

AGREEMENT #15233 FOR ENGINEERING SERVICES

This AGREEMENT is entered into by and between Lake County (County) and Quality Power Solutions, LLC, 5718 Manufactures Drive, Madison WI 53704 (hereafter "Engineer").

RECITALS

WHEREAS, Lake County is seeking an Engineer to provide Engineering services for PW#2013.017 Arc Flash South Study as described in Attachment A; and

WHEREAS, the Engineer is a professional provider of Engineering services; and

NOW, THEREFORE, Lake County and the Engineer AGREE AS FOLLOWS:

SECTION 1. AGREEMENT DOCUMENTS

This AGREEMENT constitutes the entire agreement between the County and the Engineer.

SECTION 2. SCOPE OF SERVICES

The Engineer shall provide engineering services described in Attachment A

SECTION 3. DURATION

The works shall be completed within 200 days after execution of this Agreement.

SECTION 4. INDEMNIFICATION

The Engineer agrees to indemnify, save harmless and defend the County, their agents, servants, and employees, and each of them against and hold it and them harmless from any and all lawsuits, claims, demands, liabilities, losses and expenses, including court costs and attorney's fees, for or on account of any injury to any person, or any death at any time resulting from such injury, or any damage to property, which may arise or which may be alleged to have arisen out of Engineer's negligent acts in connection with the services covered by this Agreement. The foregoing indemnity shall apply except if such injury, death or damage is caused directly by the willful and wanton conduct of the County, their agents, servants, or employees or any other person indemnified hereunder.

SECTION 5. INSURANCE

The Engineer must obtain, for the Contract term and any extension of it, insurance issued by a company or companies qualified to do business in the State of Illinois and provide the County with evidence of insurance. Insurance in the following types and amounts is necessary:

- **Worker's Compensation Insurance** covering all liability of the Engineer arising under the Worker's Compensation Act and Worker's Occupational Disease Act at statutory limits.
- **Professional Liability** to include, but not be limited to, coverage for Errors and Omissions to respond to claims for loss there from.
 - **General Aggregate Limit** **\$1,000,000**
 - **Each Occurrence Limit** **\$1,000,000**
- **Automobile Liability:**
 - **Bodily Injury, Property Damage (Each Occurrence Limit) \$1,000,000**

Engineer agrees that with respect to the above required Automobile Liability insurance, Lake County shall:

- Be named as additional insured by endorsement to the extent of the negligence of the Engineer;
- Be provided with thirty (30) days notice, in writing, of cancellation of material change;
- Be provided with Certificates of Insurance evidencing the above required insurance, prior to commencement of this Contract and thereafter with certificates evidencing renewals or replacements of said policies of insurance at least fifteen (15) days prior to the expiration of cancellation of any such policies. Forward Notices and Certificates of Insurance to: Lake County Central Services, 18 N. County St, Waukegan, IL 60085-4350.

SECTION 6. AGREEMENT PRICE

Lake County will pay to the Engineer the amount not to exceed \$ 109,141.58.

SECTION 7. INVOICES & PAYMENT

Invoices may be submitted for work performed on a monthly basis based upon the percent of work completed in the amount not-to-exceed in Section 6. Submit invoice(s) detailing the services provided. Payments shall be made in accordance with the Local Government Prompt Payment Act.

Engineer will address Invoices to:

Lake County Department of Public Works
650 Winchester Road
Libertyville, IL 60048-1391
Attn: David Humbert

County will make Payments to:

Quality Power Solutions, LLC
5718 Manufactures Drive
Madison, WI 53704

SECTION 8. STATEMENT OF OWNERSHIP

The drawings, specifications and other documents prepared by the Engineer for this Project are the property of the County, and Engineer may not use the drawings and specifications for any purpose not relating to the Project without the County's consent, except for the Engineer's services related to this Project. All such documents shall be the property of the County who may use them without Engineer's permission for any current or future Lake County project; provided, however, any use except for the specific purpose intended by this Agreement will be at the County's sole risk and without liability or legal exposure to the Engineer.

The Engineer shall retain its copyright and ownership rights in its design, drawing details, specifications, data bases, computer software, and other proprietary property. Intellectual property developed, utilized, or modified in the performance of the services shall remain the property of the Engineer.

SECTION 9. TERMINATION

The County reserves the right to terminate this Agreement, or any part of this Agreement, upon thirty(30) days written notice. In case of such termination, the Engineer shall be entitled to receive payment from the County for work completed to date in accordance with terms and conditions of this Agreement. In the event that this Agreement is terminated due to Engineer's default, the County shall be entitled to contract for consulting services elsewhere and charge the Engineer with any or all losses incurred, including attorney's fees and expenses.

