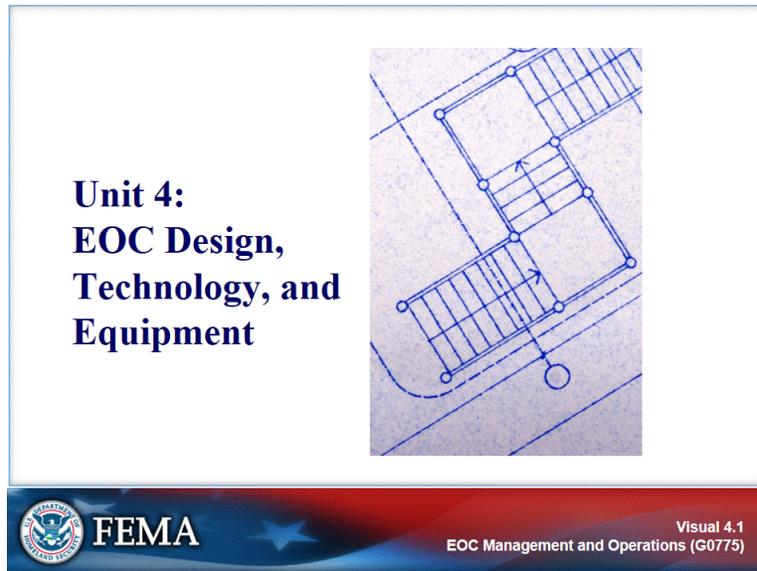

UNIT 4. EOC DESIGN, TECHNOLOGY, AND EQUIPMENT

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INTRODUCTION AND OVERVIEW

Visual 4.1



Key Points

Unit 4 will cover the issues that surround an EOC's physical design, location, and ultimate survivability. The unit also will introduce the concepts of integrating emerging technologies into EOCs.

INTRODUCTION AND OVERVIEW

Visual 4.2

Unit 4 Objectives

- Discuss the importance of selecting the best EOC location.
- Discuss alternate EOC location(s).
- Describe the relevance of proper design and layout of an EOC.
- Identify requirements for successful EOC communications.
- Discuss the emerging role of technology and innovation in the EOC.



Key Points

At the end of this unit, you will be able to:

- Discuss the importance of selecting the best EOC location.
- Discuss alternate EOC location(s).
- Describe the relevance of proper design and layout of an EOC.
- Identify requirements for successful EOC communications.
- Discuss the emerging role of technology and innovation in the EOC.

INTRODUCTION AND OVERVIEW

Visual 4.3

EOC Facilities

EOCs:

- Are all shapes and sizes.
- May reflect the community's investment in emergency management and disaster preparedness.



 **FEMA** 

Visual 4.3
EOC Management and Operations (G0775)

Key Points

EOCs come in all shapes and sizes and are often a direct reflection of a community's commitment to emergency management and overall disaster preparedness.

INTRODUCTION AND OVERVIEW

Visual 4.4

Video: EOC Layout and Design



EOC Layout and Design

Music

Click image to play video.

 **FEMA** 

Visual 4.4
EOC Management and Operations (G0775)

Key Points

This video is a good introduction to EOC location, layout, and design principles.

Video Transcript: EOC Layout and Design

There is no single best design for an Emergency Operations Center, or EOC, but here are some key principles for the physical establishment of an EOC.

EOC LOCATION

The first step in establishing an EOC is deciding where to locate it. A comprehensive hazard vulnerability analysis will help by identifying poor locations for the EOC, such as in earthquake prone areas, along fault lines, or within floodplains.

Other locations to avoid include proximity to a nuclear or hazmat facility, near a vulnerable transportation route, or a congested traffic area which can hinder effective operations.

A central location is preferable but more critical is easy accessibility by vehicles, key officials, and staff.

An advantage of co-locating the EOC with a 24-hour communications activity, such as police or fire dispatchers, helps ensure that communication will be on hand at a high level of readiness with a skeleton communications staff in place.

INTRODUCTION AND OVERVIEW

Visual 4.4 (Continued)

The EOC needs to meet these vital tests:

- Survivability—the buildings fabric should be solid, sturdy, and resistant to collapse.
- Sustainability—the EOC should be capable of independent and round the clock operations for at least 2 weeks.
- Rapid conversion—the facility should become a fully functional EOC within 30 minutes.

EOC LAYOUT

After establishing where to locate the EOC, the next task is to create a good layout inside and configure the interior space for maximum efficiency and effectiveness.

The amount of floor space is dependent on the maximum number of people likely to be in the EOC during the peak of emergency operations. For a good estimate of space requirement, multiply a minimum of 50 square feet per person. For instance, for a maximum of 25 people, the center needs 1,250 square feet.

Develop a floor plan that shows the basic layout within the EOC, such as the furniture arrangement, location of displays and maps, and communications gear. Look at other plans and diagrams and if possible, visit other EOCs in the area.

EOC DESIGN

An effective design is based on a few common sense principles that promote efficiency and flexibility:

- People and agencies that frequently need to coordinate should be near each other in the EOC's arrangement.
- The ability to modify the layout during an emergency allows the staff to adapt to the changing requirements of initial response and recovery missions.
- Space between the three functional areas of communications, operations, and support will limit interference and distraction between these vital areas.
- Be prepared for the potential loss of technology due to power failures. Be ready with supplies, procedures and advanced training to improvise paper and pencil backup procedures on the spot.
- The EOC needs to be capable of self-contained, round the clock operations for at least 2 weeks. That means an emergency generator, adequate food and supplies, food preparation equipment, and an independent supply of potable water.
- The staff will need sanitary facilities including showers and a dedicated sleeping area with cots or bunks.

