

ATTACHMENT H: EMERGENCY RESPONSE PROCEDURES



You're first on the scene. What's next?

As an emergency responder you do everything possible to keep your community safe. But if the situation involves electricity or natural gas, do you know how to keep the public and your team safe? Utility emergencies present unique dangers to recognize and handle. Knowing about them and specific actions to take can lead to better results and, ultimately, to saved lives.

Responding to Utility Emergencies (RTUE) Online

(<https://Xcel-Energy.RTUEonline.com>) can effectively bridge the knowledge gap. It complements your department's training program, and gives you new information. It also provides a refresher about working safely during a utility emergency.

RTUE Online offers access to effective interactive training based on national standards. It includes learning objectives and application activities to educate and engage all types of responders, including firefighters, police officers and other emergency personnel. Training can be tracked and a certificate will be offered upon completion of the course.



The screenshot shows the Xcel Energy RTUE Online training website. At the top, there is a navigation bar with links for "Electrical Emergencies", "Natural Gas Emergencies", "Final Assessment", and "Resources". The main content area features a testimonial from Aaron at Fairfax Fire Department, a welcome message, and a "Trainer's Toolbox" section. A quiz question is visible: "Are you Street-Smart or Book-Smart? All lines are _____." with options: "live", "charged", "energized", and "All of the above". Below the quiz, there are three training track options: "FIRE / RESCUE", "LAW ENFORCEMENT", and "COMMUNITY AWARENESS", each with a "REGISTER" button.

"Nice work, you should be proud of this valuable safety training tool ... Best tool I've seen so far in my career as a fire fighter (24 years) and utility professional (31 years)."

UTILITY SAFETY CONSULTANT
AND MINNESOTA FIREFIGHTER

<https://Xcel-Energy.RTUEonline.com>

For more information please contact PublicSafety@xcelenergy.com.

This awareness training program is provided to you compliments of Xcel Energy.

Also, RTUE Online is continually updated to ensure you have relevant, real-time information. The course incorporates interactive media and features former fire captain and nationally-recognized author Mike Callan.

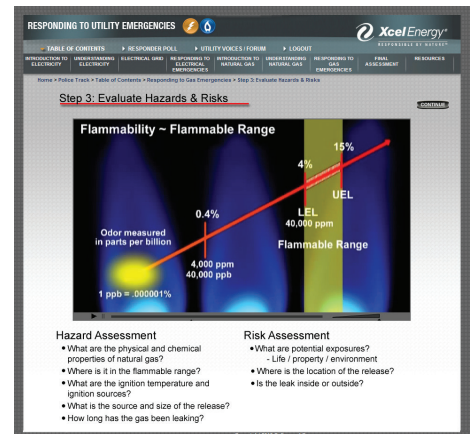
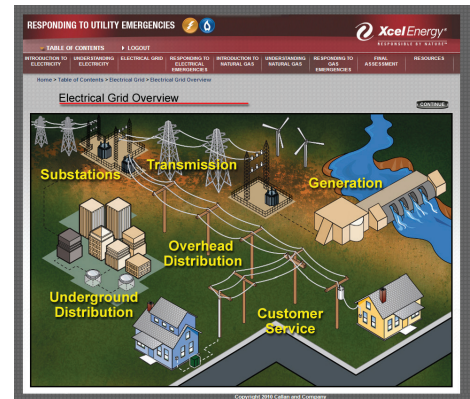


About Mike Callan

Mike Callan is a 40-year veteran of the fire service, serving 20 of those years as a Captain with the Wallingford, Connecticut Fire Department. In 2013, Mike was awarded the John M. Eversole Lifetime Achievement Award to recognize his distinguished career in hazardous materials emergency response. In addition to Responding to Utility Emergencies, Mike has written numerous training and instructor guides and conducts safety, chemical and emergency response programs for industrial and municipal hazmat teams throughout the U.S. Mike is passionate about accident prevention through education, and most importantly, about saving lives.



Want to learn more? Please visit us at <https://Xcel-Energy.RTUEonline.com> or contact us at PublicSafety@xcelenergy.com.



Training tracks for fire/rescue and law enforcement cover:

- Understanding Electricity
- The Electrical Grid
- Responding to Electrical Emergencies
- Understanding Natural Gas
- Responding to Natural Gas Emergencies

“Hello, My Name is Chief Wes Williams with the Ruggles–Troy Volunteer Fire Department in Nova, Ohio. I am writing to let you know that this site will be beneficial to ALL emergency first responders. The site is user friendly as well as informational without losing your interest. Job well done!”

Substation fire response

The overall mission of an emergency response involving Xcel Energy substations is always to:

1. Protect lives.
2. Establish a protective perimeter around the substation, protecting surrounding structures: DO NOT enter or extinguish any substation equipment until given authorization by Xcel Energy substation personnel.
3. Assist Xcel Energy in efforts to stabilize the incident, as directed/needed.

Responders must use extreme caution around high voltage areas due to the severe electric hazards. High voltages in these sites can exceed 500,000 volts, or 500 kilovolts (kV), and operating amperages (A) of 1000A or more. Substations contain transformers, circuit breakers, switch gear, capacitors, bus bars (large diameter, non-insulated metal conductors) and large banks of batteries to control power in control rooms.

Electrical emergencies at Xcel Energy substations should be approached cautiously. Responders should wait for Xcel Energy personnel to arrive before initiating any type of offensive actions (see note 2 above). Since there is extreme risk to responders during high voltage emergencies, decisions must be made by the emergency services incident command in conjunction with Xcel Energy's incident commander. Unified command is critical in these types of operations.