SECTION 10. JURISDICTION, VENUE, CHOICE OF LAW

This Agreement shall be governed by and construed according to the laws of the State of Illinois. Jurisdiction and venue shall be exclusively found in the 19th Judicial Circuit Court, State of Illinois.

SECTION 11. INDEPENDENT CONTRACTOR

The Engineer is an independent contractor and no employee or agent of the Engineer shall be deemed for any reason to be an employee or agent of the County.

SECTION 12. WARRANTS

The Engineer represents and warrants to the County that none of the work included in this contract will in any way infringe upon the property rights of others. The Engineer shall defend all suits or claims for Engineer's infringement of any patent, copyright or trademark rights and shall hold the County harmless from loss on account thereof.

SECTION 13. ASSIGNMENT

Neither the Engineer nor the County shall assign any duties of performance under this Agreement without the express prior written consent of the other.

SECTION 14. MODIFICATION

This Agreement may be amended or supplemented only by an instrument in writing executed by the party against whom enforcement is sought.

SECTION 15. DISPUTE RESOLUTION

All issues, claims, or disputes arising out of this Agreement shall be resolved in accordance with the Appeals and Remedies Provisions in Article 9 of the Lake County Purchasing Ordinance.

SECTION 16. NO IMPLIED WAIVERS

The failure of either party at any time to require performance by the other party of any provision of this Agreement shall not affect in any way the full right to require such performance at any time thereafter. Nor shall the waiver by either party of a breach of any provision of this Agreement be taken or held to be a waiver of the provision itself.

SECTION 17. SEVERABILITY

If any part of this Agreement shall be held to be invalid for any reason, the remainder of this Agreement shall be valid to the fullest extent permitted by law.

SECTION 18. CHANGE IN STATUS

The Engineer shall notify the County promptly of any change in its status resulting from any of the following: (a) vendor is acquired by another party; (b) vendor becomes insolvent; (c) vendor, voluntary or by operation law, becomes subject to the provisions of any chapter of the Bankruptcy Act; (d) vendor ceases to conduct its operations in normal course of business. The County shall have the option to terminate this Agreement with the Engineer immediately on written notice based on any such change in status.

SECTION 19. DELIVERABLES

The Engineer shall provide deliverables as identified in Attachment A.

IN WITNESS HEREOF, the undersigned have caused this Agreement to be executed in their respective names on the dates hereinafter enumerated.

Lake County:

RuthAnne Hall
Purchasing Agent

Date: _____

Quality Power Solutions, LLC



Brian Loken, CPQ
Certified Power Quality Professional

Date: 8-25-15



Quality Power Solutions
Empowering your success. Always.

August 18, 2015

Dave Humbert
Lake County/ Dept of Public Works-Libertyville
650 W Winchester Rd
Libertyville, IL 60048

Re: Value Added NFPA 70E Risk Assessment Options for Lake County (South Region)

Dear Dave:

We appreciate your interest in Quality Power Solutions products and services. The following proposal is based on our discussions and understanding of your requirements. Quality Power Solutions will provide the following services with our partner Faith Technologies:

Scope of Services

This scope represents a duplicate scope from our original safety audit our team supported for Lake County back in 2012. This scope is the format your team chose and represents a very comprehensive approach method on NFPA 70E compliance.

It is important to realize that these audits account for equally as much value in LOTO as they do in arc flash information and if you have confidence that the electrical systems in your plant are correct, all of the end results will have merit.

In this scope process, Faith Technologies and QPS would not assume any existing labeling is accurate as our base understanding and do our best to trace and confirm feeds within their locations. From there, we would create a truly unique and custom Auto-CAD drawing which the County would have a chance to review prior to our engineering phase. This core difference between what we suggest and the base engineering approach makes all the difference in documenting the correct "process" to take within current code requirements.

The bottom line in our methods is to create a truly verified and unique end product that your campus will gain ownership with. This NFPA topic is one that never truly ends and we consider NFPA safety audits a "process" more so than a project. Common engineering studies are more of a straight engineering project with data collected at that point in time.

Primary Focus with NFPA 70E

The main goal of these safety audits is to ensure that you as an employer have a solid program in place to address all aspects of daily risk for your staff. Those risks include both arc flash and shock hazard issues so if this type of package is chosen we will have spent quality time focused on the LOTO and engineering sides of the spectrum. The final prints we create speak volumes on what the end products will look like.