INTRODUCTION AND OVERVIEW

Visual 4.4 (Continued)

Access and control are important considerations when designing the EOCs support areas:

- Have a separate press briefing room located away from the operations area.
- Establish a security control at the EOC entrance to restrict unauthorized personnel.

No one knows where or when a natural disaster or manmade hazard may strike a community, but the EOC is ready for crisis.

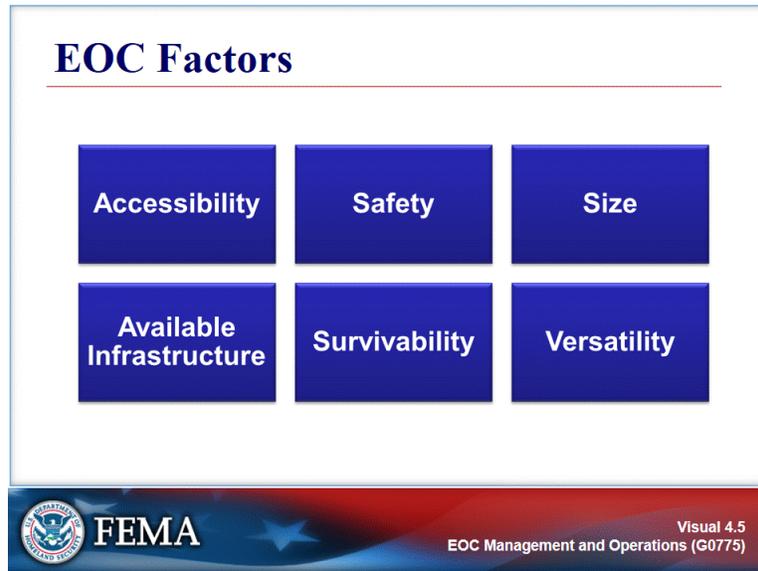
Survivable in a well-chosen location, it's prepared for independent and sustained operations with adequate floor space, equipment, supplies, and emergency power.

Its layout is flexible and adaptable, its procedures have been practiced, and its setup has been exercised.

The EOC is dedicated to protecting the community and saving lives.

EOC LOCATION, ACCESSIBILITY, SAFETY, AND SIZE

Visual 4.5



Key Points

Primary factors for the selection or building of an EOC should include the following:

- Accessibility
- Safety
- Size
- Available Infrastructure
- Survivability
- Versatility

EOC LOCATION, ACCESSIBILITY, SAFETY, AND SIZE

Visual 4.6

Importance of Accessibility

Key staff, suppliers, and support personnel must be able to travel to the EOC during or following an incident.



Visual 4.6
EOC Management and Operations (G0775)

Key Points

It is critical that the EOC is accessible under any circumstance by key EOC staff. If an EOC is located in an area, for example, where flooding is prone and road access is limited or severed, consider relocating the EOC or designing creative options to get key staff to the EOC when activated.

Planning for accessibility should incorporate suppliers and support staff critical to EOC operations. Suppliers include, but are not limited to, technology supporters, feeding and care of the EOC, and communications specialists.

Some communities located in disaster prone areas where critical staff may be cut off by river systems and inaccessible bridges have developed innovative approaches for transporting staff to the EOC. These approaches include pre-identifying contract transport carriers via river systems as well as local airplane and helicopter enthusiasts.

Important Note: Treat critical EOC staff as individuals, not sections or functions, when planning for accessibility to the EOC. Ask each critical EOC staff member what challenges they may face in accessing the EOC and how best to overcome those challenges through the planning process.

EOC LOCATION, ACCESSIBILITY, SAFETY, AND SIZE

Visual 4.7

Accessibility Review



- Is the EOC accessible, regardless of hazard or threat (be scenario specific)?
- Can key personnel walk to the EOC under extreme circumstances?
- Could staff access meals and other amenities?
- Would new threats or developments pose a risk to the EOC?
- How would future growth impact the EOC?

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Visual 4.7
EOC Management and Operations (G0775)

Key Points

Communities should already have in place many of the tools that offer an examination of the most current hazards or vulnerabilities their EOCs could face. Based upon a review of these documents, EOC managers and community leaders should determine if:

The EOC is accessible, regardless of hazard (be scenario specific): Examine the accessibility issues to an EOC with each scenario a community may face, not simply with the one most likely to occur. Ensuring EOC staff can access under any scenario is important.

Key personnel can walk to the EOC under extreme circumstances: If road systems are not viable, can EOC staff walk to the EOC under the most extreme circumstances, even if that amount of time dramatically slows response?

New threats or development poses a risk to the EOC: For example, if a large home improvement store is built within proximity of the EOC, traffic patterns may dramatically increase within the area (especially when disaster incidents are foreseeable such as a hurricane). The store could be considered an accessibility issue for the EOC. Note that threats can include potential attacks on energy systems that supply power to the area and the EOC. Cyber-attacks may also impact EOC accessibility.

