

2018 Engineering and Operations Webinar Series

This prepaid webinar package includes seven webinars intended for engineering and operations staff. Each webinar is a 90-minute presentation, including a brief question-and-answer period.

CHARACTERISTICS OF UNDERGROUND PRIMARY CABLE (COMPLIMENTARY WEBINAR) JANUARY 9

To efficiently size underground cables, one must first understand the physical structure of the conductors, and the function of the components of the underground cable. Understanding the function and limitation of each layer of the underground cables enables the designer to more efficiently design underground distribution lines.

KEY TOPICS:

- The layers of primary conductors, their function and limitations
- Practical application of conductors, based on material make-up (aluminum vs. copper) and configuration (stranded core vs. solid core)
- Types of conductor shields, their purpose and effectiveness
- Electrical characteristics of underground cables, capacitive reactance and dielectric loss

SIZING THREE-PHASE TRANSFORMERS MARCH 13

Transformers are one of the most significant costs to be considered when serving new customers, and this is especially true for three-phase services. Unlike single-phase transformers, which are generally shared by two or more services, three-phase transformers are typically dedicated to one consumer. Sizing three-phase transformers is based on three methods: panel rating, comparable facility and diversity of the loads.

KEY TOPICS:

- Three methods for sizing three-phase transformers
- Evaluation of a new service, using the three methods presented, to determine the most efficient transformer size.

TRENDS IN FUSE SAVINGS MAY 8

The goal of “fuse saving” is to avoid expensive fuse replacement and to avoid lengthy consumer outages. Fuse-saving schemes are not practical for all distribution lines. The distribution system must be evaluated to determine the sections of line where implementation of a fuse-saving scheme will be beneficial, and to determine the coordination for a fuse-saving scheme.

KEY TOPICS:

- Methods for evaluating distribution lines to determine those where fuse-saving schemes will be beneficial.
- The benefits of a fuse sacrifice scheme
- Analyzing sections of a distribution system where fuse sacrifice vs. fuse savings may be preferable

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APPLICATION AND USE OF FAULT INDICATORS *JUNE 19*

Locating faults on underground distribution systems is often frustrating and challenging. Installation of fault indicators can provide a means to quickly locate the source of the outage, drastically reducing the outage time. The challenges with using fault indicators include when and where to install fault indicators to be most beneficial and cost-effective. In addition, fault indicators need to be selected based on the continuous current and available fault current.

KEY TOPICS:

- A strategic plan for installing fault indicators on the underground distribution system
- How fault indicators function, and the different types of fault indicators available
- Correct installation methods for fault indicators

UNDERSTANDING AND MITIGATING UPLIFT *JULY 10*

Uplift is a common problem in the electric utility industry. Understanding the causes for uplift is the beginning of solving and preventing uplift on the distribution system. Recognizing instances where uplift typically occurs will lead to design practices that eliminate the problem before construction. Understanding the causes of uplift, will help designers re-design existing structures to correct existing problems.

KEY TOPICS:

- Situations where uplift is likely to occur
- Grading a line to prevent uplift
- Evaluation of existing structures to determine the cause of uplift, and re-designing the structure to mitigate uplift

PROFESSIONAL ETHICS FOR UTILITY PERSONNEL *OCTOBER 9*

Ethics is not always black and white or good and evil. Often times, situations such as going to lunch with someone can be considered a breach of ethics. Using realistic examples, the webinar will address possible pitfalls when working with vendors, government officials and consumers — and offer methods to avoid such situations.

KEY TOPICS:

- Situations that may be considered unethical
- Mitigation of potentially unethical circumstances before they become a problem

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PRIMER ON CURRENT DEMAND-SIDE MANAGEMENT PRACTICES NOVEMBER 13

Demand-side management is employed with various goals and methods, which can include sustainability, improving load factor, reducing generation requirements, reduction in transmission congestion, and reducing wholesale power costs. Advances in communication such as RF mesh radio systems and smart thermostats have increased the number and types of tools available for deployment.

KEY TOPICS:

- Common goals for demand-side management
- Tools and techniques used for demand-side management
- Communication infrastructure requirements, such as RF mesh radio systems and smart thermostats

**For the most up-to-date seminar and webinar details and registration information, please visit the NDAREC website at www.ndarec.com.*

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