire document; end users should be provided with a short, easily executable format to ensure rapid understanding and immediate execution. The plan and all action documents must be updated regularly. The table in Figure 2 defines several excellent topics to initiate the development of a COOP plan. In addition, the planner should also ensure that the vendors and service providers all have a COOP or similar plan, and construct and distribute notification lists and telephone alert rosters for each section. The planner should also establish a timeline for

Table 1: Eight COOP Planning Topics Defined by FPC 65 and Examples of Actions

FPC 65 planning topic	Example of action (element of viable COOP plan)
Essential functions should be identified to provide the basis for COOP planning.	The agency should prioritize its essential functions.
Plans and procedures should be developed and documented to provide for continued performance of essential functions.	These plans should include a roster of personnel who can perform the essential functions.
Orders of succession should identify alternates to fill key positions in an emergency.	Succession lists should be developed for the agency head and other key positions.
Delegations of authority should identify the legal basis for officials to make decisions in emergencies.	Delegations should include the circumstances under which the authorities begin and end.
Alternate facilities should be able to support operations in a threat-free environment for up to 30 days.	These facilities should provide sufficient space and equipment to sustain the relocating organization.
Interoperable communications should provide voice and data communications with others inside and outside the organization.	The agency should be able to communicate with agency personnel, other agencies, critical customers, and the public.
Vital records should be identified and made readily available in an emergency.	Electronic and paper records should be identified and protected.
Tests, training, and exercises should occur regularly to demonstrate and improve agencies' COOP capabilities.	Individual and team training should be conducted annually.

Sources: FPC 65, FEMA

determining relocation site activation. In addition, planners need to include Legal and Public Affairs personnel in the COOP plan.⁴⁵

FIGURE 2 INSTRUCTIONS FOR PLAN DEVELOPMENT⁴⁶

PERSONNEL IMPACT:

During a major continuity plan implementation, the staff will be under significant stress and may panic or be more concerned about their families; many may be unwilling or unable to come to work. It may be necessary to hire additional staff or acquire temporary services, which may bring in security vulnerabilities.⁴⁷ Organizations should be prepared not only to help themselves, but also to help their employees resume their normal lives and work routines as quickly as possible. The faster the employees are able to return to a standard of normalcy, the more quickly the organization will be able to recover and resume operations.

TRAINING

Organizations must train the way they will execute during a disaster. If a plan is developed and not exercised, the organization may fail or perform poorly during a disaster. The plan should be exercised annually and semi-annually. A planner should prepare and conduct tabletop exercises with senior leader involvement, as well as telephonic alerts and sign-in roster alerts for physical accountability of personnel. The exercises will allow the leadership to identify weaknesses and enable the EOC Chief to begin to understand his or her role in leading the exercise more clearly and effectively. Each exercise should use a different scenario and must be conducted under conditions that are as realistic as possible.

VITAL RECORDS, DOCUMENTS AND DATA STORAGE

Many organizations rely on vital records and various documents and papers to conduct daily operations. These records are important because of historical, operational or legal needs. Records can be maintained on paper, microfiche, microfilm, magnetic media, or optical disk. Whatever means are used to store the information it should be backed up at regular intervals and stored at an alternate location. The interval at which data is backed up is at the discretion of the organization; some back up data daily or once a week. Storing data off site is an excellent way to conduct operations and to prevent your back-up data from being compromised in the event of a disaster at your primary site.⁴⁸

Storage Area Network is becoming a popular way of storing large amounts of data off site. It is a process by which data is transmitted from a facility to a back-up site electronically. The advantage is that there is no longer a transportation threat to the data, and the data is sent off site immediately. The network can then store the data on tape and remove it to off-line until the organization calls for it. Storage Area Network is more expensive than traditional data storage, primarily due to transmission charges.