How future growth will impact the EOC location: EOC leadership should be actively involved in planning discussions when there are potential negative impacts to an EOC. Emergency management professionals may want to make their opinions known to the public when growth can threaten EOC accessibility.

Fast Fact: It is reported that 100 percent of States and 96 percent of urban areas indicated complete or partially complete Threat and Hazard Identification Plans. - *National Preparedness Report (March, 2012)*

EOC LOCATION, ACCESSIBILITY, SAFETY, AND SIZE

Visual 4.8

EOC Safety

Make sure the EOC is safely located away from:

- **Natural and technological hazards.**
- **Cascading events.**
- **Identified or potential terrorist targets.**



 **FEMA** 

Visual 4.8
EOC Management and Operations (G0775)

Key Points

Safety considerations for an EOC and its staff should:

- Ensure the location of the EOC is away from natural and known technological hazards.
- Ensure the EOC is located so that cascading events will not impact EOC operations.
- Guarantee that the EOC is not located in or near an identified or potential terrorist target.

Explain that locating an EOC next to known hazards and high-risk areas is inexcusable. It is imperative to review existing hazard plans for locating the EOC.

The safety of the EOC and its staff is not merely about terrorism and natural hazards. It is important to ensure a high degree of safety for staff members who may need to walk to the EOC, eat nearby, or stay in a nearby hotel during EOC activations. EOC managers should strongly consider the location of the EOC relative to the safety of the surrounding area when activated.

EOC LOCATION, ACCESSIBILITY, SAFETY, AND SIZE

Visual 4.9

EOC Size (1 of 2)

- What are your jurisdiction's EOC staffing requirements?
- What type of equipment will routine EOC staff use?
- How is the equipment configured?



 **FEMA**

Visual 4.9
EOC Management and Operations (G0775)

Key Points

When considering the size and dimensions of your EOCs, ask yourself:

- What are your jurisdiction's EOC staffing requirements?
- What type of equipment will routine EOC staff use (laptop, desktop, radios)?
- How is the equipment configured?

The size of an EOC should be determined based upon the organizational structure the EOC intends to use now and into the future. Consider: As your community grows, will the EOC expect to shift from ICS structures to a hybrid ICS-ESF structure?

EOCs should base space requirements on the routine use of the facility and whether or not technology is going to be permanent or relatively temporary (i.e., permanent computer terminals or portable laptops). Consider: Are radio communications within the EOC expected and, if so, will several EOC positions require additional space?

Determine how equipment in the EOC should be configured. For example, will GIS related equipment (map plotters) be located off to the side or near the back of the EOC? Will the location of some equipment cause a disturbance and should this be considered when designating space in an EOC?

EOC LOCATION, ACCESSIBILITY, SAFETY, AND SIZE

Visual 4.10

EOC Size (2 of 2)

- **Is the space sufficient for additional equipment required to ensure interoperability and redundancy?**
- **Is there space for breakout meetings, press conferences, eating, and resting?**



 **FEMA** 

Visual 4.10
EOC Management and Operations (G0775)

Key Points

Other considerations for EOC size and dimensions include:

- How much additional equipment is required to ensure interoperability and redundancy (radio rooms, GIS, In-house Call Center)?
- Is there space for breakout meetings, press conferences, eating and resting, sleep?

Breakout rooms adjacent to the EOC operations floor are a common element in EOCs. Some communities want an EOC with a kitchen as well as space available to call press conferences during activation.

Training rooms may also be a consideration if you are planning for training in the EOC.

EOC LOCATION, ACCESSIBILITY, SAFETY, AND SIZE

Visual 4.11

Options: If the EOC Is Too Small

- Consider departmental or partner jurisdiction EOCs (public works, fire, law enforcement, etc.).
- Discuss the option of conducting EOC operations “virtually.”

FEMA Region X has conducted several activations of the Regional Response Coordination Center (RRCC) virtually, in support of the State of Alaska and remote impacted communities.



FEMA

Visual 4.11
EOC Management and Operations (G0775)

Key Points

When an EOC is too small, out-of-the-box thinking by emergency management professionals may allow an EOC to still perform its functions effectively.

Consider your own jurisdiction’s existing departmental infrastructure, including facilities that do (or could) act as an operations center. Many fire districts or departments have a minimal operations center (some even call it a “Fire Operations Center”). Public works departments often have a centralized location from which they can operate. Consider seeking partnerships with these types of organizations to expand your capabilities.

When there are no options for partnering or collaborating with a partner organization such as fire, law, or public works, the EOC may be able to expand or unilaterally operate “virtually.”

For an EOC to operate “virtually,” the technology used must be:

- Reliable,
- Consistent from one jurisdiction or department to the next,
- Easily understood, and
- Part of a larger set of policy documents that guide EOC operations in this unique format.

Virtual EOC Activation is not only possible but occurs at the highest levels of emergency management. FEMA Region X (Alaska, Idaho, Oregon, and Washington), for example, has activated its RRCC and even a Joint Field Office (JFO) virtually for a number of incidents that impacted Alaska. This creativity has saved tremendous personnel and facilities costs and allowed entities that are separated by thousands of miles to respond to, and help communities recover from, incidents.

