RENSSELAER COUNTY SEWER DISTRICT No.1
BOARD OF COMMISSIONERS
APRIL 26, 2023 MEETING AGENDA

*Meeting Location: Rensselaer County Sewer Plant Conference Room

ORDER OF BUSINESS
1) Call to Order: April 26, 2023 6:00 p.m.
2) Roll Call
3) Pledge of Allegiance
4) Adoption of minutes of previous meeting
5) Reports: Presentation from Siemens and CDM Smith
   1. Staff Issues
   2. Siemens- Dryer Replacement Project
   3. Troy Pump Station Mediation Status
   4. Aeration and Misc. Projects
   5. Bio solids disposal
6) Old Business:
   1. Troy Sewer Billing and Rental agreements status update
7) New Business:
   1. Resolution recommending the award of the Electrical Maintenance Plan
8) Open discussion
9) Next Meeting: May 24, 2023 at 6:00 pm
10) Adjournment

ATTENDANCE
Non-Commissioners:

___ Miner, Steve (Chairman) ___ Pat Poloeto  Tutunjian, Harry
___ Bott, Joseph ___ Rockwell, Charles  Gardner, Derrick (Engineer)
___ Dambrose, Ernest ___  ___ Masone, Michael
___ Dolgin, Marshall ___  ___
___ Lewandusky, Frank ___
___ Lourinia, Lou ___
___ Mainello, John A ___

___
RFB-22-59 Maintenance Plan – Rensselaer County Sewer District

Post Bid Questions:

1. **Will your firm be performing all the services specified in the maintenance program?**

   **Answer:** Yes, all the services through-out the 6-year maintenance program will be performed by DLC Electric and our qualified sub-contractor High Voltage Maintenance (HVM). There will be no exclusions to any scope of work as described in the RFB.

2. **Will your firm use subcontractors on any or all the services that will be performed? If yes, explain why and identify the firm and their location.**

   **Answer:** Yes, DLC Electric will self-perform some of the work scope, and has chosen HVM as our high voltage testing subcontractor. HVM was chosen to be part of our team because of their extensive experience in high voltage testing and NETA certification (which was a contract requirement). HVM is a founding accredited member of NETA, since the 1960’s. HVM staff of NETA-certified technicians and currently employ one of the largest teams of Level 3 and 4 technicians. HVM has 12 service locations around the Northeast, with a home office located in Cheshire, CT.

   DLC acknowledges per Spec that the awarded vendor has to be within a 50-mile radius of the Sewer District Administration Building. As the apparent-low bidder, DLC home office is located at 479 State Rt.40, Troy NY. Located in Rensselaer County, we are approximately 12 miles from the project site.

   The bid documents did not state that a subcontractor could not be used, or that the use of a subcontractor more than 50 miles from the job site was prohibited.

3. **Will the person(s) performing the maintenance testing be a NETA Certified testing contractor, or will you utilize an approved equal as specified in the bid specifications? Please explain.**

   **Answer:** Yes, The DLC will use HVM is a NETA Certified testing contractor.
January 4, 2023

Bureau of Central Services
Rensselaer County Government Center
99 Troy Road
East Greenbush, NY 12061

Re: RFB-23-59 Maintenance Plant - Rensselaer County Sewer District

Dear Sirs,

High Voltage Electric Service, Inc. respectfully wishes to lodge a protest in regard to the above RFQ bid opening that we attended on January 4, 2023. The apparent low bidder, DLC Electric, is using an out-of-town (greater than the 50-mile radius requirement) vendor as a subcontractor to perform some or all of the scope of work in the RFQ. We believe that this action is in direct conflict with “General Bidding Information” Item 6 Location requirements for the vendor to be within a 50-mile radius of the Sewer Plant. HVES does not believe it was Rensselaer County’s intent to allow a local vendor to subcontract out the work scope in the RFQ to an out-of-town contractor. We think it is in Rensselaer County’s best interests to utilize a local contractor that can provide the quick response time required by this critical infrastructure in the county.

Should you have any questions concerning our protest, or if I can be of any further assistance, please do not hesitate to contact me.

Sincerely,

Gus J. Mininberg
Gus J. Mininberg
President

cc: Jason Wheeler, Harry J. Tutunjian
February 2, 2023

Rensselaer County Bureau of Central Services - Purchasing Division
99 Troy Road, 4th Floor, Suite 403
East Greenbush, New York 12061

Re: Questions for Bidder Response Regarding Bid RFB-22-59 Maintenance Plan - Rensselaer County Sewer District

Dear Sirs,

High Voltage Electric Service, Inc. is pleased to provide our response to your email inquiry of February 2, 2023.

