

ARAPAHOE COUNTY POWER PLAN ANNEX



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Purpose

The purpose is to create a coordinated plan to manage cascading operational impacts to critical infrastructure and key resources during power outages.

Scope

This plan is focused on outages that result from a Public Safety Power Shutoff (PSPS). PSPS is a method to reduce the probability of an electric utility's facilities causing a wildfire during escalated wildfire conditions. It entails selectively and intentionally turning off power to a portion of a service area when substantial risk of fire weather and fuel conditions occur.

The concentration of effort for this plan is health and life safety preservation rather than leisure during an incident resulting in power loss. The plan is not intended to replace preparedness planning within critical infrastructure facilities or replace the necessity for personal preparedness initiatives.

Situation Overview

Arapahoe County and its communities are vulnerable to a wide range of natural and human-caused hazards that threaten life and property. A detailed description of each hazard, the subsequent vulnerabilities and risks are contained within the Arapahoe County Hazard Mitigation Plan. Consistently, across the municipalities and unincorporated areas there is a theme of overall high significance for both severe summer weather and severe winter weather. These incidents may result in consequences from planned and unplanned outages to the energy grid.

Historically in Colorado, Xcel Energy conducted its first PSPS in April 2024. The intent was to reduce likelihood of wildfires resulting from energy infrastructure that becomes damaged during severe weather events. The outage was prolonged across several counties: some lasting more than three days. Businesses, critical infrastructures, and individual community members were all impacted.

Planning Assumptions

- Implementation of this PSPS plan requires a collaborative effort among energy providers, critical infrastructure, and local government to provide necessary community support.¹
- Preparedness and outreach efforts are ongoing to promote a resilient community at the individual member level.
- Power outages can result from both planned shutoffs and unplanned outages.

¹ Engagement with Xcel Energy Community Relations Area Managers on the specific concerns of the potentially impacted Critical Infrastructure should begin as early as possible, to allow time to collaborate on possible mitigation solutions. Prioritization is key. Its assumed Xcel Energy and OEMs will have at least daily check points to discuss concerns. These may be with multiple counties and possibly with multiple energy providers at once. It essential to understand the second, third order effects of an outage, so we can prioritize mitigation efforts and restoration efforts.

- There are two electric utility providers serving Arapahoe County, Xcel Energy (Public Service Company of Colorado) and CORE Electric Cooperative (formerly IREA). The Public Utilities Commission (PUC) currently recommends a PSPS plan for energy providers.
 - Xcel Energy is one of two investor-owned electric utilities in the State of Colorado.
 - CORE is one of 22 electric cooperatives in the State of Colorado.
- Xcel Energy will maintain two plans with respective concept of operations.
 - *Public Safety Power Shutoff Plan*
 - Xcel conducts analysis starting at 10 days out and within 5 days to 72 hours out initiates internal communications to all divisions, staffing, communications, public relations, operations, meteorology, and risk assessment.
 - Red Flag Warnings are not a trigger for a PSPS.
 - The individual conditions of Wind Speed Gusts, relative humidity, Fuel Moisture Conditions, Fire Potential Indexes, are the primary criteria for PSPS. Other considerations are used to determine which circuits are affected: Wildfire Risk Tiers (models developed based on topography, historical data, fuel types, fire spread potential, urban development, etc.), Asset Health, Local Critical Infrastructure Impacts, and Fire Propagation Modeling are all used, but not limited to, being used as considerations for a PSPS.
 - Local fire subject matter experts should be consulted, if possible, to ground truth forecasts and models Xcel Energy is using to make the PSPS decision. The ultimate decision to implement the PSPS rests with Xcel and local advisement is non-binding.
 - Goal is 48-72 hours for notifications to impacted OEMs, Critical Infrastructure, and medical customers².
 - At 48 hours from PSPS initiation, Xcel begins customer notification through media outlets, social media, emails, and phone calls that a PSPS is going to occur (date, time, duration, area).
 - *Wildfire Mitigation Plan*
 - WSO and EPSS can be initiated if any of the following conditions are met: Red Flag Warning, Fire Weather Watch or High Wind Watch, Warnings, Wind Advisory, and wildfire danger is moderate or above. EPSS deactivates the remote reset function after 1 ground out occurs. Line crews must respond and inspect the line before energizing the power.
 - WSO and EPSS actions when deployed will not cause a notification to local governments, emergency management agencies, or the public. These settings cause power outages that will last longer than usual outages possibly from 4-12 hours.