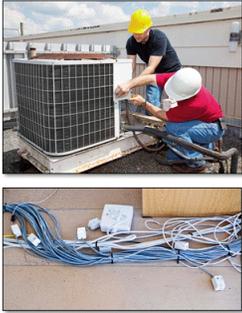
EOC INFRASTRUCTURE, SURVIVABILITY, AND VERSATILITY

Visual 4.12

Available Infrastructure

Available infrastructure should include:

- Heating, ventilation, and air conditioning
- Water, electricity, and natural gas
- Internet and satellite capability
- Telephone land lines



 **FEMA**

Visual 4.12
EOC Management and Operations (G0775)

Key Points

A jurisdiction's facilities department or organization is usually best qualified to determine infrastructure suitability for an EOC. Prior to determining the potential location for an EOC, facilities personnel should assess if the site has the following:

- Obstacles to installation of heating, ventilation, and air conditioning (HVAC)
- Available water, electricity, and natural gas
- Accessible Internet and satellite capability (fiber and line of sight)
- Traditional telephone land lines

EOC INFRASTRUCTURE, SURVIVABILITY, AND VERSATILITY

Visual 4.13

Survivability

An EOC needs to remain operable for an extended period of time, regardless of the size and scope of an incident.



The visual contains two side-by-side photographs. The left photograph shows a snowy residential street with several cars parked along the curb. Two people are walking away from the camera down the snow-covered sidewalk. The right photograph is an aerial view of a city street, showing a grid of buildings and a clear path down the center of the street.

 **FEMA**

Visual 4.13
EOC Management and Operations (G0775)

Key Points

One of the most important objectives when developing or enhancing an EOC is ensuring survivability. An EOC needs to remain operable for an extended period of time, regardless of the size and scope of an incident.

Visual 4.14

Example: Survivability

- On September 11, 2001, the New York City EOC was located in the World Trade Center.
- It was completely destroyed.



Visual 4.14
EOC Management and Operations (G0775)

Key Points

One tragic example of an EOC that did not survive is the New York City EOC. On 9/11, the EOC was located in the World Trade Center. It was completely destroyed.

EOC INFRASTRUCTURE, SURVIVABILITY, AND VERSATILITY

Visual 4.15

Example: Survivability

In August 2005, the City of New Orleans' EOC and 911 Call Center were inundated with flood waters from Hurricane Katrina and rendered useless.



FEMA

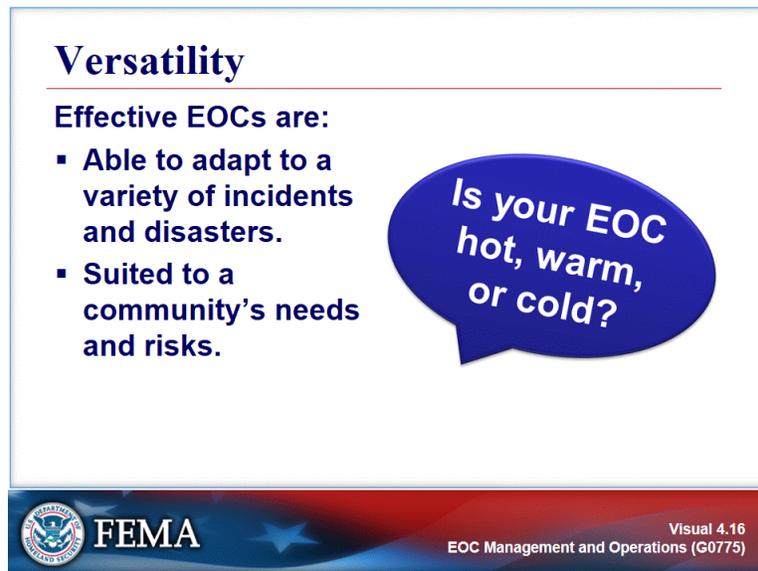
Visual 4.15
EOC Management and Operations (G0775)

Key Points

Another example of an EOC that was not operable during a catastrophic incident is the City of New Orleans' EOC. In August 2005, the city's EOC and 911 Call Center were inundated with flood waters from Hurricane Katrina and rendered useless.

EOC INFRASTRUCTURE, SURVIVABILITY, AND VERSATILITY

Visual 4.16



Versatility

Effective EOCs are:

- Able to adapt to a variety of incidents and disasters.
- Suited to a community's needs and risks.

Is your EOC hot, warm, or cold?

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Visual 4.16
EOC Management and Operations (G0775)

Key Points

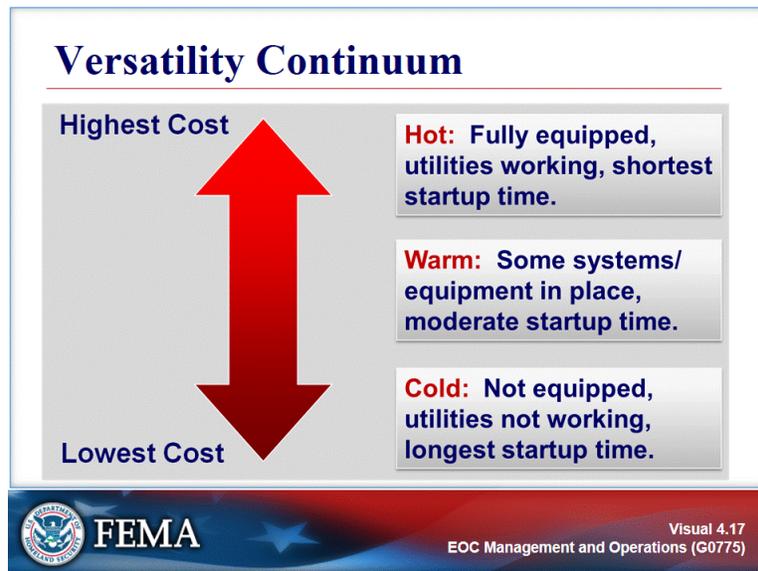
In addition to having suitable infrastructure and a high degree of survivability, an EOC must also be versatile enough to adapt to a variety of incidents and disasters.

