

The background of the entire page is a photograph of the Statue of Liberty, tinted in a monochromatic teal color. The image shows the upper portion of the statue, including her head with the crown, her right hand raised to her forehead, and the top of her right arm holding the torch. The background is a clear, bright blue sky.

**GSA's National
Security Guidance
for Federal
Agencies and
Federal Building
Operators**

*Public Utility
Service
Emergency
Planning
and
Operations*



ACKNOWLEDGMENTS

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*Energy Center of Expertise, Public Buildings Service
U.S. General Services Administration*

Building Owners and Managers Association (BOMA) International



INTRODUCTION

In the post-September 11 environment, prudent steps must be identified and put in place not only to safeguard federal facilities but to enable essential services to continue, if at all possible, in the event utility services are interrupted.

This is neither a new requirement nor a novel expectation. At any time, a fire, flood, earthquake, tornado or other Act of God could disrupt utility service. And one need only think back to concern over the Year 2000 Problem and the manner in which federal facility operators prepared for every conceivable contingency. Just as federal agencies prepared responsibly and effectively for that scenario, so we must expect that utility interruptions *will* occur in the near future – perhaps on a wide scale – and prepare accordingly.

The purpose of this guide is to acquaint facility operators across the Federal government with general approaches as well as specific procedures recommended by GSA. This guidance is in keeping with GSA's responsibility under Part 18, Sec. 1801(3) of Executive Order 12656 – Assignment of Emergency Preparedness Responsibilities. Under this Order, GSA is tasked to:

Develop national security emergency operational plans and procedures for the use of public utility services (other than telecommunications services) by Federal departments and agencies, except for Department of Energy-operated facilities.

The guidance you hold in your hand is intended to fulfill that mandate. The continuity of essential government functions will depend upon the soundness of our collective emergency plans and procedures.





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WHAT'S THE WORST THAT COULD HAPPEN?

Consider these 'fallouts' from a large-scale disaster. The cause could be natural or man-made. The consequences, at any rate, could well affect utility service:

- Water could be contaminated and unsafe for drinking. Tankers may be needed for firefighting and carrying drinking water.
- Shutting off gas lines could prove difficult. Valves that are seldom, if ever, used will probably be difficult to find and may not work when they are found.
- Telephone service (even cellphones) may be erratic or non-existent.
- Interiors could be dark; not enough generators may be operating to produce light.
- Inevitably, generators run out of fuel; jerry cans of fuel will need to be obtained in order to maintain generator powered lighting and communications.
- There may not be enough portable two-way radios, and batteries may soon go dead.

Many emergencies could cause partial, temporary, total, or lengthy interruption of utility services. These include:

- | | |
|--------------------------------------|----------------------|
| • Fire | • Explosion |
| • Power Outage | • Terrorism/Sabotage |
| • Equipment Theft | • Severe Weather |
| • Civil Disturbance | • Flood |
| • Public Transportation Interruption | • Earthquake |
| | • Aircraft Disaster |

Clearly, federal building operators need to be ready. Especially where critical Government services are being rendered, not just the occupants of our buildings but the constituencies being served will benefit from having effective measures in place to respond to – and recover from – the loss of key utilities.

THREE SCENARIOS

In GSA's estimation, the most likely man-made threats to federal buildings appear to be the following:

Single site/building attack where a single building/site is targeted with destructive force. Examples are the Murrah Federal Building, attacked in Oklahoma City in 1995, and the Pentagon and World Trade Center in 2001.

Utility source of supply attacked with destructive force with the goal of interrupting service over a wide geographic area. Examples could include destruction (or attempted destruction) of power plants, electric transmission lines, electric substations, natural gas pipelines, water/sewage lines and pump stations, and contamination (or attempted contamination) of drinking water supplies.

Building complex heating plants and/or supply lines attacked with destructive force with the goal of interrupting agency-provided utility services, such as steam and chilled water.



UTILITY ALERT LEVELS

When problems are either expected or experienced, electricity service providers generally use a 5-level system of alerts to advise Federal agencies and other consumers. These code levels (which will be referenced in this manual for other utility types) are:

Code 1 – “Normal Operations.” As implied, at this level the building can be run normally.

Code 2 – “High Demand Possible.” This means the regional power grid is expecting a higher than normal load. Given that a Code 3 alert could be issued, it is appropriate to review the building’s operational plan to identify potential demand reduction measures.

Code 3 – “High Demand Warning.” When this alert is received, low-impact curtailments should be implemented, i.e., measures that have been identified as having minimal effect on the tenants. Such curtailments could include: reduced accent lighting; small reductions in elevator/escalator service; slightly increased or decreased building temperatures; etc. Tenant should be notified of the alert and kept informed. Building operators should also prepare to curtail the building system load should a “Level 4” alert be issued.

