Feasibility Analysis of Prefabrication and Modularization of Building Electrical Systems Using Building Information Modeling (BIM)

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Best Practices for the Prefabrication and Modularization of Building Electrical Systems Using Building Information Modeling (BIM)

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Overview

- Introduction
- Purpose
- Objectives
- Outcomes
- Project Plan
- Q&A
About Myself

• Education
  • B.S. and M.S. in Electrical Engineering
  • Ph. D. in Building Technology

• Teaching Focus
  • MEP Systems for Construction Management

• Research Focus
  • MEP Systems
  • Energy Efficiency
  • Modeling and Simulation
Project Purpose

• Determine how BIM is used by electrical contractor in projects involving prefabrication
• Develop best practices manual for using BIM in identifying, designing, and implementing prefabrication in electrical construction projects
Objectives

- Identify the process to implement prefabrication and modularization in an electrical construction project
- Determine current BIM involvement in the implementation of prefabrication in electrical construction projects
- Develop a method for extracting prefabrication plans from the electrical system model in a BIM platform
- Identify best practices for implementing pre-fabrication using BIM
Outcomes

- Best Practices Handbook for Electrical Construction Professionals
- Seminar or Workshop for Electrical Construction Professionals
- Classroom Module for MEP Class
- Academic Papers
  - ASC
  - ASEE
  - Others

7/24/14 ELECTRI Council Meeting, Toronto
Project Method and Plan

• Literature review
  • Electrical construction
  • Other construction trades

• Interviews and case studies
  • Alterman, Inc., San Antonio TX
  • Other companies from NECA

• BIM application on sample projects
Project Milestones

• November 2014: Literature review and interviews completion
• February 2015: Case studies and sample project analysis
• May 2015: Method and guidelines development
• August 2015: Final report submittal, best practices handbook and dissemination of results
Q&A

Thanks for your attention!