QUESTIONS & RESPONSES:
1. Will your firm be performing all of the services specified in the maintenance program?
   Yes, HVES will be performing all of the services specified in the maintenance program of the bid.

2. Will your firm use subcontractors on any or all of the services that will be performed? If yes, explain why and identify the firm and their location.
   Yes, HVES will use subcontractors only in Year 6 of the maintenance program because of the amount of personnel required for the more extensive work scope. The firms we will use are:
   - AMAHA Electrical Inc.
     1217 Loudon Road
     Cohoes, NY 12047
   - M. Scher & Son, Inc.
     1 Prospect Avenue
     Albany, NY 12206

3. Will the person(s) performing the maintenance testing be a NETA Certified testing contractor, or will you utilize an approved equal as specified in the bid specifications? Please explain.
   Yes, HVES will be utilizing an approved equal as specified in the bid specifications. During Year 6 of the maintenance program, we may possibly be using an approved equal as the more extensive work scope requires multiple tasks to be completed at the same time to minimize outage time at the Sewer District Facility.

Should you have any questions concerning our responses, or if I can be of any further assistance, please do not hesitate to contact me.

Sincerely,

[Signature]

Gus J. Mininberg
President
ELECTRICAL EQUIPMENT RELIABILITY

How do you define your current challenge? Are you facing the daunting task of starting up a new facility? Perhaps you’re looking for innovative methods to maximize the performance of existing operations. Or, is extending the life of an aging plant your priority? Improving your facility’s availability and performance are critical in achieving your business goals. Regardless of where you currently are in the lifecycle of your operation, the reliability of your electrical equipment plays a key role in determining your success.

Properly installing, testing, and maintaining your equipment is a viable predictor of future performance. If your facility uses low, medium, or high voltage electrical equipment, consider the benefits of partnering with the company that pioneered electrical equipment testing.

We have served the industrial operations for power, manufacturing, healthcare, data centers, food & beverage, mining, oil & gas, chemical, semiconductor, telecommunications, transportation, and water treatment facilities.

Our combined resources comprise the leading independent electrical testing, maintenance, and engineering service company in the United States. With more than 40 years of experience, you can rely on us to exceed your electrical equipment performance goals. From testing for equipment deficiencies that could disable your system, to complete project execution, we are your single source solution.

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Both processes and equipment eventually degrade and fail. The strategy of exchanging like-for-like only works for so long. You may still produce, but at yesterday’s performance levels. By pushing those levels upwards you can achieve short-term savings and long-term profits. The right partner with the right experience can help you achieve these goals.

We utilize the proper mix of expertise, technology, and people. For more than 40 years, we’ve developed each segment of this mix to create a complete business solution that works within the framework of your financial and performance expectations.

**Backed by the Power of Vertiv™**
We are a wholly owned subsidiary of Vertiv, a world leader in bringing together engineering and technology to help businesses automate their production, processing and distribution processes.

**Unparalleled Expertise**
Our engineers’ and technicians’ accreditations and skill levels are considered to be in the nation’s top ten percent for the industry. Certified by InterNational Electrical Testing Association (NETA), they have the practical experience to accomplish the most complex projects safely and reliably.

**Unbiased, Objective Results**
As an independent third party company, we are committed to providing objective, unbiased test results and recommendations. As a full member of NETA, we perform all testing using objective methods according to NETA specifications with calibrated instruments traceable to the National Institute of Standards and Technology (NIST).

**Advanced Technology**
Continued investment in advanced technology enables us to utilize the latest preventive and predictive technologies to provide the most advanced and cost effective maintenance solutions available.

**Local Support**
Whether it’s an emergency or an ongoing project, you need service partners who can respond where and when you need them. With strategically located Service Centers, and multiple international alliances, you’ll receive local service with worldwide capability.

**Safety**
Regardless of location, safety is paramount. All field engineers and technicians undergo rigorous training to ensure their safety and yours.

**Investing in You**
Our greatest investment is in the relationships we have built with more than 10,000 repeat customers worldwide. Through these relationships we have built the processes to improve plant availability, increase productivity, and reduce equipment cost-of-ownership. We work with you to improve the availability, safety, and reliability of your power distribution system. With a proven track record in multiple industries, our capabilities cover your entire operation. Examine our resources, expertise, and track record and discover how we can assist your operation with the only results that really count—the bottom line.
Startup is the time to think about future reliability. It’s your chance to do it right from the beginning. Engaging our services to startup the entire electrical distribution system aligns the right equipment and systems to ensure your new operation will reach peak performance quickly and easily.

**Startup and Commissioning Services**

68% of early equipment failures can be traced to design, installation or startup deficiencies. We help you avoid these pitfalls by developing an overall commissioning plan with step-by-step detailed procedures to provide clear guidance. It ensures newly installed equipment and systems in your new facility meet the design intent and operates efficiently as an integrated system.