Code 4 – “Demand Curtailment.” At this stage, building load reductions should be implemented. Tenants should be notified and asked for their cooperation. Recommended measures include maximum use of daylighting and task lighting, and minimum use of computers and general overhead lighting. Temperatures within the building should be allowed to increase or decrease 2 or more degrees Fahrenheit. (This step should be coordinated with tenants in advance; a ‘casual dress’ policy can be adopted for extended periods.)

Code 5 – “Maximum Effort.” At this level, building operators and their tenants should be doing everything possible to reduce electric load, particularly in the afternoons.

Note: load reduction measures are listed in more detail in Appendix III.





GENERAL RESPONSE PLAN TO SCENARIO I – SINGLE SITE/BUILDING ATTACK

GSA recommends that the following actions be taken at a single building/site if it is attacked with such destructive force that significant damage is done:

1. Place the building in emergency operational mode.
2. Assess the level of damage to the building systems related to utility service delivery.
3. When necessary, shut off utility services to the building.
4. If appropriate (wintertime), drain water systems to prevent damage from freezing.
5. Work with local utility service providers to restore permanent service as soon as possible.
6. Work to provide temporary utility services until such time as permanent service can be restored. Temporary measures include, but are not limited to: installing portable electric generators with an accompanying fuel source; installing temporary heating sources; installing portable toilets, and providing uncontaminated drinking water for cafeteria and general use.

While in this scenario only a single building/site is attacked, the destruction will presumably impact surrounding buildings/sites. GSA recommends that the following actions be taken at such surrounding locations:

1. Close the outside air intake vents immediately to prevent bringing smoke and

- dust into the building's HVAC system.
2. Assess the level of damage to the building systems related to utility service delivery.
3. When necessary, shut off utility services to the building.
4. Work with local utility service providers to restore permanent service as soon as possible.
5. Work to provide temporary utility services until such time as permanent service can be restored. Such temporary measures include, but are not limited to: installing portable electric generators with an accompanying fuel source, installing temporary heating sources; installing portable toilets; and providing uncontaminated drinking water for cafeteria and general use.

GENERAL RESPONSE PLAN TO SCENARIO II – ATTACK ON UTILITY SOURCE OF SUPPLY

In this scenario, a utility source of supply is attacked with destructive force and interrupts service over a wide geographic area. The key difference from Scenario I is that, here, the goal of the attack is to specifically interrupt public utility service over a wide geographic area. If successful, such an attack would threaten public health and safety, have a crippling effect on the economy, and potentially jeopardize national security. An interruption of electric service would have the most severe impact as it could affect the delivery of other utility services, e.g., water, sewer, steam, and natural gas.



GSA recommends that the following steps be understood and adhered to in the event of a widespread interruption in a utility source of supply:

Electrical Service

1. Communicate immediately with the regional entity that operates the electric transmission system (independent system operator or regional transmission organization) to assess the impact on the reliability of the power grid.
2. If there is no effect on the power grid or the effect is anticipated to be minimal, Federal buildings will put be on alert - Code 1.
3. If power grid stability is threatened due to inadequate reserves (similar to a hot summer day), Federal buildings will institute Government-wide load curtailment measures - Code 2.
4. If rolling grid-wide brownouts are anticipated, Federal buildings with tenants that are deemed non-essential will be ordered to close, so that energy consumption in those buildings is reduced to absolute minimum. All other Federal buildings would continue load curtailment measures - Code 3.
5. If the power grid is to be shut down, all Federal buildings will be shut down except for those buildings that have self-generation capabilities - Code 4.
6. In consultation with the power grid operator and the local utility, the managing agency will assess the likelihood that the Code 4 situation will remain for a significant length of time in all or part of the grid area. If the managing agency determines that the outage will be prolonged, they will dispatch portable generating units to provide electric generation service to essential Government buildings without self-generation capacity to the extent that such units are available. The managing agency will also seek to ensure a continued source of fuel for the portable generating units.
7. If the outage is judged to cause a risk of freeze damage to building water systems, consider draining those systems.
8. When the grid is ready to be re-energized or partially re-energized, the managing agency will notify Government building operators when normal building operations can safely be resumed with respect to electric service.

Natural Gas Service

1. Communicate immediately with the local natural gas distribution utility (LDU) to assess the attack's impact on the reliability of natural gas supplies.
2. If there is no effect or the effect is anticipated to be minimal, Federal buildings will be put on alert - Code 1.
3. If it is evident that natural gas supplies are insufficient to meet LDU loads, the LDU will notify the operators of Federal buildings with interruptible service to switch to alternate fuel sources and/or institute maximum conservation measures - Code 2.
4. If gas supplies are judged to be inadequate even after interruptible loads are shed, the managing agency, in consultation with the LDU, will notify gas-consuming buildings that house tenants deemed non-essential to close. All other Federal buildings will continue with alternate fuel sources and maximum conservation measures - Code 3.



