DESIGN RECOMMENDATIONS AND CRITERIA FOR EMERGENCY OPERATIONS CENTERS

Michigan State Police
Emergency Management Division
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The purpose of this guidance is to help local jurisdictions improve emergency preparedness and management by ensuring that their Emergency Operations Centers (EOCs) have facility, decision support and telecommunications capabilities that provide flexibility, sustainability, security, survivability and interoperability.

While it is recognized that each jurisdiction has unique needs and wants, the Emergency Management Division has developed basic requirements that all EOC's should meet in order to provide Survivable Crisis Management (SCM) capability. These guidelines will not preclude the jurisdiction from constructing any facility. However, most sources of available federal financial aid is usually dependent upon meeting minimum standards as described here. Specific federal programs may include additional or modified requirements.

Emergency operations centers are essential for the effective direction, control, and coordination of emergency response efforts. Self-assessments shall consider the following characteristics in determining EOC needs and when submitting proposals for EOC projects:

- Flexibility – scale operations and adapt operational space to the all hazards event (e.g., have sufficient space, equipment, furniture, administrative supplies, telecommunications, computer support, etc., available to satisfy mission requirements.

- Sustainability – support operations for extended duration; e.g., be able to sustain operations 24 hours a day/seven days a week during all emergency situations without interruption; to the extent practical, be located in a place that is not a high-risk area for known hazards such as flood zone, other natural hazard, nuclear power plant, hazardous material sites, etc.

- Security – guard against potential risks and protect operations from the unauthorized disclosure of sensitive information, e.g., have sufficient security and structural integrity to protect the facility, its occupants, and communications equipment and systems from relevant threats and hazards.

- Survivability – sustain the effects of a realized potential risk and continue operations from the EOC or a fully-capable alternate location, e.g., have an alternate EOC that can be activated and used if the primary is destroyed, damaged, or not accessible.

- Interoperability – share common principles of operations and exchange routine and time-sensitive information with other EOCs, e.g., be able to communicate with local government EOCs, emergency response teams at or near an incident site, state EOC.

A. LOCATION

The EOC **must** be constructed in a location that will minimize the effects of any local hazards, cannot be in the 100 year flood plain, or change or alter listed or nationally designated historic sites or structures. It should also be located close to government offices or give easy access to agency representatives.

B. SIZE

The EOC **must** be sized to handle the maximum anticipated staff that would be called in the event of a major disaster. A minimum of 50 square feet per person is required (80 square feet preferred) including restrooms, etc.

C. DESIGN CRITERIA

The facility **must** be designed and built to comply with the Michigan Building Code 2000. This code addresses local hazards, high winds, snow loads, Americans with Disabilities Act (ADA) requirements, etc.

D. ROOMS/SPACE

The EOC **must** contain the following spaces/rooms to provide adequate working room:

1. Day-to-day office space for EMD Director and staff, including secretary/receptionist if applicable.
2. Meeting/lead agency/executive room.
3. Communications Room for radio/telephone and support equipment.
4. Operations room for emergency coordination.
5. Restrooms.
6. Mechanical/electrical switch room.
7. Kitchen/break area.
8. Storage area for maps, procedures, publications, supplies, etc.

E. OPERATIONS ROOM

The Operations Room, where agency representatives will assemble, **must** provide the essential elements that will be needed during a disaster. It must be large enough to provide sufficient space for one or two representatives from each planned agency based on the list developed during the planning process. The Operations Room **must** also incorporate the following features:

1. Telephone lines and logs.
2. Status display capability (manual or video with large format).
   - Maps
   - Charts
   - Logs
3. Computer, Internet, and network needs for automatic data processing.
4. 30 square feet per person.

F. COMMUNICATIONS

During a disaster the, EOC **must** be able to communicate with the responders in the field. These communication capabilities must include:

1. Telephone lines for each agency and other levels of government planned in the Operations Room (such that each agency has telephone access).
2. Telephone lines for other support areas (Director's office, secretary, executives, etc.).
3. Adequate analog phone lines for computer modems.
4. FAX line and machine.
5. Local Area Network (LAN)or Wide Area Network (WAN) system if applicable.
6. Weather monitoring capability.
7. Access to Emergency Alert System (EAS).
8. Capability to activate local warning systems.
9. Electromagnetic protection for facility and antenna (lightning).
10. A Communications Room adjacent to the Operations Room sized to accommodate the maximum staff expected, including space for amateur radio.
11. Radios with frequencies to communicate with field personnel (police, fire, parks, highways, health, school transportation systems, hospitals, public works, utilities, Red Cross, the state and other counties, etc.).
12. Radio tower to support radio equipment (may be remotely located).