Properly done, commissioning projects can pay dividends in the form of decreased rework, fewer change orders, lower operation and maintenance costs, and lower utility bills.

**Optimum Performance. Minimum Time.**

Rely on our team to help yours during a critical startup. Our integrated service package combines the right people and the right resources to deliver the shortest possible startup with maximum performance levels.

**Our Services Include:**

- Design Review
- Acceptance Testing & Calibration
- Documentation & Manuals
- Personnel Training
- Maintenance
It’s undisputed. If you have equipment, you will have problems. In fact, 60% of breakdowns are due to poor maintenance and 25% of fires and explosions are electrically induced. What if you could foresee problems like these, days or even months, before they occur? Predictive and Preventive Maintenance enables you to do just that. Our reliability-based maintenance solutions combine the best techniques from each of the traditional maintenance approaches. The result? A comprehensive balanced maintenance strategy that enables you to design a maintenance plan that pinpoints when and where it is needed most.

Preventive Maintenance
An optimized preventive maintenance strategy evaluates the condition of your equipment and determines the most cost-effective and manageable solution to ensure your equipment’s overall performance, safety, and reliability. Let us help you design and implement a preventive maintenance strategy that will reduce your overall maintenance costs and the amount of time spent on unplanned maintenance. More significantly, we can help improve overall reliability throughout your facility.

Our Services Include:
- Transformer Testing
- Circuit Breaker Testing
- Low and Medium Voltage Switchgear Retrofitting
- Switchgear Testing
- Cable Testing
- Protective Device Testing
- Ground Fault Systems Testing
- Standby Generation System Testing
- Infrared Scanning
- Battery Testing & UPS Testing
- 24-hour Electrical Emergency Assistance

Predictive Maintenance
Predictive Maintenance is a window into the future of your equipment’s performance. By performing the following, we can help you identify when a failure will occur so you can plan an outage versus dealing with an unexpected failure. This information is essential in making the best use of your maintenance dollars.

- Electrical Testing provides insight into the physical condition of electrical systems and its components
- Oil Analysis examines routine samples of insulating fluid for particulate and contaminates that indicate wear
- Thermography detects heat buildup in switchgear, which is often a precursor to failure
- Ultrasonics detect noise generated by electrical defects including corona discharge, sparks, and flashovers
- Partial Discharge Testing & Monitoring provides a variety of solutions to effectively monitor the condition of electrical assets
Electrical systems are among the most valuable assets in your plant and can have the biggest impact on your bottom line. Their production and management costs are high, and failures almost always lead to catastrophic losses. Electrical systems are being operated at higher levels, even while systems are aging - which affects both the life and reliability of your assets.

Today’s asset managers are facing the increased challenge of maximizing their aging electrical infrastructure with fewer qualified technical in-house resources, stricter regulatory requirements for worker safety, and diminishing maintenance budgets.

Advances in technology, including the use of Partial Discharge Testing, are giving asset managers new approaches to achieve improved reliability and performance of critical assets while making informed decisions on critical maintenance planning.

Because partial discharge activity is often present well in advance of insulation failure, asset managers can monitor it over time and make informed strategic decisions regarding the repair or replacement of the equipment. These predictive diagnostics help companies to prioritize capital and MRO investments before an unexpected outage occurs. Partial Discharge Testing results can help predict future performance and reliability of critical assets, including:

- Cables, Splices, and Terminations
- Power Transformers and Bushings
- Switchgear
- Motors and Generators

**Our Integrated Partial Discharge Solutions**

HVM’s integrated Partial Discharge Testing and Monitoring solutions include both online and offline testing as well as periodic and continuous monitoring of your electrical assets. Depending on your specific operating requirements and application, HVM can customize a program to best fit your needs.

Choose from the following solutions:

- **Partial Discharge Testing**
  - Handheld Survey
  - Periodic Partial Discharge Testing
  - Continuous Online Monitoring
  - Permanently Mounted Sensors
- **Ultrasonics**
- **Tan-Delta**
- **Very Low Frequency Testing (VLF)**

**PARTIAL DISCHARGE TESTING & MONITORING:**

**DETERMINE THE HEALTH OF YOUR ELECTRICAL ASSETS.**
Equipment begins to deteriorate the first day it is put into operation, making future maintenance inevitable. Since every hour of extended downtime translates into lost profit dollars, it’s essential to examine the quickest possible return to operation. Part of this process is choosing a partner with the critical elements in place to serve your shutdown needs. From best-in-class employees to advanced diagnostics, we can be an integral part of your turnaround team.