2. If there is no effect or the effect is anticipated to be minimal, Federal buildings will be put on alert - Code 1.
 3. If it is evident that steam supplies are insufficient to meet LDU loads, the LDU will notify Federal building operators to switch to alternate fuel sources and/or institute maximum conservation measures - Code 2.
 4. If steam supplies are judged to be inadequate even after interruptible loads are shed and maximum conservation measures are implemented, the managing agency, in consultation with the LDU, will notify steam-consuming buildings that house tenants deemed non-essential to close. All other Federal buildings will continue operating with alternate fuel sources and/or maximum conservation measures - Code 3.
 5. In consultation with the LDU, the managing agency will assess the likelihood that the Code 3 situation will remain for a significant length of time. In such case, the managing agency will ensure that adequate alternative fuel supplies (i.e., fuel oil) will be available or will seek to install portable steam generators to essential facilities.
 6. Building operators should have contingency plans (e.g. heat or draining) to protect building water systems from freeze damage.
 7. The LDU will notify the managing agency (and, in turn, Federal building operators)
5. In consultation with the LDU, the managing agency will assess the likelihood that the Code 3 situation will remain for a significant length of time. In such case, the managing agency will seek to provide adequate alternative fuel supplies (i.e., fuel oil) or install portable heating systems to essential facilities.
 6. Building operators should have contingency plans (e.g. heat or draining) to protect building water systems from freeze damage.
 7. The LDU will notify the managing agency (and, in turn, Federal building operators) when the crisis has abated and normal building operations can safely be resumed with respect to natural gas service.

Steam Service

1. Communicate immediately with the local steam distribution utility (LDU) to assess the attack's impact on the reliability of steam supplies.



when the crisis has abated and normal building operations can safely be resumed with respect to steam service.

Water Service Supply

1. Communicate immediately with the local water utility (LDU) to assess the attack's impact on the reliability of water supplies.
2. If there is no effect or the effect is anticipated to be minimal, Federal buildings will be put on alert - Code 1.
3. If it is evident that water supplies are insufficient to meet LDU requirements, the managing agency, in consultation with the LDU, will notify Federal building operators to institute maximum conservation measures - Code 2.
4. If water supplies are judged to be inadequate even after maximum conservation measures are implemented, the managing agency, in consultation with the LDU, will notify non-essential Federal buildings to close - Code 3.
5. In consultation with the LDU, the managing agency will assess the likelihood that the Code 3 situation will remain for a significant length of time. In such case, the managing agency will ensure that adequate alternative water supplies (i.e. bottled water for drinking, portable toilets, cooling tower/boiler water) will be available to restore functional water service for the duration of the event to essential buildings.
6. Building operators should have contingency plans (e.g. heat or draining) to protect building water systems from freeze damage.

7. The LDU will notify the managing agency (and, in turn, Federal building operators) when the crisis has abated and normal building operations can safely be resumed with respect to water service.

Water Service Supply Contamination

1. Communicate immediately with the local water utility (LDU) to assess the attack's impact on the reliability and quality of water supplies.
2. If there is no effect or the effect is anticipated to be minimal, Federal buildings will be put on alert - Code 1.
3. If it is evident that water supplies are contaminated, the managing agency, in consultation with the LDU, will notify Federal building operators not to consume the water and advise them what specific measures are to be taken - Code 2.
4. In consultation with the LDU, the managing agency will assess the likelihood that the Code 2 situation will remain for a significant length of time. In such case, the managing agency will ensure that adequate alternative drinking water supplies (i.e., bottled water) will be available to restore functional water service for the duration of the event. It is assumed that contaminated water will not affect the continued operation of cooling towers, boilers, toilets, and water volumes in general.
5. The LDU will notify the managing agency (and, in turn, Federal building operators) that the crisis is over and it is safe to drink the water once again.



Sewage Service

1. Communicate immediately with the local wastewater treatment utility (LDU) to assess the attack's impact on wastewater treatment services.
2. If there is no effect or the effect is anticipated to be minimal, Federal buildings will be put on alert – Code 1.
3. If it is evident that wastewater treatment capability is insufficient to meet LDU requirements, then the managing agency, in consultation with the LDU, will notify non-essential Federal buildings to close – Code 3.
4. If wastewater treatment capability is no longer available, the managing agency will ensure that adequate functional wastewater service (i.e. portable toilets) is provided for the duration of the event to essential buildings and, if possible, to non-essential buildings.
5. The LDU will notify the managing agency (and, in turn, Federal building operators) when the crisis has abated and normal building operations can be safely resumed with respect to wastewater service.



