

Ameren Transmission Emergency Operating Procedure EOP-E1-9

EOP-E1 Capacity and Energy Emergency Plan

Document Change History

Issue No.	Issue Date	Effective Date	Change Summary	Approval
9	06/16/22	06/16/22	Yearly Review of Procedure (Remove tasks now handled by GO/GOP, revised communication protocols)	JAB
8	08/13/21	08/13/21	Yearly Review of Procedure	JAB
7	6/4/2020	07/01/20	Yearly Review of Procedure (Remove shut down generation)	LNW
6B	6/26/19	07/01/19	Yearly Review of Procedure	JVH
6A	12/27/18		Yearly Review of Procedure	JVH
6	12/27/17	12/27/17	Acronym identification and change in Operating Reserve Providers	JVH
5	03/29/2017	03/31/2017	Added language to comply with EOP-011-1	JVH
4	12/20/16	12/20/16	Removed four plants available for fuel switching. Other minor wording changes.	JVH
3	12/30/15	12/30/15	Removed Red Day Check List and Load Management Report. Minor Rewording	MLW
2C	12/22/14		Yearly Review of Procedure	JVH
2B	12/17/13		Yearly Review of Procedure	JVH
2A	12/18/12		Yearly Review of Procedure	JVH
2	09/14/11	09/14/11	Vermillion unavailable, CPS/DCS Compliance	JVH
1C	12/17/10		Yearly Review of Procedure	JVH
1B	12/17/09		Yearly Review of Procedure	JVH
1A	12/17/08		Yearly Review of Procedure	JVH
1	10/17/07	10/17/07	Expanded, added organization, corrected naming	JVH
0	04/01/07	04/01/07	New-Revised for Format and Numbering	JVH
A	03/05/04	03/05/04	Old Procedure	

The **Ameren Capacity and Energy Emergency Plan** as described here includes the coordination of activities that cross multiple functions of the Company as well as entities outside of Ameren, for both the AMMO and AMIL Local Balancing Authority Areas (LBA) and the Ameren transmission system. This document is designed to be a single source reference for the Transmission Operations Supervisor (TOS) and others with regard to the Capacity and Energy Emergency options available within Ameren. This plan is also intended to comply with NERC Standard EOP-011.

Communication Protocols

During a capacity or energy emergency, the communication protocol procedures should be used for clear and efficient communication.

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The TOS should include the processes listed below, individually or in aggregate as necessary, and take appropriate action based on the current or expected conditions of the Ameren Bulk Electric System.

Coordination Tasks

- **Coordinating Functions:** Any action(s) taken under this plan should be coordinated with MISO (the Reliability Coordinator (RC) and Balancing Authority (BA)), as well as Ameren Function(s) or Department(s), neighboring BA(s) and operating entities, and Generation Operators (GOP(s)) within the LBA(s) as affected.
- **Notification to Entities Responsible for the Reliability of the Interconnected System:** In addition to notifying the Reliability Coordinator, the Transmission Operations Supervisor should inform other affected entities (e.g. RC, BA, Transmission Operators (TOPs), GOP) of the emergency system conditions, the actions taken, and coordinate actions as required. During capacity or energy emergencies such notification shall include current and projected conditions.
- **Notification of Government Agencies:** The Illinois Commerce Commission and the Missouri Public Service Commission should be notified by Corporate Communications as per individual state statutes. The Department of Energy will be notified by Transmission Operations as per DOE's Form EIA-417. Government agencies should be asked to implement any available programs to achieve energy reductions.

Controlling Actions

- **Maximizing Generator Output and Availability:** Through coordination with MISO Market Operations, all available generation within the affected LBA(S) should be adjusted as needed to maximize generator output to its capability. However, if additional voltage support is needed to support import conditions, generation adjustments may include a localized reduction in real power (MW) output at a specific plant to allow greater reactive power supply (MVAR) to meet the voltage requirements necessary to support increased imports. Should re-dispatch of generation be necessary to mitigate emergency conditions such re-dispatch of market generators will normally be implemented and/or coordinated with MISO. If there are re-dispatch options that would mitigate emergency conditions, Ameren would request the generation re-dispatch from MISO. If restoration of a generator outage

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is possible, Ameren will request the cancellation of the generator outage from MISO.