Plan for a Successful Turnaround
An effective turnaround strategy starts with effective planning. Let us help you design and implement a turnaround strategy that will ensure you get the most out of the available time for maintenance. Starting with pre-outage planning, we will conduct preliminary diagnostic testing to evaluate the condition of your equipment prior to the turnaround and determine the most cost-effective and manageable solution to ensure your equipment’s overall performance, safety and reliability.

Risk insurance companies demand periodic predictive electrical inspections and testing to detect deficiencies before they result in unscheduled outages, loss of production, and damaged equipment. During a scheduled outage, it is an ideal time to perform these tests. We inspect, clean, lubricate, calibrate and perform electrical diagnostic testing on breakers, switches, motors, relays, cables, batteries and transformers to ensure proper performance.

Our Turnaround / Outage Services Include:
- Pre-Outage Diagnostic Testing
- Clean and torque electrical switchgear
- Repair, refurbish, replace obsolete and defective equipment
- Test and calibrate protective devices
- Test low, medium and high-voltage equipment
- Test underground cables using partial discharge testing
- Perform power factor and dielectric testing on transformers
- Perform system integration testing

Achieve Direct Measurable Bottom Line Results
An effective turnaround that accomplishes all the planned electrical maintenance activities will produce:
- Reduced cost of repairs and downtime
- Improved overall system performance
- Reduced risk of future equipment failure
- Established base-line record utilized as part of an ongoing maintenance program to enhance the safety, reliability and efficiency through future preventive maintenance.
ENGINEERING & CONSULTATION:
IMPROVING SYSTEM PERFORMANCE.

Prior to spending one more dollar on capital investment, take a closer look at what you already have. By utilizing your existing assets more effectively, you can expect enhanced performance and increased availability.

**Life-Extension Services**
Life-extension services provide a wide range of retrofit and upgrade solutions to maximize the value of existing equipment while improving overall system performance. Retrofits add operational flexibility, interchangeability, and communication capabilities to breakers. In many cases, retrofits and upgrades offer new technology at a fraction of the cost of replacement.

Each breaker is disassembled, inspected, refurbished or replaced with correct parts, and rebuilt. The refurbished breaker is fully design-tested and meets all applicable standards.

Our Life-Extension Services Include:
- Low and Medium Voltage Circuit Breaker Retrofits, Vacuum and SF6
- Modernization of Outdated and Underrated Equipment
- Automatic Transfer Switch Retrofits
- Solid State Protective Relay Retrofits
- Emergency Circuit Breaker Rentals and Loans
- Replacement Parts

**Engineering Studies**
Engineering studies verify system protection, fault rating of electrical equipment, and the overall reliability of your system. They are key to uncovering the profit in your existing assets or in helping you select electrical equipment if you decide to build a new facility.

Using state-of-the-art hardware and software to analyze the needs of your power system and your facility, our power system engineers provide you with critical information to make informed decisions.

Our Engineering Studies Include:
- Short Circuit Studies
- Coordination Studies
- Harmonic Studies
- Load Flow and Power Factor Studies
- Power System Studies
- Arc Flash Studies
- Reliability Studies

**Arc Flash Solutions**
Electrical hazards - specifically shock, arc flash, and arc blast - can result in serious injury or death to electrical workers. Ensuring worker safety and meeting the challenges of new arc flash safety requirements can be a difficult task to accomplish in-house without the assistance of resources familiar with industry standards and recommended practices.

Our Arc Flash Solutions include:
- Arc Flash Hazard Analysis
- Arc Flash Hazard Labeling Plan
- Site Review / Compliance Assessment
- Design Review
- Single-line Diagram
- Short Circuit and Coordination Studies
- Preventive Maintenance
- Electrical Safety Program Review/Development
- Training
- Personal Protective Equipment Plan
- Optional Annual Re-certification
- Documentation
Companies today are relying on fewer people to do more work. At the same time, what companies ask of people and technology is becoming more complex. This is why the need for proper training is more critical than ever to achieve and maintain cost-effective process operations.

Educational Services
Creating and training a best-in-class team takes time and financial resources — two things that are typically limited in today’s overtaxed workforce. Add the challenges of skilled labor attrition to the mix and you quickly understand the need for effective performance consulting and training.

Our Educational Services team has the capabilities and resources to ensure your workforce receives the most effective training and development to meet today’s process challenges. Our instructors and consultants are industry experts who have honed their skills through years of field experience and remain active in their field of expertise.

This insures you receive up-to-date training on both course content and assessment techniques. Whether you choose one of our turnkey packages of customized or standard instruction programs, you’ll benefit from the industry leader with expertise in providing quality electrical testing, maintenance, and engineering services. This is due to the strong emphasis we place on certifications such as Professional Engineers, Certified Test Technicians, and many other accreditations. With this in mind, all courses are specifically designed to support continuing education and re-licensing requirements of most states.