GENERAL RESPONSE PLAN TO SCENARIO III – ATTACK ON BUILDING COMPLEX UTILITY PLANTS AND/OR SUPPLY LINES

In this scenario, a Federal building complex's heating plant or steam distribution lines are attacked with destructive force and steam service is interrupted throughout the system. During the winter months, connected buildings without backups would be without heat. An attack on associated steam lines could have the same effect. The length of any steam service interruption would depend on the severity of the destruction.

GSA recommends that the following steps be understood and adhered to in such an event:

1. Key points of system vulnerability should be identified and monitored, with access restricted to vulnerable areas (e.g., oil tanks and main steam distribution lines).
2. Particular care should be taken when receiving oil deliveries. Coordination with law enforcement officials may be necessary to ensure timely delivery of fuel oil needed to meet peak winter demand.
3. If an attack has occurred but there is no impact or it is minimal, affected Federal buildings will be put on alert - Code 1.
4. If it is evident that the steam system is operable but still insufficient to meet requirements, the agency managing the utility plant will notify the affected Federal building managers to institute maximum conservation measures - Code 2. If a GSA-controlled building, efforts will also be made to repair the steam system as quickly as possible.



5. If the steam system is marginally operable but judged to be inadequate even after maximum conservation measures are implemented, the agency managing the utility plant will notify affected non-essential buildings to close - Code 3.
6. If steam service is cut off to all or part of the system, the agency managing the utility plant will assess the likelihood that the interruption will remain for a significant length of time. In such case, the agency will ensure that adequate alternative chilled water and/or steam supplies (i.e., portable steam generators and spot cool systems) are provided so that essential Federal buildings will have back-up utility service for the duration of the event.
7. Building operators should have contingency plans (e.g. heat or draining) to protect building water systems from freeze damage.
8. When the system is able to provide adequate service to the affected buildings, the agency managing the utility plant will reinstate service and inform building operators that they may resume normal building operations.

BASIC PREPARATIONS TO PUT IN PLACE

In order to respond most effectively to *any* scenario, common sense preparations are key. Once again, think back to the Year 2000 Problem and the way that building owners and operators determined what steps were necessary to meet the contingencies identified.

GSA recommends that Federal agencies and building operators pursue the following measures. These are in no particular order but each should be tasked out (and followed up) immediately:

- *Obtain contact information – including cell phone numbers – for every provider of utility service to your building.* Ensure that the information is current and is provided to all appropriate personnel.
- *Gain a basic familiarity with those utilities' designated emergency conditions,* the factors they will take into account when making decisions, and the procedures they will follow in case of a disaster. What parts of your region will experience service curtailment first? Will these locations also be the last for service to be fully restored? Which customers will have priority? Know that, in most cases, hospitals and nursing homes, police and fire stations are ahead of Federal facilities.
- *Obtain contact information – including cell phone numbers – for municipal and state emergency response agencies.* Ensure that the information is current and is provided to all appropriate personnel.
- *Gain a basic familiarity with those agencies' designated emergency conditions,* the factors they will take into account when making decisions, and the procedures they will follow in case of a disaster. What will their priorities be – is your building on their list?
- *Obtain contact information – including cell phone numbers – for vendor representatives (HVAC, elevator, security, fire and life safety,*



et al). Ensure that the information is current and is provided to all appropriate personnel.

- *Ensure that a communications plan is in place for your facility.* Consider how building personnel will contact each other if normal phone or email service is interrupted, and how critical information will be conveyed to tenants (or relayed from tenants to the building management) in such case.
- *Put contracts in place to supply needed items on demand,* such as generators, boilers, oil supplies, water, and portable toilets. Purchase and deploy such items as deemed necessary.
- *Ensure that any utility service documentation that might be needed* either in case of emergency or for resumption of normal service *is backed up.* Duplicate files should be maintained at a secure location offsite, in hard copy as well as on disk. Information that is backed up should include all appropriate documentation on tenants and their use of utilities.
- *Put plans in place to either prevent water systems from freezing or to drain them.*
- *Identify water and gas line shutoff valves* so they can rapidly be turned off if necessary.
- *Educate building personnel on all aspects of your emergency response plan through periodic meetings and building-wide drills.* (This should be done in the wider context of the agency's Continuity of Operations Plan and the building's Occupant Emergency Plan.) Evaluate your team's responsiveness and effectiveness and provide each person with feedback to improve.

