

Greater Cleveland Regional Transit Authority



Award Summary

GCRTA System-Wide Arc Flash Analysis

Operational Planning &
Infrastructure Committee

August 10, 2021



GCRTA System-Wide Arc Flash Analysis

- An arc flash is the light and heat produced as part of an arc fault, a type of electrical explosion or discharge that results from a connection through air to ground or another voltage phase in an electrical system.
- An **arc flash** hazard **analysis** or risk assessment is a **study** conducted by a trained safety expert to evaluate electrical equipment and power systems in order to predict the potential for or incident energy of an **arc flash**.
- OSHA requires repeating this analysis every five years or whenever there are changes made to the electrical equipment.

Arc Flash Incident



- Although rare, an arc flash can cause an explosion, emitting heat and debris.
- This hazard was first identified in 1981.
- In 1995, the National Fire Protection Association addressed it in the National Electrical Code, with updates since.
- The maintenance person needs the information on the arc flash label to ensure they are wearing the correct protective gear.
- Labels required in 2002.

GCRTA System-Wide Arc Flash Analysis

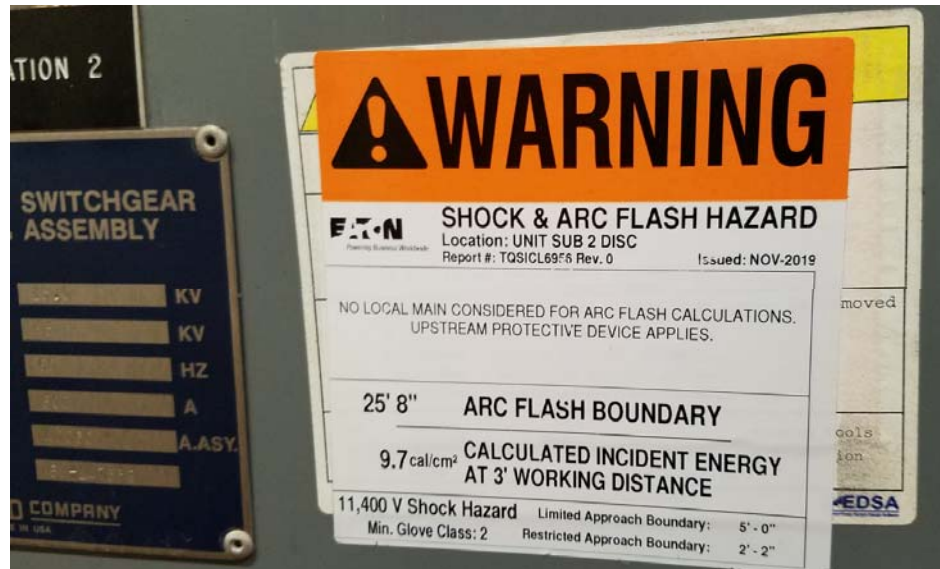
- Within the RTA System, there are:
 - Headquarters building
 - Seven rail / bus maintenance facilities
 - 30 rail passenger stations
 - 17 substations
 - 17 signal bungalows
 - 11 Park N Ride or Transit Centers
- Three new substations have already been updated.

GCRTA System-Wide Arc Flash Analysis

- Contractor's Scope of Work:
 - Visit each facility to ascertain equipment
 - Gather data from the utility
 - Complete short circuit and arc flash analysis
 - Evaluate re-fusing to reduce hazards
 - Update documentation as needed
 - Re-visit each facility and install new labels

GCRTA System-Wide Arc Flash Analysis

Arc Flash Label Example



GCRTA System-Wide Arc Flash Analysis Procurement Overview

- Request for Proposal (RFP) issued April 26, 2021
- Accessed on the GCRTA website by twenty-seven (27) interested parties
- Five (5) firms submitted proposals
- Three (3) firms were interviewed

GCRTA System-Wide Arc Flash Analysis Procurement Overview

Evaluation Panel Members:

- Engineering and Project Development
- Training - Rail Vehicle Maintenance
- Facilities Maintenance – Rail & MOB
- Safety
- Office of Management and Budget
- Office of Business Development
- Procurement

GCRTA System-Wide Arc Flash Analysis Procurement Overview

Evaluation Criteria:

- Project Manager
- Assigned Staff
- Past Performance
- Project Approach
- Location of Majority of Work
- DBE Participation

GCRTA System-Wide Arc Flash Analysis Procurement Overview

Most technically qualified vendor:

- Tec Inc. Engineering & Design, Eastlake, Ohio

A 4% DBE goal was assigned to this project. The goal will be met by utilizing Tucker-Grubbs Construction.

GCRTA System-Wide Arc Flash Analysis Procurement Overview

Firm Experience:

- Tec Inc. Engineering & Design has successfully completed projects for the GCRTA, Laketran, The City of Cleveland, Lubrizol Corporation, University Hospitals, and The Ohio State University, among others.
- Tec Inc.'s personnel are experienced and familiar with the GCRTA system as a consultant and in providing quality deliverables.

GCRTA System-Wide Arc Flash Analysis Procurement Overview

Staff Requests that the Operational Planning and Infrastructure Committee recommend award to Tec Inc. Engineering & Design for Consultant Services for the GCRTA System-Wide Arc Flash Analysis. The contract is not to exceed \$329,203.00.