The obvious benefit of customized on-site instruction is that your team is trained on your equipment, operations, and systems but it also eliminates employee travel and living expenses. And, since training is conducted during your employee’s normal working hours, no shift differential costs are incurred. When your situation requires more flexibility in custom training for your workforce, our online instruction via WebEx offers the same world-class instruction designed around your schedule.

Performance Solutions
Performance Solutions is a program designed to help our customers improve the efficiency and performance of your most critical assets, including both people and equipment. The benefits of working with our consultants include improved safety of your personnel, protection of property, and compliance with regulatory codes and standards.

Our Performance Solutions include:
- Skill Assessment
- Task Analysis
- Gap Analysis
- Personnel Safety
- Policy & Procedures
- Regulatory Compliance
- New Equipment Training Assessment
- Maintenance Practices Assessment

EDUCATIONAL SERVICES:
MAXIMIZE YOUR HUMAN ASSETS.
Training Services
HVM’s Training Services program is designed to provide the latest, most cost-effective, and flexible electrical training from the industry experts. Our standard and custom training courses can be delivered at your site, our site, or online. Courses are available in the following training areas:

- Electrical Safety
- Arc Flash Programs
- Operational Maintenance
- Certified Technician
- Power Quality
- Specialized Electrical Equipment Courses
Membership Chair
Ken Bassett

January 1, 2023 - January 31, 2024

International Electrical Testing Association
As Recognized By The
Cheshire, CT
High Voltage Maintenance Corp.

CERTIFICATE OF ACCREDITATION
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1.0 Introduction

High Voltage Maintenance (HVM) has been providing independent electrical testing, maintenance, and engineering services for more than 57 years. We help facility, maintenance, and engineering managers mitigate risks and reduce costs through providing services that increase reliability, reduce operating expenses, and ensure safety and regulatory compliance. We employ highly experienced engineers, NETA-certified technicians and support personnel to provide project, maintenance, and performance optimization services. Whether you need to commission a new facility, perform preventive and predictive maintenance, or extend the life of your equipment, we are a single-source solution for all electrical reliability needs.

At the core of our organization are our Centers of Excellence: Engineering, Protection and Controls, DC Power, Compliance, Commissioning, and Electrical Testing and Maintenance. These centers are comprised of professional engineers, NETA-certified technicians, compliance engineers, training specialists and others who provide leadership, best practices, expertise, support, and training. Through these centers, we are driving superior service performance by exceeding customer expectations around quality, service and responsiveness.

Our focus is on your most critical equipment. Across your infrastructure, we service:

- Generators
- Switchgear
- Transfer switches
- Transformers
- Utility/Substation
- Relays
- Cables/Bus
- Meters
- Fire/Life safety systems
- Emergency lighting
- Circuit breakers
- Cooling towers
- Instrumentation
- Monitoring/Control systems
2.0 Levels of Service Coverage
High Voltage Maintenance’s team delivers the most complete solutions for electrical system reliability and safety. From testing for problems that could disable your system, to complete turnaround execution, we have the expertise to go above and beyond your expectations. With a network of 13 locations, High Voltage Maintenance’s electrical service team puts experienced professionals where you need them, when you need them.
3.0 Credentials

HVM brings together a unique combination of world class services, innovative technologies, and a highly qualified technical staff who partners with you to improve electrical reliability and performance.

We actively participate in numerous national organizations to assist in the development of standards important to our industry. With more than 57 years of experience in electrical testing, maintenance, and engineering, we are a trusted partner in promoting safety and reliability management. Our managers, field technicians, and engineers are active in the industry. Below are some of the organizations in which our team is involved:

**InterNational Electrical Testing Association (NETA)**

NETA is an organization that serves the electrical testing industry by offering accreditation of third-party electrical testing firms, certifying electrical testing technicians, and producing American National Standards. We are a founding member of NETA and are dedicated to helping set world standards in electrical maintenance and acceptance testing.

Key personnel serve on the NETA Standards Review Council, NETA Safety Committee, NETA Continuing Technical Development Committee, and the NETA Exam Committee. We also participate on NETA’s new member evaluation team and as ballot pool members. We are leaders in staffing NETA-certified technicians and currently employ many Level 3 and 4 technicians. Many projects require a Level 3 or 4 to be on site. You can pull from our large team of experts to ensure your project is done in a timely manner.