SYSTEMS TO BE EVALUATED

Bear in mind that a wide variety of systems and services could be affected if utility service is interrupted. These include:

- Programmable Building Automation Systems
- Building Automation Systems
- Energy Management Systems
- Elevators
- Fire Alarm Systems
- Lighting Systems
- Building Environmental Control Systems
- Clocks
- Security or Access Systems
- UPS (uninterruptible power supply) backups and related components
- Office equipment such as personal computers, printers, and copiers

STEPS IN CONTINGENCY EVALUATION

GSA recommends that Federal agencies and building operators proceed to evaluate each building system as follows. The steps are based on three main considerations: a) Identification of key system elements and procedures; b) Actions to be taken if system should fail; and c) Procedures needed to restore system operation after a failure.

1. *Building Access*

- Identify the point of contact for building security issues.
- Develop a phone and email communications protocol to include all telephone, pager, and cell numbers as well as business and personal email addresses.



- Identify the property fence/gateway and the building door or entrance system locking method(s). Is it a key lock, electromagnet time lock, electronic card access locking system, chain and padlock, etc?
- Identify the measures that must be taken to ensure that personnel with proper clearance can enter the property through a gateway or door at night, weekends and holidays. *A bypass electrical/mechanical locking system may need to be installed in at least one entrance location.*
- Identify the measures that must be taken to ensure that personnel with proper clearance can access all interior areas of the building.
- Identify the measures that need to be taken to prevent the activation of building intrusion alarms and notification systems.



2. *Utilities – Telecommunications, Electricity, Natural Gas, Water, District Steam, District Chilled Water*

- Identify the local utility point of contact for service issues.
 - Develop a phone and email communications protocol with the utility service contractors' points of contact to include all telephone, pager, and cell numbers as well as business and personal email addresses.
- Determine the building's priority for restoration of services. Example: a Government building may rank lower than the local police, fire department, ambulance service, or hospital. Be prepared to articulate reasons that the building should be moved higher on utilities' priority list.
 - Develop a checklist to determine the number of utility service feeds and the number of important local branch circuits where operating status data may be gathered.
 - Develop a checklist of physical operation parameter benchmarks that will allow building personnel to assess the level of services available.
 - Install pressure gauges, thermometers, voltmeters, amp meters, flow meters/ charts, and indicating lamps where needed.
 - Develop freeze protection procedures to



be employed in case of longer-term loss of heating.

- For *water*, check pressure and flow. Check operation of all water system pumps.
- For *natural gas*, check pressure on the incoming gas train and at the boiler itself. Check all low and high-pressure safety limits. Check any electromagnetic emergency shutoff valves.
- For *electricity*, check voltages, amps, and power indicating lamps.
- For *telecommunications*, check phones in predetermined areas, including pay telephones. Check availability of email and Internet services.
- For *district steam*, check pressure and flow.
- For *district-chilled water*, check pressure, temperature, and flow.

3. *Life Safety Systems*

- Develop a checklist to determine inspection procedures needed to ensure full operation of all fire detection and annunciation systems.
- Develop a checklist to determine inspection procedures needed to ensure full operation of all fire suppression systems.
- Identify the points of contact for the fire alarm control system, fire suppression system, and the fire alarm dispatching (monitoring) service contractors.
- Develop an alternate, backup, non-automated procedure for notifying the local fire department.
- Develop a phone and email communications protocol with the fire system service contractors' points of

contact to include all telephone, pager, and cell numbers as well as business and personal email addresses.

- Develop a schedule to evaluate all environmental safety monitoring systems.

4. *Transportation Systems*

- Identify the elevator/escalator service contractor point of contact for service issues.
- Develop a phone and email communications protocol with the elevator/escalator service contractors' points of contact to include all telephone, pager, and cell numbers as well as business and personal email addresses.
- Develop a checklist to determine all inspection procedures needed to ensure full operation of all elevators and escalators.
- Develop a schedule to check operation of all passenger and freight elevators.
- Develop a schedule to check operation of all escalators.
- Develop a checklist to determine all inspection procedures needed to ensure full operation of all electric carts, trucks, and other service vehicles.

5. *Special Support for Computer Rooms, Communication Centers, and Command Centers that Operate 24/7*

- Identify all backup Uninterruptible Power Supply (UPS) and Emergency Generator Power (EPS) systems.
- Identify any other systems, such as cooling or climate control, battery chargers and DC emergency power



- supplies, that support these centers.
- Identify the UPS and EPS service contractors' point of contact for service issues.
- Develop a phone and email communications protocol with the UPS/EPS/other service contractors' point of contact to include all telephone, pager, and cell numbers as well as business and personal email addresses.
- Develop a checklist to determine all inspection procedures needed to ensure full operation of all UPS, EPS and other support systems.