Confidence in Faith Technologies

We truly appreciate knowing you have confidence in our understanding of NFPA 70E and OSHA's expectations. This is one project where your chosen vendor really needs to understand how the code is meant to be used and how to support your entire Electrical Safety Program, and not just offer arc flash calculations and eventual labeling. We protect over 1,400 electricians daily and have trained with OSHA in their Education and Outreach programs since 2001.

We have a dedicated staff of true field electricians who work very well with your staff and our in house engineering staff is dedicated to electrical safety. To date, we have done over 400 audits throughout the country and each of the customers share the same common goal which is to look beyond the initial code and create a truly successful program for their staff.

Key Requirements to a Successful NFPA 70E Electrical Audit:

Field Verification vs. Data Collection

- Field verification of your electrical systems involves physical tracing of electrical circuits where required, and your vendor should be a licensed tradesmen capable of opening and closing electrical equipment on their own. Simple "Data Collection" of breaker, fuse or other information does not mean your end product was truly **"Verified"**.

Electrical Prints or "One-Lines"

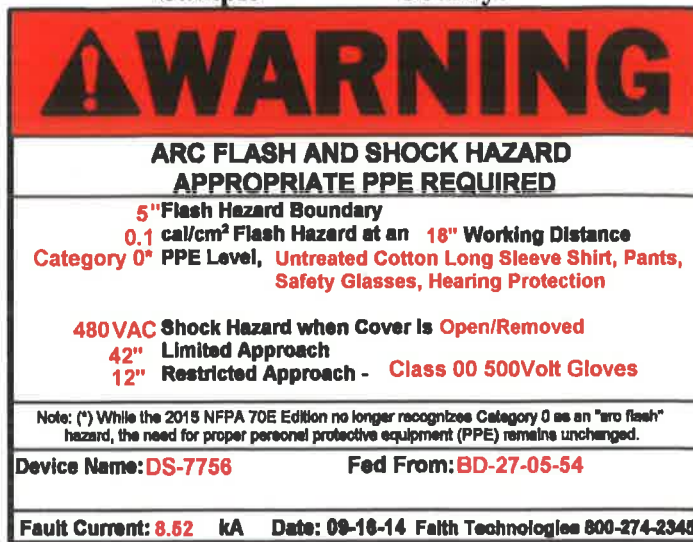
- True **"Electrical Prints"** of your system are those which are created by an AutoCAD technician PRIOR to any engineering aspect of your project.
- A good electrical print should account for more than the items you intend to formally calculate in the engineering study. If you do not ask to review a newly created print prior to any engineering study for arc flash, you may end up with a simple one-line print which is a product of the software programs used for generating arc flash values.
- These so called impedance diagrams are not detailed enough to support any LOTO program and OSHA will not recognize them for daily use by your staff simply because they will only show line side information on your systems plus your existing labeling was never truly verified during the audit.

NFPA 70E Full Scope Requirements for Lake County:

- Faith Technologies shall provide technical field support with licensed electricians in verifying key electrical distribution items via circuit tracing where required on the incoming utility transformer feeds.
 - All reasonable attempts to ensure the accuracy of the plants systems will be made.
 - In areas that Faith Technologies cannot get access to during production, Lake County will be given a list of any assumptions made in over current protection information etc.
 - Faith Technicians may assign some specific areas of your plants to in house electrical/maintenance staff members to help us with field verifications based on access restraints or other factors but we expect that role to be minimal for them.
 - Any electrical feeds our team cannot confirm while in the field for LOTO accuracy will be clouded on the Auto CAD drawings for future investigation by Lake County.
 - The main goal is to ensure Lake County has confidence in the accuracy of the existing labeling within a facility which in turn supports correct LOTO practices.
- All field staff visiting Lake County property shall consist of licensed professionals capable of opening and closing electrical equipment without support from Lake County staff.
 - Proof of training and qualifications of the Faith Technologies staff used for NFPA 70E audits shall be submitted upon request.
- All arc flash related projects shall include primary electrical distribution items necessary in creating a valid safety evaluation of the site. These items include coming from the utility to the main service entrance locations at each site, and from that point evaluating to the second and third levels of distribution from those subs depending on the size of the branch loads.
 - All larger production related load items above 30 amps shall be included within the formal calculations for arc flash PPE values.
 - Small loads coming off panels, for example, shall be referenced on the prints for future LOTO development but may not be necessarily field verified or calculated for this safety audit.
 - Individual motor loads 40HP or greater if present shall be engineered for incident energy risk levels due to the size of the load.
 - Other motor loads are shall be summarized.
 - Smaller 30 amp load items will be field classified as category 0 items during the field evaluation process. These items will not be formally calculated due to the lack of potential in generating a flash hazard.
- Faith Technologies shall create a full AutoCAD print of the Lake County facility and this drawing shall be reviewed with Lake County **PRIOR** to any engineering work executed.
- Faith Technologies shall modify and adjust the SKM excel files to indicate the first available **LOTO** points for each electrical component surveyed along with indicating which electrical sheet number the items belong to based on the custom Auto CAD drawing file.
 - This will assist Lake County staff in cross reference needs from excel file to print reference and also ensures the eventual labeling indicates the first disconnecting source.