**National Fire Protection Association (NFPA)**

NFPA is a nonprofit organization devoted to eliminating death, injury, property, and economic loss due to fire, electrical, and related hazards. The association publishes many key standards for the electrical industry: (1) Originally developed at OSHA’s request, NFPA created the 70E standard to help companies and employees avoid workplace injuries and fatalities due to shock, electrocution, arc flash, and arc blast, and assists in complying with OSHA 1910 Subpart S and OSHA 1926 Subpart K. (2) The National Electrical Code (NEC) covers safe installation of electrical wiring and installation. (3) NFPA 70B details preventive maintenance. (4) NFPA 790 details standards of competency of third-party Field Evaluation Bodies. (5) NFPA 791 details recommended practice and procedures for unlabeled electrical equipment evaluation.

We have NFPA 70E-certified trainers who are highly qualified to promote electrical expertise in workplace environments. Our certified trainers are recognized by their education, years of experience, training, and ability to pass a very challenging certification test. NFPA 70E certification is difficult to achieve, and trainers are required to recertify every three years.

**Institute of Electrical and Electronics Engineers (IEEE)**

IEEE provides the world’s largest forum for sharing the latest in technological developments in the electric power industry; for creating standards that guide the development and construction of equipment and systems; and for educating members of the industry and the general public.

Key personnel play a critical role in developing standards as committee chair members.

**Leadership in Energy and Environmental Design (LEED)**

LEED is a green building rating system that provides the framework that project teams can follow to create healthy, highly efficient, and cost-saving green buildings.
To ensure your project meets the necessary requirements, our commissioning team consists of LEED Accredited Professionals (AP) who are trained and experienced in the LEED rating system.

### Building Commissioning Association (BCxA)

BCxA is an international nonprofit organization that serves as the recognized authority and resource on commissioning. Its mission is to guide the building commissioning industry by advancing best practices and education and promoting the benefits of building commissioning to achieve buildings that work.

Our certified commissioning engineers help elevate the industry’s technical level by participating in the development of guidelines and standards for BCxA.

### American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

ASHRAE is a global society advancing human well-being through sustainable technology for the built environment. The society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration, and sustainability within the industry.

Many of our field engineers actively promote ASHRAE guidelines to support the technical advances within the industry.

### National Institute for the Uniform Licensing of Power Engineers (NIULPE)

NIULPE is a third-party certification organization mandated to establish and maintain international standards of education and competency for the power and energy-related trades and professions. This organization assists federal, state and municipal licensing agencies in maintaining the international standards within legislated programs.

Key personnel have held leadership positions including serving as NIULPE president. Through our active participation, we help guide the standards for power and energy education.

### Building Owners and Managers Association International (BOMA)

BOMA International is a primary source of information on building management and operations, development, leasing, building operating costs, energy consumption patterns, local and national building codes, legislation, occupancy statistics, technological developments and other industry trends.

Key personnel have participated in active leadership roles to help BOMA achieve their strategic objectives while volunteering their time to develop policy positions on issues that impact our industry.
4.0 Personnel Qualifications

High Voltage Maintenance hires and maintains the top technical talent in the industry. From professional engineers, to specialized engineers in field service, commissioning, industrial DC power, power system and protection, and compliance, we have the expertise to cover your electrical reliability needs.

Our team of registered professional engineers have credentials throughout the United States. We are available to review and sign off on engineering projects to ensure that the results are accurate and meet established requirements.

With approximately 350 NETA-certified employees on staff, including a deep bench of NETA-certified Level 3 & 4 technicians, High Voltage Maintenance maintains existing expertise and scale to oversee and execute any electrical infrastructure project regardless of complexity or size.

On average, our technicians have over 20 years of experience working with all manufacturers’ devices. This includes Schweitzer (SEL), Basler, ABB, and all makes and models from analog to the most advanced microprocessor-based relays. Our team is knowledgeable in the design of complex protection schemes and has the ability to program advanced features, efficiently troubleshoot hard-to-diagnose problems, and perform power system studies to ensure optimized system performance and protection.

Our electrical, mechanical, and controls commissioning engineers have experience to design, build and operate the most complex projects as directed, regardless of the environment.

From professional engineers to specialized engineers in field service, commissioning, industrial DC power, power system and protection, and compliance fields, High Voltage Maintenance has the expertise to cover all electrical reliability needs.

Industry Leader in Staffing NETA-Certified Technicians

We pride ourselves in the quality of field service engineers and technicians on staff. Every technician has at least two years of experience including 40 hours of safety training and 160 hours of electrical experience. Our Level 1 and 2 technicians are typically paired with more experienced technicians and generally require the supervision of a Level 3 or 4.

