

GSA National Capital Region Energy Managers

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GSA

NCR Public Buildings Service

National Capital Region Energy Curtailment Guide



What it means to you and your agency

GSA Regional Energy Curtailment Program

Purpose:

To inform tenants in the NCR about the energy curtailment season process and procedures. The goal of the program is to control and reduce the use of electricity during peak demand loads and prevent the total loss of power to the building.



Background:

On 24 August 2005, Mirant Corporation shut down the Potomac River Generating Station (Plant located in Alexandria, VA.). The remaining power sources for central Washington DC are two transmission lines. PJM & PEPCO were ordered to develop plans of action that addressed the risk factors of providing electrical reliability to central Washington DC. It is estimated to take 18-24 months to make the necessary upgrades to the existing two main transmission lines making them capable of providing a reliable supply of power to central Washington DC without the Potomac River Plant in operation.

The NCR and PEPCO, our provider of electricity (we produce less than 5% of our own power) work together during the peak months of the summer to reduce energy usage during peak demand periods. We may be called upon to reduce our usage for 16 periods of not longer than 6 hours each. These may occur at anytime between June 1st and September 30th. Whenever possible PEPCO gives us 12 hours warning to prepare for curtailments. However, we may be asked to curtail with as little as 2 hours notice. Optimally, we usually know a day prior (dress accordingly) and we also know that daily peak usage "normally" occurs shortly after noon.

Why do we do this?

It saves the Government a substantial amount of money, helps offset possible shortages for other consumers, prevents our rates from increasing to support power transmission costs, and it is good for the environment by reducing fossil fuel usage.



Energy Curtailment Planning

Load shedding plans should include 3 to 5 levels of loads based on how critical they are to maintaining your customers operations. (Tenability of space) Determine what is most critical to your building and work backwards.

The following are the minimum standards for levels in NCR. Individual building management may add items or move them to a higher level (like from level III to IV) based on your buildings requirements and BOP. They can not change them to a lower level.

Level I

- Potable water cooling/ heating
- Elevator penthouse / mechanical space cooling
- Unoccupied space conditioning (storage rooms, warehouse, loading dock areas.)
- Secondary or tertiary HVAC, (not including critical equipment cooling)
- Temperatures increased
- A/C systems cycling on/off (specific to building and type equipment)

Level II

- Common area lighting above 9 foot-candles
- Perimeter fan coils
- Reduce number of elevators in operation
- Deactivate automatic doors (except ADA compliance.)
- Booster pumps (depending on specific building conditions)
- VFD's reduce motors to lower frequency

Level III

- Data communications
- HVAC
- All elevators / vertical transport
- All office lighting (except life safety)

Level IV

- Shed all equipment and systems EXCEPT:
- Life-safety, fire prevention, health / medical clinics
- Emergency Operations centers
- Command centers



Energy Curtailment Ideas

Note: These energy tips are intended to curtail energy consumption. Energy efficiency and energy conservation ideas are different and intended to save energy while keeping lifestyles and work related efforts the same or even improving them.

Use common sense. If it's not being used, turn it off. This includes lights in sunny rooms, lights in rooms not being used, and computers at times when not being used. Close unheated rooms. Reduce exterior decorative lighting.

Compact fluorescent light bulbs:

The current generation of these bulbs screw into the same bulb socket as regular light bulbs and produce the same quality of light. A compact fluorescent light bulb uses 70 percent less electricity and lasts up to 10 times longer than an incandescent light bulb.

Computer use:

Anytime you can turn your computer off, it will save energy. However, turning the computer off and on several times a day may cause excessive wear and tear and shorten its life. Many computers now have energy saving "sleep" features that save energy when the computer is not being used.

Water Heating / Cooling:

Turn down the thermostat on potable water heater. Each 10 degrees reduction in water temperature generally saves 3 to 5 percent on water heating.

Turn potable water cooling off.

Thermostats:

By turning down your thermostat at night, you will generally save 2% of your heating bill for each degree lowered.

Lighting:

Check around your office to see if some small changes in your lighting can help you save energy.

Higher wattage incandescent light bulbs are more efficient than lower-wattage bulbs.

It takes two 60- or four 40-watt light bulbs to provide as much light as one 100-watt light bulb.

Use the lowest wattage light bulb to accomplish the task at hand. In other words, don't use a 100-watt light bulb when a 60-watt will do. Whatever light bulb you use, be careful not to exceed the manufacturer's recommended wattage for the fixture.

Frequently Asked Questions

What is Curtailment?

Curtailment is the reduction of the building's electrical consumption during requested peak usage periods during the summer. These periods usually occur during mid afternoon and early evening. These periods usually will not last longer than 6 hours and historically have normally started between 12:30 and 1:00 PM.



What is the Electrical Curtailment Program?