FINDING THE RIGHT FACILITY

A plan must be developed for resuming operations if the data and processing center has sensitive functions (as most DOD organizations do). Several options exist to help recover from a disaster or emergency. Moving to a hot site (which will be described in greater detail later) is a preferred option. Some organizations have developed and built their own internal hot site, which is a redundant facility, ready for operation with little notice. These sites are updated with the most current information technology available. Maintaining a hot site is very expensive and many organizations will seek other options for data and processing recovery.⁴⁹

For less serious disasters, processing capabilities can be restored from back-ups or original media, by repairing equipment components, or by purchasing new equipment using the purchase order option. Federal agencies have the authority to issue purchase orders to quickly buy equipment and supplies in limited quantities during an emergency. This authority is usually limited to \$25,000 to \$50,000, and is sufficient in the aftermath of an emergency or disaster for buying off-the-shelf equipment. There are two ways that essential hardware can be replaced: through the outright purchase of replacement or upgraded equipment, or by leasing essential equipment for a limited period of time.

The outright purchase of replacement equipment is the clearest use of the purchase order. However, the purchase of upgraded equipment is a reasonable alternative if it is not cost-effective to salvage the present equipment. A short-term lease of essential equipment to augment or replace existing equipment during COOP operations can be another cost-effective alternative, however, the risk involved with leasing must be addressed; all systems used before and after a COOP operation must be thoroughly reviewed to ensure that information stored or processed on the hardware is protected.⁵⁰

Planners should also consider an in-house backup strategy that employs under-utilized facilities and old or new equipment on hand awaiting installation. In-house back-up maximizes the use of space and equipment, which is capable of being upgraded in a very short period of time to support continuity of operations. The in-house equipment that is to be used as back-up needs to be included in the plan because it may not be available at the time of the disaster.⁵¹ Considerable thought and analysis must go into a site selection. A planner should look for sites that are flexible and provide the organization with the ability to carry out its essential functions with minimal stress. The most important selection criteria are site protection and the people who are involved; a site should not be selected based on convenience. There are several recognized strategies for configuring sites in the event of disasters:

- Hot Site
- Cold Site
- Redundant Site
- Reciprocal Agreement
- Hybrid Site

Following is a description of each configuration.

HOT SITE

A hot site is a building already equipped with the capabilities to relocate and conduct operations. Operational standby facilities such as a hot site require payment of some kind for space, specific hardware, software and communications equipment that may require updating whenever changes occur. A potential drawback for information technology users is that services are always changing and may not be widely dispersed. A hot site facility may not be conveniently located and may be some 50 miles or more away from the organization.⁵²

COLD SITE

A cold site is a building for housing processors that can be easily put in use. The facility may be owned by the organization and function as an administration site, or owned by another agency and leased for use by several departments within the organization. Cold sites are more practical for command and control type operations because most facilities are owned by the organization or agency. The facility can be any office space with sufficient electrical power, communications lines (already installed or capable of being installed during or soon after a disaster), and air conditioning.⁵³

A cold site may also be supported by a contract if the equipment is not already on hand. There are a number of hardware vendors who offer guaranteed delivery and set-up within 24 hours. Although the maintenance costs are somewhat less than an operational standby, they still represent a continuing expense. For information technology activities, consideration should be given to leasing essential equipment. Leasing eliminates the ongoing maintenance costs of a special equipment contract, but it does not provide for the guarantees that appropriate equipment will be available when needed. As discussed earlier, leasing also creates the problem of data security, as special protection must be taken to ensure that all data that has been stored or processed on the system has been removed from the leased.⁵⁴

REDUNDANT SITE

A redundant site is a facility that is set up, equipped and configured exactly like the primary site. All configuration of equipment will reflect the primary site. It could mean that the user at the redundant site logs in to his or her equipment the same way they did at the primary site.⁵⁵

RECIPROCAL AGREEMENT

A reciprocal agreement is a formal agreement between two organizations. The agreement is typically with an external agency to provide backup support in the event of a disruption at one

of the organization's primary sites. Although low maintenance and other associated costs are some advantages to this alternative, consideration must be given to establishing an agreement with an organization that is not located in the same area, and thus has the same chance of being affected by the same disaster; the organizations must be geographically separate in order to provide effective continuity of operations capability. Agreements can be reached between superior and subordinate levels or between equivalent levels, as long as the geographical separation of sites is achieved. The biggest disadvantage of a reciprocal agreement is that the two organizations may have divergent expectations regarding the level of support that will be given in the event of a disaster. Reciprocal agreements are not considered workable solutions without a formal document outlining all conditions and signed by individuals in positions of authority to uphold the agreement.⁵⁶