With many Level 3 and 4 NETA-certified technicians on staff, we have the expertise available to oversee your most complex projects. According to NETA, a Level 3 technician has a minimum of five years of experience including 64 hours of safety training and 400 hours of electrical experience. They manage complex tasks and projects, evaluate test data, conduct record keeping, and are responsible for the safety of others. NETA requires that all Level 4 technicians have at least ten years of experience including 104 hours of safety training and 600 hours of electrical experience. They can supervise large projects and multiple crews, perform complex investigations, evaluate test data, and make an informed judgment on the continued serviceability, deterioration, or non-serviceability of the equipment. They understand every plausible hazard and ensure the safety of both your personnel and ours. All of our Level 4 technicians have a tremendous amount of experience and have passed a thorough, rigorous exam as evidence of their knowledge and capabilities.

A commitment to continuing education is important in this industry. All our Level 3 and 4 NETA-certified technicians are required to earn 48 continuing technical development credits every three years to maintain their certification. This ensures that NETA-certified technicians remain current with emerging technologies and new editions to industry standards and best practices.

Longevity
With one of the lowest employee turnover rates in the industry, and numerous employees with more than 30 years of longevity, the quality and strength of our employees is evident by their long-term consistent performance. Our field technicians are known for their professionalism on and off the job site as demonstrated by their work ethic, timeliness, and preparedness. They show up ready to work with the right equipment, the required safety training, and years of experience. We know our people are our business, and we are committed to building sustaining capability through knowledge management, training, leadership development, advancement, and performance measurement.

Resumes for all personnel are available upon request.
5.0 Safety, Organization and Communication

Safety Training
HVM strictly adheres to industry safety and compliance regulations to ensure the safety of our personnel and yours. Every technician is trained to Occupational Safety and Health Administration (OSHA) standards for personal and environmental safety, including training in more than 60 Environmental, Safety and Health (ESH) topics and procedures. As part of our Safety Audit Program, each technician participates in a safety audit twice a year. The audit is performed by a manager or independent auditor who conducts a comprehensive check at a customer site. The auditor confirms the technician is following all safety standards, using all personal protective equipment (PPE) correctly, and that the technician fully comprehends our safety policies and procedures.

All HVM field employees receive more than 30 hours of in-depth safety training before working in the field and are certified in CPR, AED and first aid. This training includes eight hours of OSHA 1910 and NFPA 70E electrical safety training, and the OSHA 10-hour course for construction. Additionally, supervisors are required to complete the OSHA 30-hour course and all employees receive topic-specific monthly refresher training.

Electrical Safety Work Practices
To ensure the safety of everyone involved on a project, we designed an electrical safety program that directs activity appropriate to the risks associated with all electrical hazards. Our program takes into consideration the condition and maintenance of electrical equipment and systems and focuses on teaching awareness and self-discipline while instilling safety principles and controls. Below are some key steps followed to ensure anyone who may be exposed to an electrical hazard is safe:

- A job safety planning and job briefing meeting is held to discuss all hazards associated with the project. Participants include our testing team, subcontractors, and the customer to ensure all parties’ safety concerns are identified and addressed.
  - A risk assessment is conducted to address exposure to electrical hazards. This procedure identifies hazards, assesses risks, and implements risk controls according to a hierarchy of methods: (1) elimination, (2) substitution, (3) engineering controls, (4) awareness, (5) administrative controls and (6) PPE.
- The results of this meeting define the agreed upon safety procedures that all parties will follow for the duration of the project. Topics covered include lockout/tagout, personal protective devices, grounding procedures, etc.
- Additional job briefing meetings are conducted and documented to assess site-specific safety issues prior to commencing any activity and when conditions change and are held daily as a minimum.
- Field work is audited to verify that the requirements contained in the procedures of the electrical safety program are being followed.
**Risk Assessment**
Controlling exposures to hazards is the fundamental method of protecting our employees. We adhere to a hierarchy of controls that demonstrates how we implement effective control solutions to ensure a safer environment.

**Prepared for Safety**
We provide the following PPE to every technician to safeguard them from potential hazards on the job:

- 12 cal/cm² Arc rated shirts and pants
- Balaclava
- Safety glasses
- Rubber-insulated blankets
- 40 cal/cm² Arc flash PPE
- Arc-rated face shield
- Hearing protection
- Class 0 and Class 2 rubber-insulated gloves
- Insulated tools

**Incident Investigation**
When an unforeseen incident arises, a cross-functional team of experts conduct a thorough incident investigation. Once a root cause has been established, corrective actions are taken immediately to correct all factors that contributed to the incident. To minimize or eliminate serious consequences in the future, the details of the investigation are shared throughout the organization. Based on the findings, a new or updated procedure will be put in place or a new tool will be created.

**Safety Metrics**
Excellence in safety is vital to the well-being of our customers and our employees; it is at the forefront of everything we do. Our dedication is why we maintain one of the best safety ratings in the industry and are well below the industry averages.

