

Capacity and Energy Control Program

Introduction

Kentucky Power Company’s Capacity and Energy Control Program outlines the procedures the Company will follow in the event of an emergency that threatens the continued reliable operation of bulk power supply system. Notwithstanding any provisions of this Capacity and Energy Control Program, the Company shall have the right to take whatever steps, with or without notice and without liability on Company’s part, that Company believes necessary, in whatever order consistent with good utility practices and not on an unduly discriminatory basis, to preserve system integrity and to prevent the collapse of Company’s electric system or interconnected electric network or to restore service following an outage. Such actions will be taken giving priority to maintaining service to Company’s retail and full requirements customers relative to other sales whenever feasible and as allowed by law. The Company’s Capacity and Energy Control Program consists of three sets of procedures:

- I. Procedures During Abnormal System Frequency
- II. Capacity Deficiency Program
- III. Energy Emergency Control Program

Specific details regarding the Company’s Capacity and Energy Control Program are included in the Company’s Emergency Operating Plan (“EOP”). A copy of the Company’s current EOP is on file with the Kentucky Public Service Commission in Administrative Case No. 345. Where this tariff diverts from the Company’s EOP, the EOP Plan shall govern.

I. AEP/PJM Procedures During Abnormal System Frequency (EOP Section IV)

a. Purpose

Precautionary procedures are required to meet emergency conditions such as system separation and operation at subnormal frequency. In addition, the coordination of these emergency procedures with neighboring companies is essential. The AEP/PJM program described below provides procedures for reducing the consumption of electric energy on the Company’s system in the event of a period of abnormal system frequency.

b. AEP/PJM Procedures

From 59.8 – 60.2 Hz, to the extent practicable, the Company will utilize all operating and emergency reserves. The manner of utilization of these reserves depends on the behavior of the System during the emergency.

For rapid frequency decline, the Company will utilize capacity that is on-line and automatically responsive to frequency (spinning reserve) and such measures as interconnection assistance and automatic load reductions to arrest the decline in frequency.

If the frequency decline is gradual, the Generation/Production Optimization Group, particularly in the deficient area, will invoke non-automatic procedures involving operating and emergency reserves. These efforts will continue until the frequency decline is arrested or until automatic load-shedding devices operate at subnormal frequencies. A deficient Balancing Authority shall only use the assistance provided by the Interconnection’s frequency bias for the time needed to implement corrective actions. The Balancing Authority shall not unilaterally adjust generation in an attempt to return Interconnection frequency to normal beyond that supplied through frequency bias action and Interchange Schedule changes. Such unilateral adjustment may overload transmission facilities. At 59.75 Hz, the Company will suspend Automatic Generation Control (AGC) and notify Interruptible Customers to drop load.

If at any time the decline in area frequency is arrested below 59.5 Hz, the Company will evaluate whether the area should manually shed an additional 5% of its initial load. If, after five minutes, shedding 5% of load has not returned the area frequency to 59.5 Hz or above, the area shall manually shed an additional 5% of its remaining load and continue to repeat in five-minute intervals until 59.5 Hz is reached. These steps must be completed within the time constraints imposed upon the operation of generating units that are discussed in the EOP subsection titled, “Isolation of Coal-fired Generating Units.”

Automatic Load Shedding Program details are located in Section IV of the Company’s EOP.

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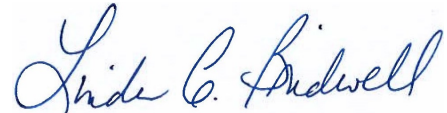
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II. Capacity Deficiency Program (EOP Section III)

a. Purpose

The purpose of the Capacity Deficiency Program is to provide a plan for full utilization of emergency capacity resources and for orderly reduction in the aggregate customer demand on the American Electric Power (AEP) East/PJM Eastern System in the event of a capacity deficiency. A capacity deficiency is a shortage of generation versus load and can be caused by generating unit outages and/or extreme internal load requirements.

b. AEP East/PJM Procedures

There are three general levels of emergency actions for capacity deficiencies:

- Alerts - issued in advance of the operating day for elevated awareness and to give time for advanced preparations.
- Warnings - issued real time, typically preceding, and with an estimated time/window for a potential future action.
- Actions - issued real time and requires PJM and/or Member response. PJM actions are consistent with NERC and RFC EOP standards.

The Company may also issue an Advisory, one or more days in advance of the operating day during which a capacity deficiency may occur, that are general in nature and are for elevated awareness only. No preparations or actions are required in response to an Advisory.

Alerts

Voluntary Customer Load Curtailment Alert

The purpose of the Voluntary Customer Load Curtailment Alert is to alert members of the probable future need to implement a voluntary customer load curtailment. It is implemented whenever the estimated operating reserve capacity indicates a probable future need for voluntary customer load curtailment.

Real Time Emergency Procedures (Warnings and Actions)

Warnings

Warnings are issued in real time during present operations to inform members of actual capacity shortages or contingencies that may jeopardize the reliable operation of the PJM RTO. Generally, a warning precedes an associated action. The intent of warnings is to keep all affected system personnel aware of the forecast and/or actual status of the PJM RTO.

Actions

The PJM RTO is normally loaded according to bid prices; however, during periods of reserve deficiencies, other measures must be taken to maintain system reliability. These measures involve:

- loading generation that is restricted for reasons other than cost
- recalling non-capacity backed off-system sales
- purchasing emergency energy from participants / surrounding pools
- load relief measures

The Company's EOP includes a nine-step warning and action procedure during capacity deficiency conditions.