HYBRIDS

A hybrid site is a combination of a hot site, redundant site and/or reciprocal agreement. Your organization can have a hot site as a back-up in case a redundant or reciprocal agreement site is damaged by a separate disaster.⁵⁷

In addition to the alternatives listed above, there are two other approaches available to leaders in selecting a site. One option is to allow employees to telecommute and work from home; even partial use of this option would ease the continuity of operations load by reducing or eliminating the need for office space, hardware, software and furniture. This option also offers immediate availability and reduced cost, and can be tested whenever leaders feel the need. The disadvantage is that many employees don't have the hardware, software, connectivity, information security and anti-viral protection at home to telecommute.⁵⁸ The second option is for organizations to identify and designate a subordinate organization as the successor in the event all communications are lost with your organization during a major disaster. The designated organization should be large enough and capable of continuing to carry out the essential functions until contact has been reestablished or reconstitution of the primary organization has occurred. Whatever option is used, consideration should be given to ensuring that the locations are geographically separate areas of the United States.

CONCLUSION

The Attack on September 11, 2001 occurred three years ago and many organizations are still not prepared to conduct COOP operations. GAO released a report in September 2004 of 34 organizations, all but three of the agencies reviewed had developed and documented some of the elements of a viable COOP plan; none of the agencies could demonstrate that they were

following all the guidelines in FPC 65. There was a wide variation in the number of organizations that addressed various elements identified in the guidelines. Leaders and members of organizations must understand that COOP planning is a good business practice for all organizations. The objective is simply to ensure that the capability exists to continue essential functions of an organization across a wide range of potential emergencies. Organizations are dependent on people, communications and a command and control infrastructure to conduct daily operations, and will be adversely impacted by disruptions. COOP planners must have the commitment from the leaders of the organizations to be successful and have “buy-in” from all sections within the organization. Plans should be developed that maintain the highest level of readiness, are capable of implementation with or without warning, and can be sustained for up to 30 days after activation.

A first-class COOP plan is essential in the defense of the COOP budget, and COOP planners must have an understanding of the DOD budget process to be able to obtain sufficient funds to support their efforts. Developing and implementing a COOP plan will cost money, as will updates to the plan, exercises, supplies, maintenance and the hiring of contractor support at various stages if necessary. At a minimum, the COOP plan should be thoroughly reviewed and exercised semi-annually to keep up with the flux of changes in an organization.

WORD COUNT=5558

ENDNOTES

²³ General Accounting Office, *Report to the Chairman, Committee on Government Reform, House of Representatives*, available from <www.gao.gov/cgi-bin/getrpt?GAO>; Internet; accessed 20 November 2004, 4.

²⁴ Federal Emergency Management Agency, *Federal Preparedness Circular 65*, available from <<http://www.fas.org/irp/offdocs/pdd/fpc-65.htm>>, Internet; accessed 24 September 2004, 2.

²⁵ General Accounting Office Report, 4.

²⁶ Department of Defense, *Directive 3020.26: Continuity of Operations (COOP) Policy and Planning*, 26 May 1995, available from <www.dtic.mil/whs/directives/corres/html/302026.htm>; Internet; accessed 3 October 2004, 2.

²⁷ Federal Preparedness Circular 65.

²⁸ Federal Emergency Management Agency, *Federal Preparedness Circular 66*, available from <<http://www.wasc.noaa.gov/wrso/oep-coop/fpc66.pdf>>; Internet; accessed 3 October 2004, 2.

²⁹ Department of Defense Directive 3020.26.

³⁰ CAPT Scott M. Corbitt, *Business Continuity Planning* (Washington: George Washington University, 7 January 1999), 4.

³¹ Business Continuity Committee, *Report to the Homeland Security Council* (N.p.: Business Continuity in Missouri, June 2003), 13.