6. *Building Environmental Climate Control Systems*

- Develop a checklist to determine all inspection procedures needed to ensure full operation of all Building Automation Systems (BAS) and Energy Management Control Systems (EMCS) and their annunciation systems.



- Develop a checklist to determine all inspection procedures needed to ensure full operation of all Lighting and Automated Clock systems.
- Develop a checklist to determine all inspection procedures needed to assure full operation of all boilers, chillers, fans, pumps, air compressors and their operating alarm annunciation systems.
- Identify the points of contact for the BAS, EMCS, boiler, and air conditioning service contractors.
- Develop a phone and email communications protocol with the HVAC and Environmental Climate Control systems service contractors' point of contact, to include all telephone, pager, and cell numbers as well as business and personal email addresses.
- Develop a manual startup, shutdown, and operating procedure (to the maximum extent possible) for all climate control equipment: boilers, valves, pumps, chillers, fans, air compressors, air dryers, electric motors, etc.



FOLLOWING THROUGH

As you take the steps recommended, document your progress using this chart.

BUILDING SYSTEM ELEMENT	LOCATION	DOCUMENTATION COLLECTED?	ACTIONS IDENTIFIED IN EVENT OF FAILURE	ACTIONS IDENTIFIED TO RESTORE	STAFF PERSON ASSIGNED	COMMENT
Environmental System						
HVAC (includes humidification)						
Energy management system						
Chiller						
Chiller leak detector						
Boiler						
Programmable thermostat						
Carbon dioxide level monitor						
Underground storage tank monitor						
Water System						
Water cooling						
Water heating						
Water purification						
Irrigation system						



BUILDING SYSTEM ELEMENT	LOCATION	DOCUMENTATION COLLECTED?	ACTIONS IDENTIFIED IN EVENT OF FAILURE	ACTIONS IDENTIFIED TO RESTORE	STAFF PERSON ASSIGNED	COMMENT
Power System						
Generator						
Uninterruptible Power supply						
Power distribution unit						
Electrical plant						
Power management system						
Other Utilities						
Utility monitoring						
Sewer service						
Telecommunications						
Phone/PBX						
Local area network						
Wide area network						
Satellite dish/Rooftop antenna						
Lighting						
Interior lighting						
Exterior lighting						
Emergency lighting						
Elevator/Escalator						
Passenger elevators						
Freight elevators						
Escalators						



BUILDING SYSTEM ELEMENT	LOCATION	DOCUMENTATION COLLECTED?	ACTIONS IDENTIFIED IN EVENT OF FAILURE	ACTIONS IDENTIFIED TO RESTORE	STAFF PERSON ASSIGNED	COMMENT
Fire Control						
Fire alarms						
Halon release system						
Smoke detectors						
Sprinklers						
Security						
Building access control						
Alarm system						
Surveillance cameras						
Badge readers						
Metal detectors						
Secured gate						
Vault						
Safe						
Parking						
Parking access control						
Lighting						
Sprinklers						
Surveillance cameras						
Internal Administrative Equipment						
Cash register						
Bar code generator						
Bar code reader						
Postage meter						
Mail sorter						



BUILDING SYSTEM ELEMENT	LOCATION	DOCUMENTATION COLLECTED?	ACTIONS IDENTIFIED IN EVENT OF FAILURE	ACTIONS IDENTIFIED TO RESTORE	STAFF PERSON ASSIGNED	COMMENT
Internal Administrative Equipment <i>(continued)</i>						
Time/date stamp						
Check writing machine						
Autopen						
Electrical plant						
Check scanner						
Credit card scanner						
Copy machine						
Fax machine						
Calculator						
Scanner						
Optical reader						
TV						
VCR						
Teleconferencing equipment						
Video conferencing equipment						
Miscellaneous						
Medical equipment/ devices						
Traffic control equipment						
Microwave oven						
Vending machine						
Automatic teller						