For example, an EOC responding to a flood event will be dramatically different from the same EOC responding to a terrorist attack. The flood will require a more traditional EOC staffing, while the terrorist attack will require strong coordination with State and Federal entities and will likely require enhanced security procedures for the EOC.

Discussion Question: Is your EOC hot, warm, or cold?

EOC INFRASTRUCTURE, SURVIVABILITY, AND VERSATILITY

Visual 4.17



Key Points

There are degrees of EOC versatility:

- **Hot:** A hot EOC is fully equipped with working utilities. This EOC has the shortest start up time and the highest cost.
- **Warm:** A warm EOC has some systems and equipment in place and requires a modest startup time.
- **Cold:** A cold EOC is not equipped, does not have working utilities, and requires the longest startup time. It also has the lowest cost.

One of the disadvantages of having a cold EOC is that technology may not be updated or in sufficient working condition when needed. If an EOC sits empty, unused, and with technology that is not routinely accessed, then startups can be tedious, ineffective, and subject to scrutiny. A jurisdiction developing a new EOC should consider the monthly financial obligations required to enable an EOC to activate within a 2- to 3-hour period.

Emergency management departments often face significant scrutiny within annual budget proposals when requesting ongoing funding for an EOC that is infrequently activated. It is understandable for elected policymakers to question funding. Therefore, emergency management professionals and their EOC partners should make joint arguments why such funding is needed to protect a community and mitigate the impacts of disasters when they do occur.

ALTERNATE EOCs AND COOP

Visual 4.18

Alternate EOCs

All jurisdictions should have an alternate EOC.



Use the same factors to select the alternate EOC location.

Accessibility	Safety	Size
Available Infrastructure	Survivability	Versatility

Acquisition of Alternate Facilities 4.1

 **FEMA**

Visual 4.18
EOC Management and Operations (G0775)

Key Points

All jurisdictions should strive to have an alternate EOC. Selection of an alternate EOC location should be based on the same factors as the primary EOC:

- Accessibility
- Safety
- Size
- Available Infrastructure
- Survivability
- Versatility

ALTERNATE EOCs AND COOP

Visual 4.19

Helpful Hint: Alternate EOCs

Begin by considering facilities operated by public safety and departmental partners, such as:

- Public works,
- Fire districts/departments, and
- Other emergency management agencies.



Your partners may already have an existing operations center available for your use.

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Visual 4.19
EOC Management and Operations (G0775)

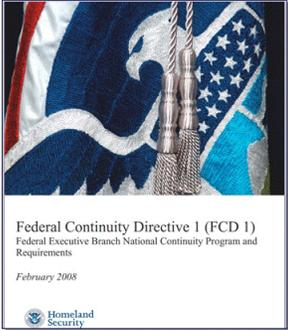
Key Points

When searching for alternate EOC locations, start by exploring the possibilities of utilizing other existing facilities or operations centers (i.e., public works, fire, adjacent EM organizations). This effort will require legal agreements like a Memorandum of Understanding.

ALTERNATE EOCs AND COOP

Visual 4.20

Continuity of Operations (COOP)



Federal Continuity Directive 1 (FCD 1)

- Describes critical aspects of COOP planning.
- Can be used as a tool to improve EOC operations.

Federal Continuity Directive 1 (FCD 1)
Federal Executive Branch National Continuity Program and Requirements
February 2008
Homeland Security

 **FEMA**

Visual 4.20
EOC Management and Operations (G0775)

Key Points

Regardless of your ability to establish a physical alternate EOC, you should address the issue of Continuity of Operations Planning, commonly referred to as “COOP.”

COOP is the ability to perform minimal essential functions during any situation. The ideal scenario is for communities to have an alternate EOC and a COOP plan working together. COOP planning also can be developed for virtual EOCs.

The Federal requirements for COOP planning should be a model for COOP planning at the State and local level. Local emergency management organizations are increasingly being tasked with developing COOP plans for all departments and agencies in their respective jurisdictions.

COOP guidance and templates can be found within Federal Continuity Directive 1 (www.fema.gov/pdf/about/org/ncp/fcd1.pdf) and FEMA offers Continuity Planning classes that EOC managers and emergency management professionals can attend in order to build continuity of operations (<http://www.fema.gov/courses>).

EOC LAYOUT AND DESIGN

Visual 4.21

EOC Layout/Design Considerations

- Visibility between key staff
- Sufficient distance between staff to reduce noise levels
- Easy access to food, water, and the facilities
- Properly locating support technology (copiers, GIS)



 EOC Design and Layout Checklist 4.2

 FEMA

Visual 4.21
EOC Management and Operations (G0775)

Key Points

Once a community has decided on a suitable location for an EOC and addressed an alternate EOC location and COOP, interior layout and design of the EOC should become a focal point.