³² General Accounting Office Report, 1.

³³ Ibid.

³⁴ Corbitt, 7.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Ibid.

³⁸ Ibid.

³⁹ Ibid., 8.

⁴⁰ Ibid., 10.

⁴¹ Ibid.

⁴² Ibid., 11.

⁴³ Ibid., 15.

⁴⁴ Ibid., 16.

⁴⁵ Ibid., 21.

⁴⁶ General Accounting Office Report, 7.

⁴⁷ Ibid., 6.

⁴⁸ Department of Transportation, Office of the Secretary, *Departmental Guide to Continuity of Operations Planning*, 12 November 2004, available from <http://cio.ost.dot.gov/policy/dirmm/DOT_H1350.254.htm1>; Internet; accessed 21 September 2004, 10.

⁴⁹ Ibid., 16.

⁵⁰ Ibid., 6.

⁵¹ Ibid., 7.

⁵² Ibid.

⁵³ Ibid.

⁵⁴ Ibid., 8.

⁵⁵ Ibid.

⁵⁶ Ibid., 9.

⁵⁷ Ibid.

⁵⁸ Ibid.

BIBLIOGRAPHY

- "Business Continuity Security Risk Management." Available from <www.srm-solutions.com>. Internet. Accessed 17 December 2004.
- "Business Continuity, Top 10 Reasons Why Disk Is Replacing Tape-Free White Paper." Available from <www.livevault.com>. Internet. Accessed 17 December 2004.
- Business and Industry Continuity of Operations. Available from <[Http://www.disasters.org/emgold/Library/busibess.htm](http://www.disasters.org/emgold/Library/busibess.htm)>. Internet. Accessed 10 January 2005.
- Business Continuity Committee. *Report to the Homeland Security Council*. N.p.: Business Continuity in the State of Missouri, June 2003.
- Corbitt, Scott M., CAPT. *Business Continuity Planning*. Washington: George Washington University, 7 January 1999.
- Goldstein, Amy, and Juliet Eilperin. "Congress Not Advised of Shadow Government Bush Calls Security Serious Business." Available from <<http://www.wanttoknow.info/020302post>>. Internet. Accessed 2 March 2002.
- Information Technology Security & Solution. *I (TS) 2*. Available from <www.1-ts2.com/about.html>. Internet. Accessed 10 January 2005.
- Info-Tech Research Group. *Disaster Recovery IT Plan*. Available from <www.infotech.com>. Internet. Accessed 18 December 2004.
- Shenon, Philip, and Christopher Marquis. "Panel Says Chaos in Administration Was Wide on 9/11." *New York Times*. Database online. Available from ProQuest. Accessed 15 January 2005.
- U.S. Department of Defense. *Directive, 3020.26: Continuity of Operations (COOP) Policy and Planning*. Available from <www.dtic.mil/whs/directives/corres/htm12/d302026x.htm>. Internet. Accessed 8 September 2004.
- U.S. Department of Transportation, Office of the Secretary. *Departmental Guide to Continuity of Operations Planning*. Available from <http://cio.ost.dot.gov/policy/irmm/ DOT_H1350.254.htm1>. Internet. Accessed 12 November 2004.
- U.S. Federal Emergency Management Agency. *Federal Preparedness Circular 65*. Washington, D.C., 17 March 2002. Available from <<http://www.wasc.noaa.gov/wrso/oep-coop/fpc65.pdf>>. Internet. Accessed 17 March 2002.
- U.S. Federal Emergency Management Agency. *Federal Preparedness Circular 66*. Washington, D.C., 17 March 2002. Available from <<http://www.wasc.noaa.gov/wrso/oep-coop/fpc66.pdf>>. Internet. Accessed 17 March 2002.
- U.S. General Accounting Office. *Report to the Chairman, Committee on Government Reform, House of Representatives*. February 2004. Available from <[www.gao.gov/cgi-bin/getrpt?GAO 04-160](http://www.gao.gov/cgi-bin/getrpt?GAO%2004-160)>. Internet. Accessed 20 November 2004.