- **Equipment Availability:** The Transmission Operation Supervisor should review and cancel all equipment outages, and restore transmission equipment to normal where possible, when this cancellation will aid in the relief of the power supply emergency. While less likely, if circuits can be de-energized to assist in resolving the power supply emergency, then consideration should be made for that switching so long as the bulk electric system reliability is not at risk. When the facilities to be restored (or de-energized) or have outages cancelled involve or affect other TOP or BA entities, the task will be coordinated with them and the appropriate RC(s). Reconfiguration of the Ameren transmission system will be implemented if it would mitigate a capacity or energy emergency. Any transmission system reconfiguration would be coordinated with MISO if time permitted. If time does not permit, Ameren's Transmission Operations Supervisor will implement the transmission system reconfiguration if it will mitigate the operations emergency.
- **Notification of Independent Power Producers (IPPs):** All generation in the Ameren area shall be notified by MISO to maximize output and availability and/or commence generation. This shall include affiliated generation, non-affiliated generation, and cogeneration.
- **Fuel Supply and Inventory:** The Ameren Missouri (EM&T) is responsible for fuel supply and inventory for the affiliate generation. Vistra is responsible for fuel supply for their units.

For the affiliated generation, monthly coal inventory charts are available for use by EM&T which include target and actual inventory plots. These charts are provided for each coal plant. This is managed in compliance with the Ameren Missouri Coal Inventory Policy of EM&T. When inventory falls, or is projected to fall, to levels insufficient to match burn (e.g. if disruptions are occurring in the mining or delivery of coal), affected plants may be put on coal conservation measures to reduce consumption.

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Similarly, EM&T manages natural gas supply using a daily “Start and Run” gas report that is published on Ameren's Genesis platform. The daily reporting is in accordance with their respective summer and winter “Ameren Missouri Generation Plan for Gas-fired CTGs”.

- **Load Management:** The Transmission Operations Supervisor may request any of the Distribution Control Offices to implement Distribution System voltage reductions as appropriate. MISO or EM&T may initiate the Ameren Missouri Business Demand Response Program. Similarly, EM&T may initiate the Ameren Missouri Residential Demand Response Program. MISO can also instruct the TOS to initiate an Ameren Illinois Peak Time Rewards event.
- **System Energy Use:** Notify Manager, Asset Management & Performance Improvement, Facilities Management & Construction, to request reduction of all non-essential Company load at all locations. To the extent that it does not affect reliability, MISO to request all non-affiliated plants in the affected BA(s) to reduce all non-essential loads. TOS to contact EM&T Power Supply Supervisor (PSS) for Ameren Missouri plants.
- **Appeals to Large Customers:** The Transmission Operations Supervisor shall notify the appropriate Key Customer personnel of the need to notify Large Customers directly to voluntarily reduce load. Key Customer personnel for **Government Agencies** shall be reminded to include said agencies in the request to implement programs to achieve energy reductions.
 - a. For Ameren Illinois, the primary Key Customer contact is the Manager, Economic Development and the secondary is the Director, Economic Development.
 - b. For Ameren Missouri, the primary Key Customer contact is the Manager, Key Accounts and the secondary is the Director, Business Development.

Mass Public Appeals: The Transmission Operations Supervisor shall contact the Director of Public Relations or the corporate communications co-worker on call via both phone call (314.554.2182) and email (missouricomunications@ameren.com), and order that Corporate Communications issue public appeals from pre-written and pre-approved templates to obtain a voluntary load reduction from customers, using various

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communication channels as needed, including social media and media relations.