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c. Priority Levels

For the purpose of these capacity deficiency procedures, the following Priority Levels for loads have been established:

- I. Essential Health and Safety Uses – to be given special consideration in these procedures shall, insofar as the situation permits, include the following types of use:
 - a. Hospitals, which shall be limited to institutions providing medical care to patients.
 - b. Life Support Equipment, which shall be limited to kidney machines, respirators, and similar equipment used to sustain the life of a person.
 - c. Police Stations and Government Detention Institutions, which shall be limited to essential uses required for police activities and the operation of facilities used for the detention of persons.
 - d. Fire Stations, which shall be limited to facilities housing mobile fire-fighting apparatus.
 - e. Communication Services, which shall be limited to essential uses required for telephone, telegraph, television, radio and newspaper operations, and operation of state and local emergency services.
 - f. Water and Sewage Services, which shall be limited to essential uses required for the supply of water to a community, flood pumping and sewage disposal.
 - g. Transportation and Defense-related Services, which shall be limited to essential uses required for the operation, guidance control and navigation of air, rail and mass transit systems, including those uses essential to the national defense and operation of state and local emergency services. These uses shall include essential services such as street, highway and signal-lighting.

Although, when practical, these types of uses will be given special consideration when implementing the manual load-shedding provisions of this program, any customer may be affected by rotating or unplanned outages and should install emergency generation equipment if continuity of service is essential. Where the emergency is system-wide in nature, consideration will be given to the use of rotating outages as operationally practicable. In case of customers supplied from two utility sources, only one source will be given special consideration. Also, any other customers who, in their opinion, have critical equipment should install emergency generation equipment.

Company maintains lists of customers with life support equipment and other critical needs for the purpose of curtailments and service restorations. Company, lacking knowledge of changes that may occur at any time in Customer’s equipment, operation, and backup resources, does not assume the responsibility of identifying customers with priority needs. It shall, therefore, be Customer’s responsibility to notify Company if Customer has critical needs.

- II. Critical Commercial and Industrial Uses – Except as described in Section C.III below, these uses shall include commercial or industrial operations requiring regimented shutdowns to prevent conditions hazardous to the general population, and to energy utilities and their support facilities critical to the production, transportation, and distribution of service to the general population. Company shall maintain a list of such customers for the purpose of curtailments and service restoration.
- III. Residential Use – Residential use during certain weather conditions (for example severe winter weather) will receive precedence over critical commercial and industrial uses. The availability of Company service personnel and the circumstances associated with the outage will also be considered in the restoration of service.

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Priority Levels Continued

- IV. Non-critical commercial and industrial uses.
- V. Nonessential Uses – The following and similar types of uses of electric energy shall be considered nonessential for all customers:
 - a. Outdoor flood and advertising lighting, except for the minimum level to protect life and property, and a single illuminated sign identifying commercial facilities when operating after dark.
 - b. General interior lighting levels greater than minimum functional levels.
 - c. Show-window and display lighting.
 - d. Parking lot lighting above minimum functional levels.
 - e. Energy use to lower the temperature below 78 degrees during operation of cooling equipment and above 65 degrees during operation of heating equipment.
 - f. Elevator and escalator use in excess of the minimum necessary for non-peak hours of use.
 - g. Energy use greater than that which is the minimum required for lighting, heating, or cooling of commercial or industrial facilities for maintenance cleaning or business-related activities during non-business hours.

Non-jurisdictional customers will be treated in a manner consistent with the curtailment procedures contained in the service agreement between the parties or the applicable tariff.

d. Curtailment Procedures

In the event Company’s load exceeds internal generation, transmission, or distribution capacity, or other system disturbances exist, and internal efforts have failed to alleviate the problem, including emergency energy purchases, the following steps may be taken, individually or in combination, in the order necessary as time permits:

1. Customers having their own internal generation capacity will be curtailed, and customers on interruptible contracts will be curtailed for the maximum hours and load allowable under their contract. Nothing in this procedure shall limit Company’s rights under the Contract Service – Interruptible Power Tariff or the Alternate Feed Service Rider.
2. Power output will be maximized at Company’s generating units.
3. Company use of energy at its generating stations will be reduced to a minimum.
4. Company’s use of electric energy in the operation of its offices and other facilities will be reduced to a minimum.
5. The Kentucky Public Service Commission will be advised of the situation.
6. An appeal will be made to customers through the news media and/or personal contact to voluntarily curtail as much load as possible. The appeal will emphasize the defined priority levels as set forth above.
7. Customers will be advised through the use of the news media and personal contact that load interruption is imminent.
8. Implement procedures for interruption of selected distribution circuits.

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e. Service Restoration Procedures

Where practical, priority uses will be considered in restoring service and service will be restored in the order I through V as defined under Priority Levels described above. However, because of the varieties of unpredictable circumstances which may exist or precipitate outages, it may be necessary to balance specific individual needs with infrastructure needs that affect a larger population. When practical, Company will attempt to provide estimates of repair times on its website to aid customers in assessing the need for alternative power sources and temporary relocations.

III. Energy Emergency Control Program (EOP Section V)

a. Introduction

The purpose of this plan is to provide for the reduction of the consumption of electric energy on the American Electric Power Company System in the event of a severe coal fuel shortage, such as might result from a general strike, or severe weather.

b. Procedures

In the event of a potential severe coal shortage, such as one resulting from a general coal strike, the following steps will be implemented. These steps will be carried out to the extent permitted by contractual commitments or by order of the regulatory authorities having jurisdiction. For further information, see EOP Section V.

With regard to mandatory curtailments, the Company proposes to monitor compliance after the fact. A customer exceeding his electric allotment would be warned to curtail his usage or face, upon continuing noncompliance and upon one day's actual written notice, disconnection of electric service for the duration of the energy emergency.



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