Caution

Substations can have a great deal of oil. It is used for cooling transformers and as an arc suppression agent while opening a circuit breaker. In some facilities the oil reservoir can be very large, or stored indoors.

When there is a fire or damage to oil-cooled equipment, an oil spill can result. Regular hazardous materials tactics can be employed if the area is free from any energized equipment. Most utilities have eliminated the polychlorinated biphenyl (PCB) problem in their cooling oils; however, the real hazards are the flammability of heated oils and the ever-present danger of energized equipment.

Emergency numbers

IMPORTANT: These numbers are for emergency responders only. **DO NOT release these numbers** to the public! Ensure that 911 dispatchers do not transfer calls to our Emergency Response Line.

Life-threatening

Electric emergencies

800.641.4400

Natural gas emergencies

800.541.8441

Non life-threatening

Emergencies or Essential Services Outages

800.771.7300

General public numbers

Xcel Energy electric outage

800.895.1999

Xcel Energy gas emergency/gas odor

800.895.2999

Xcel Energy residential customer service

800.895.4999

Xcel Energy business solutions center

800.481.4700

TDD/TYY (hearing-impaired service)

800.895.4949

xcelenergy.com/Safety



Fire safety response for substation emergencies



Any operation involving Xcel Energy substations requires de-energizing the affected equipment and isolating of the surrounding area. If entry is deemed necessary by a unified command team, emergency personnel should be guided by Xcel Energy substation electricians.



Unified command at utility emergencies

In large incidents, it is common to use a modified incident command structure, called unified command, whereby representatives from both the emergency services command and utility companies work together. They share information and coordinate personnel to develop an overall action plan that best solves the problem. The unified command team develops an incident action plan that uses agreed-upon strategies and tactics to accomplish the mission.

In high voltage emergencies involving an electric substation or a generation plant, the unified command process is the only way to guarantee success and assure the safety of all responders and utility personnel at the scene. Unified command at utility emergencies provides a joint method for incident management teams to:

- Determine incident priorities and identify strategic goals
- Select tactics for achieving the strategic incident goals and priorities
- Ensure joint planning for objectives and tactical activities
- Allow joint tactical operations to be conducted
- Maximize the use of all assigned resources
- Provide a method for resolving conflicts among the team players

Decision making for high voltage/substation emergencies

The initial task during high voltage emergencies involving Xcel Energy substations is to determine the tactical action plan. This is done by assessing the incident's potential. The incident commander (IC), based on input from the Xcel Energy, should estimate the likely outcome of the emergency and select the overall operating strategy to favorably impact this outcome.

Pre-planning for substation emergencies will help identify response strategies and tactics, as determined by representatives from both the emergency services and local utility companies, like Xcel Energy. The absence of a preplan for a substation or generation plant emergency raises the risk of disaster and injury.



Pre-planning questions

What type of incident is it?

Is it a generation substation or distribution substation incident? Is the equipment visible from the outside, or is it inside a surrounding wall or building?

Are all safety considerations identified?

Have all electrical safety hazards or considerations associated with the event been identified? Has the site been de-energized and verified by Xcel Energy substation electricians? Can the emergency area be isolated from electricity, and is it of a magnitude that would allow operations without fear of runoff, steam or extinguishing agent contacting energized equipment and causing an arc?

Is there an electrical hazard still present?

Even though the immediate area has been de-energized, equipment nearby may remain energized.

What is the location of the incident?

Is the substation in a rural or remote outside area (perimeter chain link fence), in a populated area (perimeter "fence" limiting view inside), or in the heart of the city (potentially inside a building)?

What is the external public impact?

Has Xcel Energy addressed the informational needs of the emergency services, the impact on the public and what will be necessary to lessen the public's fear, imposition and loss of power? Xcel Energy's communications team is ready to respond.

Are there any other hazards present?

Could there be an explosion, structural instability due to earthquake, mechanical equipment or hazardous materials present. In many substations there is combustible oil used to cool the circuit breakers and transformers. This hazard can create large flammable liquid fires outside and inside the substation.

Can the incident escalate?

What could possibly happen that would make this incident worse and has it been addressed? Can oil in transformers ignite or explode? Will the oil flow through duct openings or travel to lower floors?

Strategy and tactics for substation emergencies

Strategy is the overall goal of the response effort. Strategies are general in nature, such as life safety, incident stabilization, environmental impact and utility service restoration. Examples of common strategic goals at utility emergencies could include the following:

- Rescue (if possible and can be done safely)
- Public protective actions (isolate downed wires, arc safety and downwind evacuation)
- Preventing cooling oil from impacting the environment
- Controlling the spread of oil around the substation
- Fire suppression and control
- Safety during restoration operations

Tactics are action specific and they are implemented to achieve the strategic goals. Tactics could include:

- Protecting in place vs. evacuating
- Use extinguishing agents rather than water spray
- Cooling exposures from radiant heat

Operational modes

Mitigating a utility emergency must be implemented in an overall operational mode. The three modes are non-intervention, defensive and offensive. Criteria for evaluating operational modes include:

- Level of available resources (e.g. personnel and equipment)
- Level of training and capabilities of emergency responders
- Potential harm created by the incident

Nonintervention

"No action" is taken. The risks of intervening are unacceptable when compared to the dangers of fighting the electrical fire. All personnel are withdrawn to a safe location.

Defensive

Conditions indicate that the defensive actions chosen will buy time, enabling the response effort to be directed towards limiting the overall spread of the problem.

Offensive

The offensive mode must never be initiated without Xcel Energy substation electricians present to advise the responder. All operations must be done in conjunction with, and under the direct supervision of substation personnel.