- **Load Curtailment:** The Transmission Operations Supervisor shall issue an Operating Instruction to the appropriate Distribution Control Office(s) that Firm Load is to be interrupted, assuming all generation MW and MVar capacity is at emergency limits, transmission lines at safe loading limits, local distribution voltage reduced to the extent possible and no means of ending the emergency is available.
- **Extreme Weather Conditions:** The Transmission Operations Supervisor shall consider impacts of extreme weather conditions during all capacity and energy emergencies.
- **Roles and Responsibilities:** The following roles and responsibilities will be observed during capacity and energy emergencies:

MISO Roles and Responsibilities

- MISO will coordinate with member Transmission Operators for evaluations, analysis and activities to mitigate capacity or energy emergencies
- MISO will implement Energy Emergency Alerts
- MISO will coordinate with other Reliability Coordinators for evaluations, analysis and activities to mitigate capacity or energy emergencies

Ameren Transmission Roles and Responsibilities

- Ameren TOS will coordinate with MISO for evaluations, analysis and activities to mitigate capacity or energy emergencies
- Ameren will implement operation activity as MISO directs the Ameren TOS.
- Ameren Transmission Dispatcher will under the supervision of the Ameren TOS, direct necessary switching and field operation of the transmission system as necessary to mitigate capacity or energy emergencies. Ameren TOS will direct Ameren Distribution Control Offices for manual load reductions when necessary
- Ameren will initiate any activities related to a TOP and will initiate any activities as a BA to the extent they are not delegated per the CFR to MISO

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- **Submittal to MISO for Approval:** This procedure will be submitted to MISO for approval. If not initially approved by MISO, any reliability risks identified by MISO will be addressed by Ameren and the procedure will be resubmitted for approval within a time period specified by MISO. Any such changes will be captured in the revision history.

- **Evidences:** When a capacity or energy emergency occurs, operator logs, operating documentation, voice recordings and other communication documentation be retained to show that this procedure was implemented in accordance with EOP-011-1, Requirements R1 and R2. Revision history for this procedure will be retained to indicate that the procedure has been maintained.

Staffing Levels

The normal on-duty staff can implement this plan for the emergency. The Transmission Operation Supervisor may call for assistance from the call-out list used in daily operations to delegate activities as he/she wishes.

***** INABILITY TO COMPLY WITH CPS and DCS *****

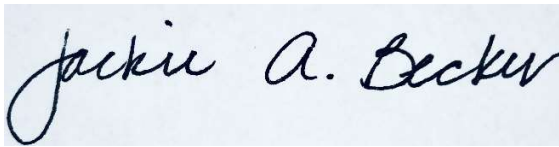
In the event that Ameren is operating with the obligation to comply with BAL-001 and BAL-002 (e.g. independent of MISO) and the TOS determines that one (or both) of the Balancing Authority Areas is non-compliant, or expected to be non-compliant, with the Control Performance Standards or the Disturbance Control Standards, the TOS shall **immediately** begin implementing the following steps, as available and needed, assuming there is sufficient time for them to take place:

- 1) Either directly or working through the Regional Generation Dispatcher (RGD) and RC, load all available generation to its capability.
- 2) Contact the applicable Operating Reserve Providers and direct them to deploy all operating reserve.
- 3) Interrupt all interruptible loads (to the extent they are available). Request the RC and RGD to initiate a Net Scheduled Interchange (NSI) adjustment.
- 4) Contact the RGD and RC, on behalf of the neighboring BAs in MISO) as well as all external-to-MISO neighboring BAs, and request emergency assistance,
- 5) Declare an EEA by request to MISO.

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- 6) Reduce other loads as described in the general capacity/emergency section above using steps like mass public appeals, voltage reductions, curtailing any interruptible loads not covered in 3 above, or shedding firm load.

IF TIME DOES NOT PERMIT, or all the 6 steps above have been exhausted, the TOS shall **immediately, and without delay, manually shed firm load** to return the ACE to zero. The TOS shall also request MISO to declare an Energy Emergency Alert.



Approved By: _____ Date: 6/16/2022

Original Signed by name and located in the "Emergency Operations Procedure" binder located on the Transmission Operations Supervisor's Desk.