- Create a separate AutoCAD overlay on the print files which indicates the calculated PPE needs for your staff along with the short circuit ratings for the system.
 - This helps indicate appropriate AIC ratings of breakers installed in your plant based on our short circuit evaluations and will identify all other NEC code related issues.
- Faith Technologies shall review all engineering findings with Lake County staff members PRIOR to creating any formal labeling for your electrical equipment.
- ***Infrared testing of your key electrical items has been included in the field verification stage of the project.***
- Final NFPA 70E audit deliverables include newly created electrical prints on disk along with all formal engineering results in PDF format.
- Engineering shall be performed using SKM and shall include short circuit/coordination calculations along with arc flash values and recommendations possible for any calculated PPE rating above HRC level 2.
 - Final draft prints will include engineering recommendations and PPE levels based on table 130.7C10.
 - Systems coordination and short circuit calculations will be done on the engineering study and all recommendations will be made for correct breaker settings along with AIC ratings for existing systems breakers.
- Lake County Final labeling will follow ANSI Z535.4-1998 standards and show PPE needs on each custom label including the following:
 - There are no well defined examples that exist in the current market on PPE labeling; therefore we have created a Lake County standard PPE label that is highly recommended for a complete daily approach to PPE notifications.
 - Site and print reviews will take place with Rick from Lake County on specific equipment labeling goals and/or ideas so when labeling is printed, each party understands how far down within the systems we should go.
- Lake County Labeling Definitions:
 - Arc Flash Boundaries
 - Incident Energy Rating at the Appropriate Working Distance
 - Hazard Classification
 - Shock Hazard in Voltage Present When Covers are Opened or Removed
 - Limited Approach Boundary
 - Restricted Approach Boundary
 - Dedicated and Unique Item Name for Each Item Calculated
 - True “Fed From” Identification for LOTO use is noted on the label. This is not the software protective device reference.

PPE Label Sample for Lake County:



- Faith Technologies shall assemble the labeling by sheet number and deliver those labels to Lake County.
- Faith Technologies shall provide services for up to one days worth of labeling applications and report reviews. If you need additional help putting labels on then we will add man hours to our budget.

Faith Technologies Qualifications for Supporting Lake County:

- Faith Technologies is dedicated to safety excellence and we are engaged in a Platinum Status Partnership with OSHA
- OSHA does recognize the value of our end deliverables with NFPA 70E Safety Audits.
- Faith Technologies can provide a list of our Technicians and all subsequent training files for each employee indicating classes taken along with total hours of safety obtained since their hire dates.
- Faith Technologies can provide customer references dating back to 2001 with NFPA 70E related project work which is important to distinguish experience within the market.

(Quality Power Solutions/Faith to Provide Complete Turnkey Risk Assessment)

Overall Campus Site Equipment Verification/ True AutoCAD/Engineering Allocation:

- Total man-hours; which includes hours for reports and print reviews with Management.
- True AutoCAD design is included in this estimate
- Engineering to include arc flash calculations and review of mitigation items is included and all recommendation become highlighted on the final Auto-CAD print files as well
- 4"x 5" Brady Labeling included
- Training is allocated in this option

Clarifications:

- Project will be managed in a T&M NTE format and monthly progress billings would take place.
 - Our intent is to manage these projects in a not to exceed process based on the purchase orders issued by Lake County.
- Incidental shift differentials have not been included in the budget.
- Should second or third shift work be required we include a 7% shift differential.
- Engineering costs were estimated based on current list of associated electrical data for your campus including site layout drawings and rough one-line drawings.
- Project time lines typically average 5-8 months from start date until labeling is created and the value added method requires significant customer involvement on certain aspects of the project including print reviews and spreadsheet review prior to label production.
- These electrical surveys and resulting arc flash values in incident energy are generated based on how your electrical systems are supposed to act according to OEM specifications or existing settings.

Please feel free to contact me at any time with questions you may have at 866-575-0505. We recognize the complexity of this risk topic and are there to support you with our experience in this code topic.

Sincerely,



Brian Loken, CPQ
Certified Power Quality Professional
Quality Power Solutions