G. EMERGENCY POWER

An emergency electrical power generator **must** be provided which is large enough to power the EOC and all facilities (HVAC, radios, elevator, computer systems, etc.), and is permanently wired with automatic start and transfer. It should be located so that noise or fumes do not interfere with the EOC and include a self-contained fuel system with a minimum four-day reserve.

H. OPERATING PROCEDURES/AGREEMENTS

It is **mandatory** that Standard Operating Procedures (SOP's) for managing the EOC during disaster activation be developed. In addition, when the EOC is located in a multiple use facility, such as a county jail, it is necessary that a Memorandum of Understanding (MOU) be developed and agreed to among the agencies using the facilities. The MOU should be explicit in outlining the use of the EOC, installation of antenna, and who bears the charges when the EOC is activated.

I. PLANNING

The first step in developing a new EOC is planning. Careful attention to detail will make execution of the project much easier.

1. Identify needs – how will the facility be used?
2. Design for dual use – the EOC is ideal for meetings and training.
3. Locate away from hazards, such as:
   - Technological and nuclear facilities
   - HAZMAT
   - Railroads
   - Highways
   - Airfield landing paths
   - Flood plains
   - Pipelines
   - High voltage power lines
4. Consider how the facility will be secured during activation.
5. Determine maximum staff size (see “Suggested EOC Disaster Staff” chart below).
6. Consider co-locating with 911 communications center or county jail.
7. If locating in an existing building, consider using basement or interior spaces.
8. Consider including showers in the restrooms.
9. Consider separate and adequate space for media assembly and briefing.
10. Develop a list of agency personnel that will staff the EOC during emergencies.
11. Consider a computer floor to facilitate reconfiguration of Operations Room.
12. Plan for an interruption of domestic water supply.
13. Consider fiber optics throughout the agency and/or connected to outside agencies.

I. PLANNING – continued

14. Acquire a local radio frequency for disaster coordination. Become the jurisdiction's advocate for frequency coordination.
15. Consideration should be given to including the Operations Room with the following features:
    - weather radar and other GIS
    - high ceiling
    - column free
    - video status/shelter, etc. logs
    - video tapes
    - local TV/CNN

16. An additional transfer switch should be considered, so that additional generators can be plugged into the system.
17. When considering automation, the Emergency Management Division has developed the following guidelines for computer specifications. These guidelines are subject to change due to the ever-changing computer industry:

    - Intel 800 MHz Pentium CPU with 256K or higher internal cache
    - 256 MB RAM
    - 20 GB Hard Drive min.
    - 3.5" Diskette Drive
    - 16 MB min. video card
    - 56K Baud Fax/Data Modem or 10/100 MB Ethernet Card
    - CD-ROM Drive (48x)
    - SVGA 15" Graphics Monitor

Suggested EOC Response Staff
Emergency Management Director
Chief Executive(s)
Public Information Officer
Communication & Warning Officer
State Liaison
Radio Operators
Telephone Attendants
Disaster Assessment Officer
Police Liaison
Fire Liaison
Public Works Liaison
Shelter Operations Liaison
Welfare Liaison
Medical & Health Liaison
Message Controller
Messengers and Plotters
Resource Officer
Security Officer

The chart below gives some ***examples*** of Allowable and Non-Allowable Costs that would be considered in funding EOC construction.

Refer to the allowable funding categories of the particular grant being pursued.

Allowable Costs	Non-Allowable Costs
• Design fees • Excavations for construction • Building shell construction and interior finishing • Modifications to existing building • Antenna and towers • Heating, ventilating, and air conditioning equipment • Display equipment for Operations Room • Furniture for Operations Room • Radio/communication equipment • Emergency generator • Kitchen/break room equipment	• Plumbing, electric • Antenna and towers • Landscaping • Parking lots • Construction of non-EMA space • Space less than 50 sq. ft. per person • Equipment designed for daily non-EMA use • Maintenance • Land purchase • Demolition