AUTODESK UNIVERSITY 2013

Standard Substation Circuits in Autodesk AutoCAD Electrical

Arnold Fry – Duke Energy
Co-presenter - Jared Driggers – Duke Energy

Code UT1943

Learning Objectives

At the end of this class, you will be able to:

- How to Establish a utility standard for circuit templates using a Multi-level device ideology in ACADE
- Learn how to create standard devices for a utility that can be used for both Brownfield and Greenfield stations also applied to standard engineering designs in circuits
- Learn how to create new or leverage existing standard engineering designs in ACADE circuits
- Establish a standard library and selection process for end users to effectively select the correct engineering standard circuits in ACADE

About the Speaker

Arnold W. Fry, PE
Manager, Transmission Standards
Duke Energy
BSEE from Clemson University, Professional Engineer in North Carolina and South Carolina 25 Years of Electrical Industry experience including 18 years with Duke Energy. Responsible for Transmission Line Standards, Protection and Control Standards, Substation Standards and Design Tool Standards. Served as the business project manager for the implementation of the Substation Design Solution. The Substation Design Solution utilizes Autodesk Software along with a custom interface with enterprise systems including Maximo, Fusion and GE Smallworld.
Arnold.fry@duke-energy.com,

Jared Driggers,
Engineering Technologist
Transmission Standards – Design Tools
AAS in Drafting and Design in Electrical Controls and Instrumentation from Louisiana Tech, has 7 years' of experience in Electrical Controls Design including 3 years with Duke Energy. Has worked in AutoCAD Electrical since 2006. Worked out in the field along with in the office in the Gas and Oil industry, Pharmaceuticals, Lime Injection Technology, Research and Development in Medical Technology and Substations for the last 3 years. Responsible for standardizing

ACADE , in association with Vault as well, for use in Duke Energy for substation design practices with the focus on Utility Industry standards and practices.

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How to Establish a utility standard for circuit templates using a Multi-level device ideology in ACADE

SEL Creation Circuits

How to build the separate parts to standards

Putting the SEL together

Adding User interacted menu selections

Learn how to create standard devices for a utility that can be used for both Brownfield and Greenfield stations also applied to standard engineering designs in circuits

Substation Engineering Standard Circuits

Schematic

Substation Wild Card Characters

Adding Hard (non-configurable) Substation Schematic Circuits

Adding Soft (configurable) Substation schematic Circuits

Panel

Adding Hard (non-configurable) substation Wiring/panel Circuits

Adding Soft (configurable) Substation Wiring/Panel Circuits

Learn how to create new or leverage existing standard engineering designs in ACADE circuits

What is a ACADE Circuit

Definition

Different Types

Circuit Builder

Why to MAYBE use it

Why not to use it

Creating Circuits using Save Circuit

Why we use this method

Hard Points

Soft Points

Establish a standard library and selection process for end users to effectively select the correct engineering standard circuits in ACADE

Substation Engineering Standard Circuits

Schematic

Saving Locations using Vault

User interaction