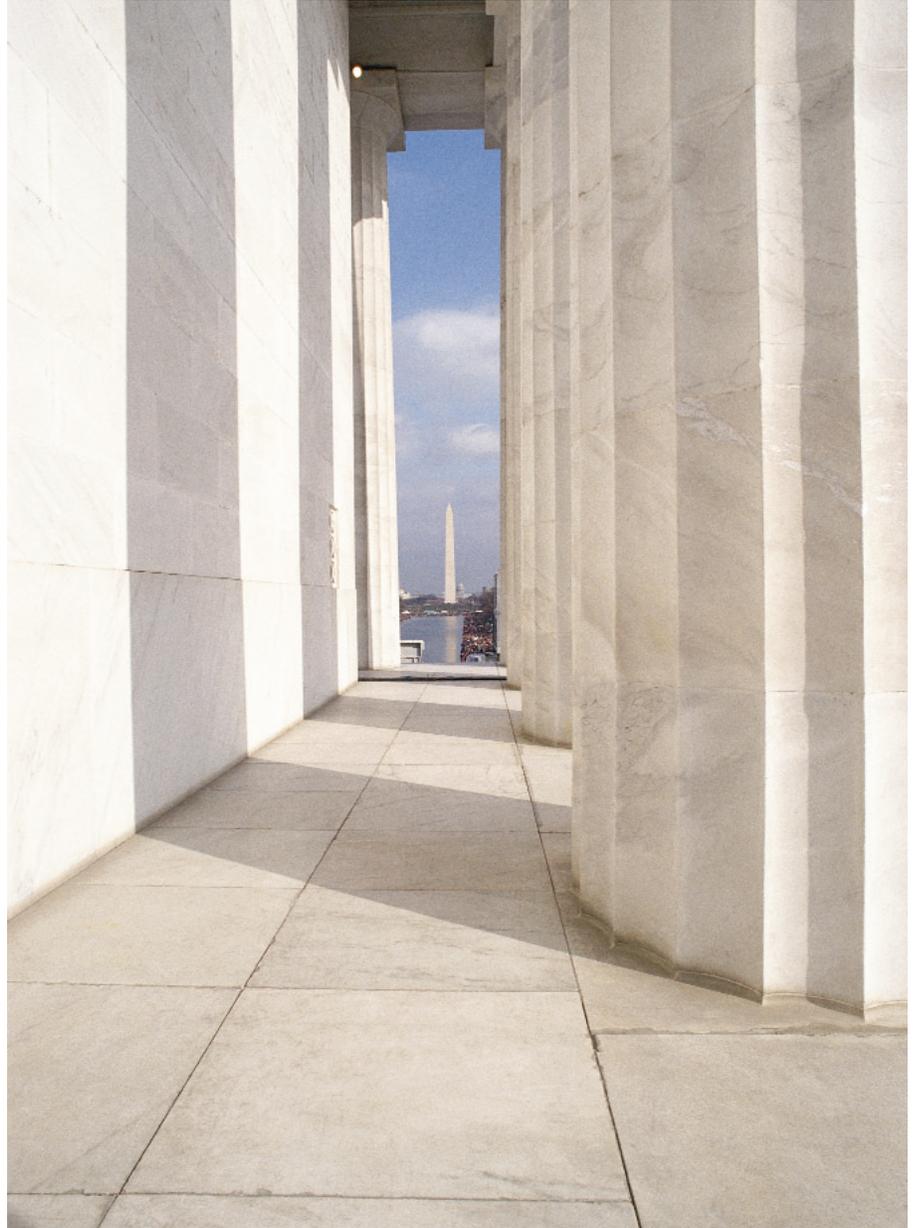


CONCLUSION

It's been said that "forewarned is forearmed." Trite but true – and especially relevant in these days of uncertainty and wariness where our national security is concerned.

If you take all the steps outlined in this guidance, you will not only be well prepared in case of emergency but will have carried out prudent due diligence. Your facility personnel will know what they need to do and will be ready to respond that much more quickly and efficiently.

A final word of advice: let your building occupants know, in general, of the actions you and your staff are taking. This will fortify them with an all-important sense of security and comfort as they go about their business. The flow of communications also reinforces your team's commitment, foresight, and overall professionalism.



APPENDIX I – GSA’S ENERGY CENTER OF EXPERTISE AND REGIONAL ENERGY OFFICERS

This organization works with GSA’s customers to promote optimum energy usage, reduce utility costs, and provide environmentally responsible energy solutions.

The lead staff persons within the Center can answer questions related to the guidance contained in this document:

Mark Ewing, Director
mark.ewing@gsa.gov
202-708-9296

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Likewise, GSA’s Regional Energy Officers are available to provide assistance on relevant topics:

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APPENDIX II – SOURCES FOR FURTHER INFORMATION

The following publications can provide additional relevant information:

The Property Professional's Guide to Emergency Preparedness, Building Owners and Managers Association (BOMA) International.

http://www.boma.org/pubs/property_gep.htm

Emergency Management Guide for Business and Industry, Federal Emergency Management Agency. <http://www.fema.gov/library/bizindex.shtm>

Small Business Disaster Planning Guide, Institute for Business and Home Safety.

<http://www.ibhs.org/docs/openforbusiness.pdf>

Developing a Preparedness Plan and Conducting Emergency Evacuation Drills, National Fire Protection Association.

<http://www.nfpa.org/research/nfpafactsheets/emergency/emergency.asp>

Business and Industry Preparedness Guide, American Red Cross.

http://www.redcross.org/services/disaster/beprepared/busi_industry.html#fema



APPENDIX III – LOAD REDUCTION MEASURES

The following is a list of load reduction measures GSA considers appropriate to utility alert levels 4 and 5.

