

CASTLE ROCK WATER

**RESOLUTION APPROVING A SERVICES AGREEMENT  
WITH BURNS & MCDONNELL FOR A  
COMPREHENSIVE ARC FLASH ASSESSMENT  
PROJECT**

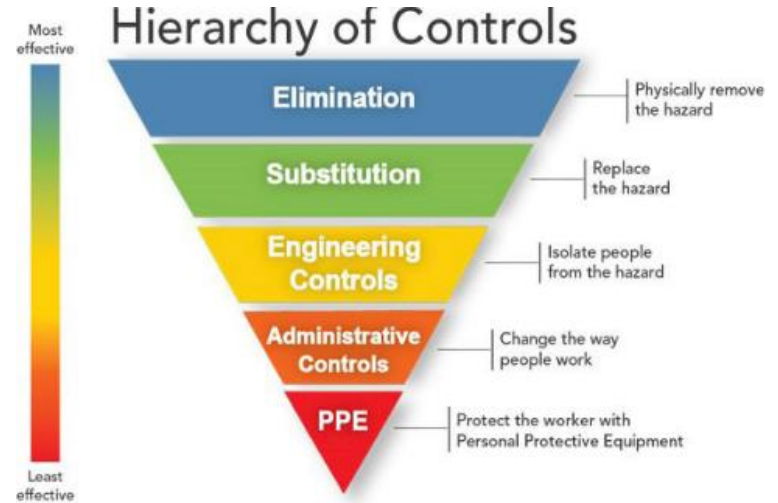
FEBRUARY 3, 2026



# COMPREHENSIVE ARC FLASH ASSESSMENT

## BACKGROUND

- **Definition:** An **arc flash** is a **sudden, violent release of electrical energy through the air** when electricity jumps (or *arcs*) from one conductor to another or to ground happening in **high-energy electrical systems** like switchgear, panels, transformers, or motor control centers.
- **CRW Health and Safety Policy Statement:** Committed to a safe and healthy workplace
- **Hazard control:** Meets the CRW internal requirement for hazard identification, evaluation, and control
- **Regulatory compliance:** Compliance with all existing standards
- **History:** Some previous equipment studied at CRW
- **Training:** Comprehensive staff training completed in 2025



Source: NIOSH.

*Hierarchy of Controls*

# COMPREHENSIVE ARC FLASH ASSESSMENT

## PROJECT SCOPE

- Collect equipment data from electrical devices rated 480VAC and above.
- Use data to provide comprehensive arc flash safety hazard reports.
- Label equipment with tags & labels indicating arc flash and shock hazard levels and distances, hazard category, and associated personal protective equipment requirement.
- Provide as-recorded one-line diagrams for each site.



# COMPREHENSIVE ARC FLASH ASSESSMENT PROJECT SITES

A total count of 1,468 electrical devices across 49 sites for assessment:

- Five water treatment facilities
- One surface water location
- Eleven pump stations
- Twenty-three well sites
- Nine lift stations



*Motor Control Center*

# COMPREHENSIVE ARC FLASH ASSESSMENT

## BENEFITS

- Safer workplace for all electrical workers, including CRW employees and contractors.
- Provides approach boundary demarcation, making a safer workplace for non-electrical workers.
- CRW electrical safety program enhancement.
- Compliance with applicable standards.



*Typical PPE*



*Variable Frequency Drive*



*Example of boundary demarcation*

# COMPREHENSIVE ARC FLASH ASSESSMENT

## ENGINEERING OVERSIGHT SERVICES

### Competitive bid process

- CRW solicited proposals from three qualified engineering firms.
- Staff selected Burns & McDonnell Engineering:
  - ✓ Best value pricing.
  - ✓ Fully staffed, local, and qualified electrical engineering team.
  - ✓ One firm declined to bid due to the unavailability of qualified staff.

Vendor	Proposal
Burns & McDonnell Engineering	\$481,017
Logical Systems LLC	\$500,300
Tetra Tech	Declined to Bid

# COMPREHENSIVE ARC FLASH ASSESSMENT

## BUDGET & SCHEDULE

### Services agreement with Burns & McDonnell Engineering

- Contract with Burns & McDonnell : \$481,017
- 5% Town-managed contingency: \$24,051
- Total Authorization Request: \$505,068
- Funded by Water, Water Resources, and Wastewater Engineering Services accounts.
- First quarter budget amendment

### Schedule

- February/March 2026 – Begin data collection
- December 2026 – Scheduled project completion

# COMPREHENSIVE ARC FLASH ASSESSMENT

## RECOMMENDATIONS

- Castle Rock Water Commission
- Staff
- **Questions?**



*Pump Station Site*



PROPOSED MOTION:

*"I move to approve the Resolution 2026-046 as introduced by title."*

ALTERNATIVE MOTIONS:

*"I move to approve the Resolution as introduced by title, with the following conditions: (list conditions)."*

*"I move to continue this item to the Town Council meeting on \_\_\_ date to allow additional time to (list information needed)."*