There are several potential EOC floor designs available for selection in an EOC that emergency management leadership and EOC managers should jointly research in addition to visiting other EOCs. Some considerations for determining EOC layout include:

- Visibility between key staff.
 - EOCs should have clear visibility between staff members who frequently work together. Sometimes eye contact and hand signals are used effectively to communicate when both members are on phones or typing. Make sure that structures such as beams do not impede visibility.
- Sufficient distance between staff.
 - If possible, EOCs should address spacing that allows for each staff member to work efficiently and with as little noise interference as possible.
- Easy access to food, water, facilities.
 - Ensure that EOC staff can easily and quietly access facilities when needed, without interfering with other members or EOC operations.
- Properly locating technology.
 - Properly placing technology and EOC support work stations (i.e. copiers, GIS) will assist EOC staff members in their efforts to concentrate on their positions with limited noise distractions.

Visual 4.22

EOC Interoperability and Redundancy

NIMS best practices for communications:

- Interoperability
- Redundancy



 **FEMA**

Visual 4.22
EOC Management and Operations (G0775)

Key Points

The next step in designing or redesigning an EOC is to consider interoperability and redundancy which are National Incident Management System (NIMS) requirements for communications.

INTEROPERABILITY, REDUNDANCY, AND COMMUNICATIONS BASICS

Visual 4.23

Interoperability: Definition

The ability of public safety service and support providers to communicate with staff from other responding agencies and to exchange voice and/or data communications on demand or real time.

- National Task Force on Interoperability



FEMA

Visual 4.23
EOC Management and Operations (G0775)

Key Points

Interoperability is the ability of public safety service and support providers to communicate with staff from other responding agencies and to exchange voice and/or data communications on demand or in real time.

INTEROPERABILITY, REDUNDANCY, AND COMMUNICATIONS BASICS

Visual 4.24



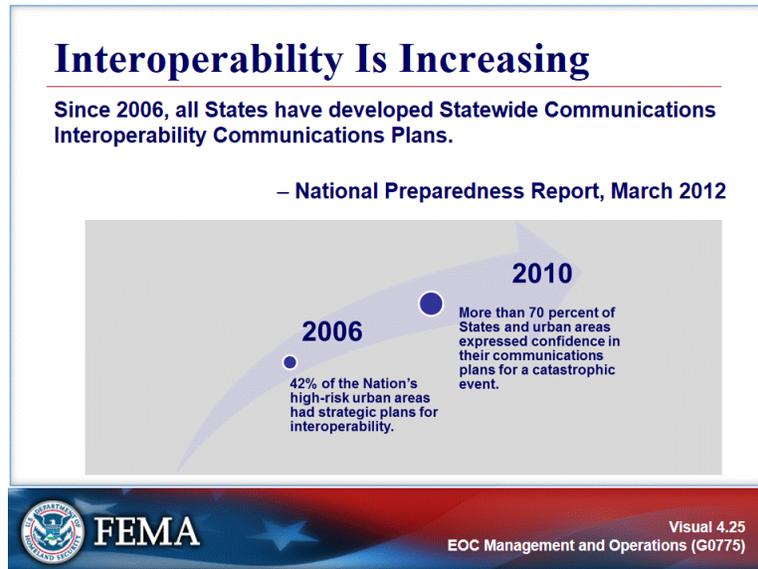
Key Points

Discussion Question: How many of you believe that your jurisdictions' communications are interoperable?

Discussion Question: How do you know?

INTEROPERABILITY, REDUNDANCY, AND COMMUNICATIONS BASICS

Visual 4.25



Key Points

The Nation’s interoperability dramatically improved after the tragic events of September 11, 2001. According to the 2012 National Preparedness Report, more than 70 percent of the States and urban areas expressed confidence in their communications plans for a catastrophic event.

EOCs should strive for interoperable communications with first responders and tactical operations in the field and on-scene for several reasons, including the development of situational awareness. Emergency management professionals and EOC managers should play a key role in the resolution of interoperable communications in their communities.

INTEROPERABILITY, REDUNDANCY, AND COMMUNICATIONS BASICS

Visual 4.26



Key Points

This brief video offers examples of what has happened when emergency responders cannot communicate effectively.

Video Transcript:

Communication is key in any setting and never more critical than in an emergency response situation. But when emergency responders from local, State, and Federal agencies respond to an event, there are times when there is a gaping hole in their ability to communicate. That hole is due to incompatible radio communications systems and a lack of established methods to communicate within a common radio channel. Our emergency responders cannot always talk to each other during crisis situations.

...from up here, a plane just crashed into the World Trade Center for your information...

This fatal flaw was evident in the 9/11 Twin Towers tragedy when police got the word to evacuate before the second tower collapsed and firefighters did not. Over 300 firefighters died. Lack of effective radio communications was a significant factor.

More recently and closer to home, a seemingly small incident: A fertilizer fire in a warehouse near Yakima ended up involving over 200 personnel and 38 agencies during the 3-day event. The incident further emphasized the need for all emergency response organizations to be able to work together seamlessly.

Communication is critical for major catastrophes and incidents that can and do happen in any community on any day.

INTEROPERABILITY, REDUNDANCY, AND COMMUNICATIONS BASICS

Visual 4.27

EOC Communication Basics

When the EOC is activated, each staff member should consider:

- Who ... needs to know what I am doing?
- What ... needs to be communicated?
- When ... should I communicate it?
- How ... should it be communicated?