Lighting Measures

1. Turn off fluorescent lights when leaving an area for more than 1 minute. (During non-emergencies, 5 minutes is recommended, to keep from excessively reducing lamp life.) Turn off incandescent lights when leaving areas for any period of time.
2. In areas with sufficient daylighting, turn off lights. Adjust blinds to reduce glare.
3. Use task lighting and turn off general lighting, where feasible, to maintain sufficient lighting levels for safety and productivity.
4. Turn off display and decorative lighting.

Personal Computers and Appliance Measures

1. Turn off printers when not in use.
2. Turn off monitors when not in use.
3. Ensure ENERGY STAR power down features are activated.
4. If computers do not have ENERGY STAR features, turn them off when leaving the office for more than 30 minutes.
5. Ensure that personal appliances, such as coffee pots and radios, are turned off.

Air Conditioning Measures

1. Pre-cool the building below normal temperature settings prior to onset of peak demand periods. During peak demand, allow space temperatures to drift back up to normal settings (or as much as 5 degrees Fahrenheit above normal settings). Inform occupants so that they will not operate space heaters – which are not allowed in federal buildings anyway, unless the building manager specifically authorizes.
2. Allow casual attire, which will make higher temperatures more acceptable.
3. Where systems allow, lower chilled water temperatures several degrees below normal settings prior to peak periods, and allow to drift above normal settings during peak periods.
4. Duty cycle air handling units off. Ensure adequate outside airflow rates to maintain indoor air quality.
5. Ensure that ventilation grilles and fan coil units are not blocked by books, flowers, debris, or other obstructions. This will improve air conditioning system efficiency and improve comfort.

Other Measures

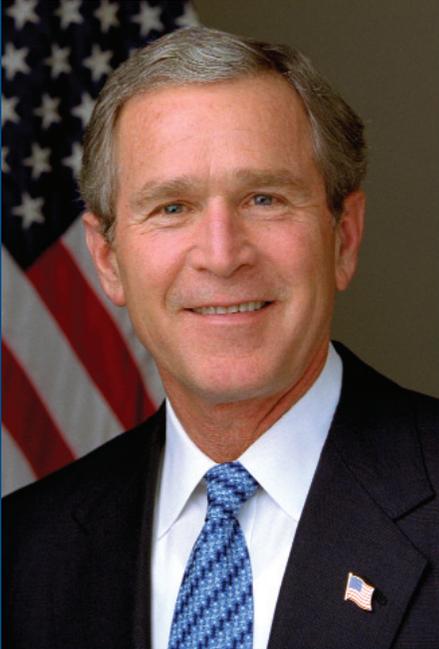
1. Operate emergency generators (many agencies have negotiated financial incentives from their local utility for operating generators). Ensure that generators have ample fuel for emergency operation and have been fully tested. Turn off shore power to ships in dock and operate ship power systems. Make mobile utility system electrical generating equipment available to the local utility.



2. Shut off selected elevators and escalators. Ensure accessibility needs are met.
 3. Where feasible, schedule high electrical energy use processes during off peak periods.
 4. Encourage employees to not use copiers during peak demand period. Turn off selected copiers. Ensure the power saver switch on copiers is enabled.
 5. Shed unnecessary loads such as fountain pumps.
2. Consider installing sub-metering to identify high intensity loads to be shed during emergencies.
 3. Investigate thermal storage systems or alternative energy sources for air conditioning.
 4. Install motion sensors and separate lighting circuits to allow turning off unneeded lights. (Some agencies have installed switching to separate public areas from agency workspaces.)
 5. Install an Energy Management and Control System to allow shedding and monitoring loads from one central location. If non-critical loads are not separately switchable, modify systems to allow terminating. Local utilities or energy services companies (ESCOs) can assist with this effort.
 6. Consider adding on-site generation using micro-turbines, fuel cells, combined heat and power, renewable, or other appropriate technology.

Longer-Term Solutions

1. Consider purchasing interruptible power for selected loads with high electrical demand, and which will not suffer adverse consequences in the event of the utility turning off power. The cost savings from the lower rate may far outweigh the inconvenience of power being turned off within the interruption limitations agreed to in the utility contract.



“Our government will take every possible measure to safeguard our country and our people. This administration...has the duty of putting that system into place. We will fulfill that duty.”

-- President George W. Bush

"Maintaining a constant commitment to preparedness each and every day is crucial...For while we cannot always predict an attack, we can always prepare."

-- Secretary Tom Ridge
U.S. Department of Homeland Security





Smarter Solutions

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