The GSA generates less than 5 % of its electricity at its central utility power plants (CUP) and contracts with PEPCO and a supplier to provide the remainder of electricity to NCR. These contracts include active participation in their Electrical Curtailment program with the goal of controlling and reducing the use of electricity during peak summer periods. Participation in this program allows PEPCO to distribute its electrical load evenly to its consumers, forestalling critical shortages.

Why do we participate in the curtailment program?

The agreement provides a financial benefit to the Government through lower electrical rates while PEPCO benefits by avoiding the purchase of expensive power from other suppliers and by not having to construct new power generation facilities. Additionally, through good stewardship, we all benefit by lessening our environmental impact on the planet.

It is our intent to meet the goals of the contract while minimizing the impact to normal building operations. There are two incentives for participation in curtailment which particularly stand out. First, conservation of energy will result in a reduction of our impact on the environment. Second, the current budget situation has created a need for the entire Government community to participate in cost-saving measures. The Government will benefit in cost savings if we all voluntarily reduce energy consumption on an ongoing basis. The slight discomfort we may experience during curtailment may prevent the necessity of budget reductions to activities that are vital to the Government's mission.

It is not intended that Federal Government activities and business be placed at risk or unreasonably inconvenienced by curtailment efforts.

How long does the program last?

Our participation starts June 1st and continues to September 30th. However, with the current temperature swings we've experienced expect notification to execute load shedding at anytime of the year.

Frequently Asked Questions *(cont.)*

How and when will notifications be made?

Whenever possible, PEPCO will warn us of a potential curtailment 12 hours, or more, in-advance.



WPYE will notify the Service Centers by email, telephone, and also contact GSA Public Relations who will generate an immediate press release to Execute Level IV and III load shedding of all GSA buildings immediately.

If curtailment is to proceed, PEPCO will send us a confirmation notice at least 30-minutes prior to curtailment. At this point we will notify the Service Centers by e-mail confirming the curtailment, and the estimated time frame of the curtailment. Due to changing electrical demands, PEPCO Energy is not always able to give us a 12-hour warning. In this case we will receive at least two hours notice and will notify the Service Centers by email at the earliest possible time.

What is a Gold day alert?

Gold day alerts are a forecast of peak demand on the power grid. They are generated by South River consulting. We receive an email alert notifying us of the possible gold day usually by 10 a.m. On the day itself, The Washington Post will include a "curtailment alert" graphic along with its customary weather forecast on the upper right hand corner of their front page. The alert will also be available at our GSA website, <http://www.gsa.gov/ncr> in the library.

When WPYE is notified of a gold day alert, they will notify the Service Centers by email and telephone to Execute Level IV load shedding of all GSA buildings immediately.

What will be curtailed?

Typically, we target cooling related equipment (chillers, fans and pumps) and lighting. We also have agreements with certain agencies to avoid using their high-demand equipment during curtailment periods.

Which buildings are impacted by curtailment?

(There are two building groups identified below.)

Group I

All Government owned Buildings in the National Capitol Region not identified in group II.

All Leased Buildings where GSA pays the utilities not identified in group II.

Frequently Asked Questions *(cont.)*

A variety of curtailment strategies have been identified for the following buildings. These strategies could include some of the following building in part or whole: air conditioning systems temperatures increased, A/C systems cycling on/off or turned off for the duration of the curtailment, ventilation systems turned off, and/or non-essential lighting turned off.



Group II

The following buildings are to raise thermostat settings and turn off non-essential lighting, but A/C equipment is not included in the

curtailment because of the size/condition of the equipment or because of the type of occupancy that is served by the A/C equipment.

Museums

Laboratories

Test facilities

Medical facilities

National security C3 Operations. *(Must be identified/justified as such.)*

What can you do to help?

In past summers, many buildings/ tenant agencies have assisted us in meeting the curtailment goals by turning off non-essential equipment when notified of a pending curtailment. Examples of such items include lights, window air conditioners, coffee pots, unattended computers, and copy machines. These efforts contributed significantly to our ability to successfully reach the desired electrical load.

The closing of window blinds or shades on the east, south, and west sides of a building is also especially valuable. At the same time, we ask that windows in the affected buildings not be opened. We realize that this may be a difficult request to honor but opening the windows will allow heat and humidity into the building and increase the length of time for the building to cool once the air conditioning resumes. The buildings will ultimately be more comfortable if the windows remain closed.

What can be done when building temperatures increase?

Departments have accommodated staff during curtailment by allowing flexible work schedules and by relaxing dress codes to offset the increased temperatures.

Comments and suggestions are welcome. Please remember, curtailment is a group effort and with your help we can meet our goals with the minimum of disruption or discomfort. Please send your comments to the Maintenance and Energy Branch.