² Qualifying Medical Customers include Critical Care Customers, Medical Baseline Customers, and customers enrolled in the Safe For Colorado Program, which includes customers enrolled in the Colorado Medical Certification Program or Colorado Medical Exemption Program

Concept of Operations

Preparedness Phase

Arapahoe County OEM can provide electric utilities with a list of critical infrastructure in a prioritized and categorized format to assist with determining impacts from outages and restoration operations.

CIKR Resource Center

The CIKR Resource Center is a geospatial system used for analysis and prioritization. The OEM populates and maintains the data through a comprehensive interview process with key providers in the relevant CIKR sectors as defined the US Department of Homeland Security.

- The OEM CIKR Coordinator determines, in conjunction with OEM leadership and best practices, the attributes tracked in the system.
- This system is used to establish power loss mitigation and recovery priorities based on a dependency model consisting of qualitative and quantitative data
- The system empowers a facility specific analysis of the reliance on the electrical grid to continue essential community services. For example, understanding consequences in the event a CIKR fleet is comprised of electric vehicles.

Response Phase

All activities within the response phase assume the utility initiated a notification to OEM of a potential PSPS. Each phase contains essential elements of information (EEI). EEIs are critical pieces of information that aid to effectively assess and respond to a PSPS. Each EEI may influence decision making in determining objectives and incident priorities.

Phase 1: Analysis

The CIKR Resource Center will consume and overlay the mapping data provided by the energy provider. Analysis should occur to confirm the scope of impact from the potential PSPS footprint. Key criteria should be reviewed to determine cascading impacts to aid in confirming priority resources needs and subsequent restoration. The analysis phase should produce an actionable list of facilities that require notification and consequence operations assessment of capability to maintain critical functions during the potential PSPS duration.

Essential Elements of Information (EEI) for this phase include:

- The area affected
- The anticipate outage duration, including recovery using a +20% time estimate for inspection
- The total population impacted
- CIKR assets in the affected area and analysis in CIKR Resource Center
- Primary, Alternate, Contingency, and Emergency (PACE) process for communications

Phase 2: Notification Phase

The notification phase priority is to communicate to emergency managers, senior officials, and CIKR stakeholders a tentative time, date, duration and affected outage areas.

The utility begins customer notifications 48 hours from PSPS initiation, however; CIKR sector facilities may require additional communication and coordination activities upon recognition of impact. The information gathered during the analysis phase should determine the scope of additional notification required prior to the public notification performed by the utility.

A regional coordination structure should be implemented with the impacted jurisdictions. The purpose of this coordination structure is to share information, impact assessments, resource availability, mass care response, and messaging coordination. For events within Arapahoe County, the VEOCI Coordination system will be used to share initial coordination and expand into the wide-area coordination as required. This structure may be turned over to the DHSEM Field Manager to facilitate as the operational phase of the PSPS begins.

Essential Elements of Information (EEI) for this phase include:

- Message timing, reach, amplification, and comprehension
- Local capacity to reach CIKR operators via wide area coordination platform in the EOC
- Structure and depth of regional coordination partners

Phase 3: Operational Response Phase

The operational phase begins with the date, time, and duration the utility determines is the operational length of the PSPS. This decision should occur no later than 24 hours before the initiation of the PSPS and made with high confidence. Operational preparation shall begin prior to the official start of the Operational Response Phase.

Once the Operations response phase / PSPS execution occurs the utility's Operations Center shall begin a 4-hour cadence with the impacted jurisdictions to share situation awareness, outage areas, impact assessments, and operational response actions. It is important to note that during a PSPS there may be both planned outages and unplanned outages due to damage to the electric grid infrastructure. Maintaining the operational integration with the utility's Operations Center is critical to developing and maintaining a common operating picture.

Essential Elements of Information (EEI) for this phase include:

- Deviation from the expected area of outages
- Changes in outage duration
- Outcomes from damage assessments and impacts to restoration estimates
- Actual and reported fires
- Degraded capacity at CIKR facilities
- Impacts to PACE process for communications

Phase 4: Restoration Phase & Transition to Recovery

Once the weather indicators determine the fire danger no longer warrants a PSPS to remain in place the area of emphasis shifts to restoring power to affected areas of the community. This will take time as utility's field crews need to visually inspect the electrical lines and infrastructure before energizing the system. The following actions should occur during the restoration phase.

- The EOC shall provide a list of CIKR that are a priority for restoration and inform the utility's Operations Center for consideration.