How do these communications basics apply outside the EOC?

FEMA

Visual 4.27
EOC Management and Operations (G0775)

Key Points

As the video demonstrated, interoperability is critical in the field and on-scene to first responders. Equally, effective communications within the EOC and between staff is vital to the EOC mission of supporting those first responders.

Each EOC staff member, regardless of their position, should consider:

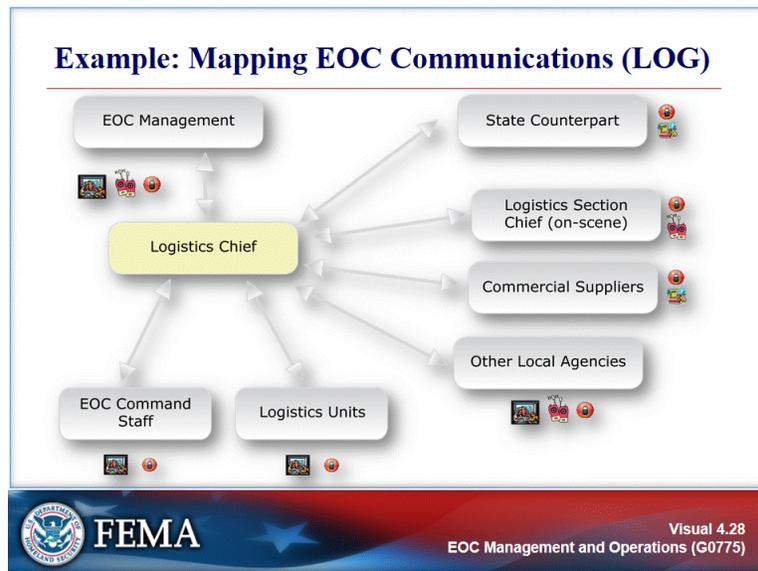
- **WHO** needs to know what I am doing?
- **WHAT** needs to be communicated?
- **WHEN** should I communicate it?
- **HOW** should it be communicated?

This rule of thumb should not be limited to communications solely within the EOC environment. Decisions made inside the EOC may impact individuals and groups throughout a community who should be notified.

Discussion Question: How do these communications basics apply outside the EOC?

INTEROPERABILITY, REDUNDANCY, AND COMMUNICATIONS BASICS

Visual 4.28



Key Points

This visual illustrates how communications might flow within a Logistics Section of the EOC.

Note the Logistics Chief's continual contact with his/her counterpart at the State, on-scene, local suppliers, and other local agencies. EOC communication should be occurring within each section inside and outside the EOC.

In this case, the Logistics Chief is communicating via a variety of means and should be documenting each communication.

Visual 4.29

Activity: Developing a Communications Map

Instructions: Working in small groups:

- Select an EOC function or position.
- Use ICS form 205A to create a communications map for the function or position.
- Select a spokesperson and be prepared to discuss your work in 15 minutes.



Activity: ICS Form 205A 4.3



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Visual 4.29
EOC Management and Operations (G0775)

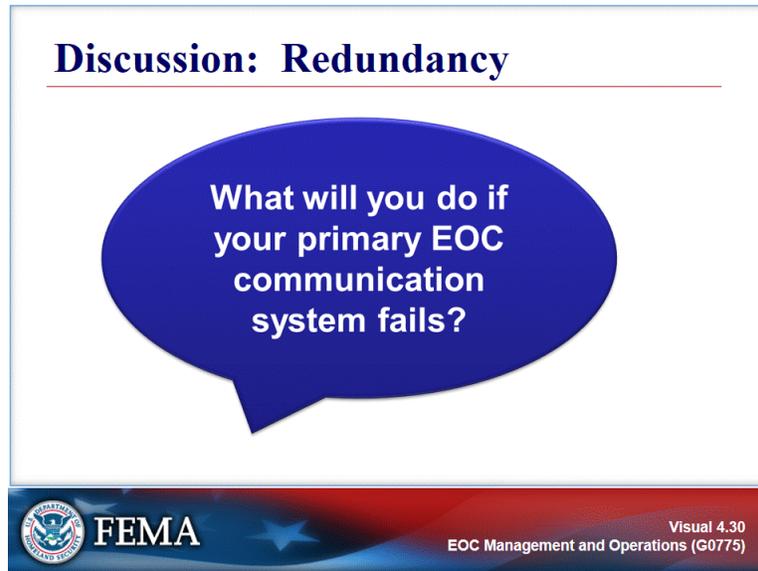
Key Points

Instructions:

Working in small groups:

- Select an EOC function or position.
- Use ICS form 205A to create a communications map for the function or position.
- Select a spokesperson and be prepared to discuss your work in 15 minutes.

Visual 4.30



Key Points

Discussion Question: What will you do if your primary EOC communication system fails?

Visual 4.31

Backup Systems Considerations

- What backup systems exist for your EOC?
- When should they be used?
- How will notifications be made?



The image shows a woman in a white lab coat sitting at a desk in a control room, talking on a phone. There are computer monitors and papers on the desk. The background shows a typical office environment with other desks and equipment.

 **FEMA**

Visual 4.31
EOC Management and Operations (G0775)

Key Points

Discussion Question: What backup systems exist for your EOC?

Discussion Question: When should they be used?

Discussion Question: How will notifications be made?

INTEROPERABILITY, REDUNDANCY, AND COMMUNICATIONS BASICS

Visual 4.32

Redundancy: Backup Systems Requirements



Backup systems must:

- Be available to all assisting agencies.
- Work in a variety of situations or conditions.
- Be able to accommodate secure communications, where necessary.

 **FEMA** 

Visual 4.32
EOC Management and Operations (G0775)

Key Points

Some of the requirements for backup systems include:

- All agencies must be able to switch to a backup system when required.
- Backup systems must work in a variety of situations or conditions.
 - Training and exercising on a routine basis helps ensure backup systems work under varied conditions.
- Backup systems must take into account secure communications when needed.

EOC EMERGING TECHNOLOGIES

Visual 4.33

Integration of Technology

While not replacing face-to-face communications, technology integrated into routine operations can be very effective.



 **FEMA**

Visual 4.33
EOC Management and Operations (G0775)

Key Points

As you consider integrating technology into EOC operations, keep in mind that no technology could or should ever supplant the face-to-face communications that allow the EOC to function effectively.

EOC EMERGING TECHNOLOGIES

Visual 4.34

Emerging Technologies in the EOC



- **Real-Time EOC Management Software**
- **GIS**
- **Reverse notification products and programs**
- **Enhanced radio systems**
- **Documentation systems**

 **FEMA** 

Visual 4.34
EOC Management and Operations (G0775)

Key Points

Technological advances offer emergency management professionals several tools to assist with EOC operations:

- Real-Time EOC Management Software
- GIS
- Reverse notification products and programs
- Enhanced radio systems
- Documentation systems

All of the technologies are rapidly changing and need to be integrated and then maintained on a regular basis for effective EOC operations. Note that purchasing these technologies often requires ongoing maintenance costs that emergency management and EOC managers must incorporate into routine budgeting practices.

EOC EMERGING TECHNOLOGIES

Visual 4.35

Emerging Technologies: The Need

Before integrating reverse notification technology:
Snohomish County, WA spent approximately \$1 million on search and rescue efforts associated with a record-breaking flood in November 2006.



Fast Fact: Snohomish County is the most flood-prone county in the Pacific Northwest.



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EOC Management and Operations (G0775)

Key Points

In 2006, prior to integration of reverse notification technology, Snohomish County, Washington had extensive search and rescue costs that totaled \$1 million. Rescue crews used boats and helicopters to evacuate residents from flooded areas during a record-breaking flood.

Following the 2006 flood, the Department of Emergency Management worked with the Public Health District to purchase a reverse notification system. Partnerships outside of the norm for emergency management organizations and EOCs can often result in unexpected benefits for the EOC. That is why it is important to include all partners expected to be involved in EOC operations (under any scenario) in seeking fiscal alliances.

EOC EMERGING TECHNOLOGIES

Visual 4.36

The graphic titled "Emerging Technologies in Action" features a newspaper clipping from The Everett Herald dated Sunday, November 16, 2008, with the headline "County Preparations Kept Flood Rescues to Minimum" by Krista J. Kapralos. To the right is a photograph of two people in a meeting room looking at a map on a screen. Below the clipping is a blue text box with white text: "...Early last week, when meteorologists warned that rivers could flood as much as they did two years ago, Pennington drew a polygon on a map around the rural area south of Monroe. Using a 'Reverse 911,' an automated system called every telephone in that area and told residents to pack their bags. 'It was the first time we used that system, and it worked,' Pennington said." The bottom of the graphic includes the FEMA logo and the text "Visual 4.36 EOC Management and Operations (G0775)".

Key Points

Two years after the 2006 flood, Snohomish County faced another flood. But this time, they were prepared with reverse notification technology to warn residents to evacuate. The total cost for search and rescue this time: zero.

Early last week, when meteorologists warned that rivers could flood as much as they did two years ago, Pennington [Snohomish County's director of emergency management] drew a polygon on a map around the rural area south of Monroe. Using a "Reverse 911," an automated system called every telephone in that area and told residents to pack their bags.

"It was the first time we used that system, and it worked," Pennington said.

From: The Everett Herald
Published: Sunday, November 16, 2008
County Preparations Kept Flood Rescues to Minimum
By Krista J. Kapralos, Herald Writer

Note that technology such as reverse notification can be executed (under proper procedures and authorities) from a routine office or even via laptop computers on wireless Internet service from a Duty Officer's or EOC Manager's personal residence.

SUMMARY

Visual 4.37

Unit 4 Summary

We discussed:

- Six primary factors to consider when searching for an EOC location.
- The need for alternate EOCs and the importance of Continuity of Operations (COOP) for a jurisdiction.
- Proper EOC design and layout.
- The requirements and logic of effective communications, including interoperability and redundancy.
- Examples of emerging technologies and how they can enhance EOC operations while simultaneously saving costs.



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Visual 4.37
EOC Management and Operations (G0775)

Key Points

Unit 4 discussed:

- Six primary factors to consider when searching for an EOC location.
- The need for alternate EOCs and the importance of Continuity of Operations (COOP) for a jurisdiction.
- Proper EOC design and layout.
- The requirements and logic of effective communications, including interoperability and redundancy.
- Examples of emerging technologies and how they can enhance EOC operations while also saving money.