- The 4-hour operational cadence shall continue until all CIKR is back on the grid and back to functional status.³

Essential Elements of Information (EEI) for this phase include:

- Prioritization matrix and criteria for inspection and restoration locations
- Restoration message timing, reach, amplification, and comprehension

Roles and Responsibilities

Xcel

- Determine if a PSPS is needed, determine time of shut down and areas impacted.
- Alert customers 48-72 hours prior to the PSPS.
- Provide outage information and mapping to the impacted jurisdictions.
- Restore power to the community once the PSPS indicators are no longer present.

EOC

- Develop objectives and establish strategies to respond to cascading incidents to mitigate impacts to the community.
- Utilize CIKR Resource Center to perform analysis on scope of affected area to include downstream dependencies.
- Establish a Joint Information System.
 - Communicate through JIS for all impacted areas; Amplify the utility outage information.
- Maintain situational awareness across all impacted sectors.
- Report restoration priorities and escalate cascading impact challenges to applicable utility.

Law Enforcement

- Assess need and implement as applicable a traffic management and safety plan to aid travel through outage areas.
 - Triage resource needs for stop signs, lighting, or personnel directed intersections.

Fire Departments

- Assess staffing levels and availability of resources to respond to overall increased call volume.
- Respond to fires, including those caused by damage to the electrical infrastructure.
- Respond to emergency medical calls created by the PSPS incident.
- Dispatch Center triages response to vulnerable populations experiencing durable medical and oxygen related issues.

Public Health

³ Xcel Energy committed to the PUC to update OEMs once every 24 hours. If affected, Arapahoe County OEM determined 24-hour update cycles are insufficient to execute the disaster management activities required by the County's EOP.

- Determine health care impacts to hospitals, clinics, and long-term care centers.
- Coordinate situational awareness and resource impacts from the NCR Health Care Coalition.
- Support patient movement as needed. Consider all phases of the PSPS including prior, during, and after the PSPS.
- Maintain and update resource lists across the enterprise. Deconflict with existing County products such as ArapaSource.

Definitions/Acronyms

Critical Infrastructure and Key Resources (CIKR): An umbrella term referring to the assets of the United States essential to the nation's security, public health and safety, economic vitality, and way of life.

Public Safety Power Shutoff (PSPS): A method to reduce the probability of an electric utility's facilities causing a wildfire during escalated wildfire conditions. It entails selectively and intentionally turning off power to a portion of a service area when substantial risk of fire weather and fuel conditions occur.

Wildfire Safety Operations (WSO): A mode that is activated when high winds damage electrical equipment, causing outages that may last longer and be more frequent. All forms of WSO provide for disabling automatic reclosing on relays and reclosers that are normally set to automatically reclose. More sophisticated versions of WSO enable faster (but not necessarily coordinating) trip settings for relays and reclosers that have those capabilities. Enhanced Powerline Safety Settings (EPSS) is the most sophisticated version of WSO, as it has faster and coordinating trip settings and is intended to address operations in heightened wildfire risk conditions.

Enhanced Powerline Safety Settings (EPSS): A tool used to operate systems more conservatively in areas of high risk for wildfires. Settings are more sensitive and faster on protective powerline equipment when wildfire risk is elevated. In targeted areas, there is special protective equipment on the grid that isolates the affected line segment when it detects a significant issue, such as a tree branch contacting a powerline or lines galloping during high winds. With EPSS in place, when there's a fault on the powerline, it stays de-energized until crews can patrol the area to ensure it's safe to restore service.

Authorities and References

Authorities

- N/A

References

- Arapahoe County Emergency Operations Plan
- Arapahoe County Hazard Mitigation Plan
- Arapahoe County CIKR Resource Center
- Health and Human Services emPOWER map
- EPA Public Safety Power Shutoff Standard Operating Procedure
- Xcel 2025-2027 Wildfire Mitigation Plan, June 2024 <https://xcelnew.my.salesforce.com/sfc/p/>
- Xcel Public Safety Power Shutoff Plan, June 2024
- [Wildfire Preparedness | Outage & Safety | Xcel Energy](#)

- [Event Update | Public Safety Power Shutoff | Outages & Safety | Xcel Energy](#)
- Xcel Energy's WMP Plan filed with PUC: [Hearing Exhibit 101, Attachment AZS-1, Wildfire Mitigation Plan FINAL\[1\].pdf - Google Drive](#)
- Xcel Energy's PSPS Plan filed with PUC: [Hearing Exhibit 117, Attachment VAR-1, PSCo PSPS Plan.pdf - Google Drive](#)