**Safety Awards**
We set safety expectations high and reward those that meet or exceed them. Below are some of our internal awards:

*Quarterly Safety Excellence Award:* Presented to highlight technicians who have submitted beneficial safety improvement ideas or have brought a safety concern to the forefront to be examined.

*Perpetual Safety Award:* This is the most prestigious award given to our technicians. These are presented to those that have an outstanding safety record.
6.0 Quality Assurance

HVM Quality Policy
HVM is committed to providing quality services and software that meet or exceed all aspects of customer expectations. We will accomplish this through a foundation of globally consistent and coordinated teamwork based on the following principles:

- Fostering a culture of world-class quality through the application of consistent and capable processes.
- Driving continuous improvement by empowering and encouraging proactive contributions and quality ownership from every employee.
- Continuously measuring and monitoring all service delivery and business processes to ensure a positive customer experience.

HVM senior management is committed to this policy and will provide the leadership, resources, and training to support these principles.

Quality Assurance Manual
We maintain a documented quality assurance program. The major elements include: quality policy, organization structure and responsibilities, quality practices, human resources, quality assurance audits and customer surveys. Maintaining quality assurance is the responsibility of all employees with oversight by each department manager and corporate management personnel. We have successfully passed the quality audits of many government agencies and obtained quality supplier recognition by private industry.

Service Capability Model
The Service Capability Model is an assessment tool used to evaluate performance in a multitude of business areas to drive continuous improvement. This model is used for problem solving and ensures quality and standardization, allowing for consistent service delivery everywhere you operate. Holding ourselves to high standards is crucial for meeting and exceeding your service requirements and value criteria.

Customer Satisfaction Program
Understanding your perceptions and expectations are very valuable as they guide us in driving continuous improvement throughout our organization. Customers are surveyed across four broad categories including pre-sale, purchasing experience, order and delivery, and service experience. The overall results are shared throughout the organization and analyzed to see where we may improve the customer service experience.

Test Equipment Calibration Program
Field test equipment and secondary standard laboratory equipment are calibrated every 12 months. All test equipment calibrations are traceable in an unbroken chain to the National Institute of Standards and Technology (NIST). (See Laboratory Traceability Chart in Appendix II). All calibrations are accomplished within strict guidelines utilizing recognized calibration procedures, techniques, and quality assurance standards.
7.0 Centers of Excellence

The Centers of Excellence for HVM provide leadership, best practices, expertise, support, and training to achieve dramatic improvements in cost, productivity and quality. Our team members include professional engineers, NETA test engineers, compliance engineers, training specialists and more. Through their expertise and our infrastructure support, we can deliver industry leading customer satisfaction by exceeding expectations around quality, service and responsiveness.

Driving performance through:

Leadership
Provide oversight and governance to ensure alignment with customer and marketplace requirements.

Operations and Management
Manage costs, risks, and resources to ensure safe and timely project execution that meets objectives and budgets. Maintain capabilities and scale to effectively support single and multi-site projects.

Processes and Practices
Maintain predictable, repeatable, and consistent operational performance through standardized processes and methodologies. Utilize advanced tools and technologies, invest in research and development, and focus on continuous improvement to create best practices.

Service
Deliver project, maintenance, and performance optimization services throughout the lifecycle of a facility to ensure business critical infrastructure operates reliably, safely and efficiently.

Expertise
Hire and maintain top technical talent in the industry. Build sustaining capability through knowledge management, training, leadership development, and performance measurement.
8.0 Technical Resources

Intelligent Data Acquisition Forms
Megger’s PowerDB application is the industry-leading data acquisition tool for the electrical testing industry. The out-of-the-box testing forms provide templates which are used to collect test data across many types of electrical assets and are widely used across the industry. For more than a decade, our in-house form developers have partnered with PowerDB to leverage our extensive field experience and make many improvements to the out-of-the-box design.

Today, our proprietary, customized forms enable us to collect more data, with improved safety, accuracy and efficiency. Through built-in form intelligence, we are able to quickly identify test data that may be suspect or does not meet NETA guidelines or other industry specifications. In addition, our intelligent forms are designed to generate auto-deficiency statements, which are derived from our large database of benchmark test results combined with our technical knowledge library.

Our proprietary customized forms offer:

- A searchable database of test results for auditing purposes
- Reliability in storing and organizing data by organization, plant, system or device
- Historical data or trend data comparing similar devices nationwide
- Auto-deficiency statements generated from a knowledge-based library
- Testing data and recommendations for next test interval
- A standardized report format due to forms being similar in appearance, performance and features
- Integration with industry tools and applications enabling direct input from RTS for relays and Doble Pro-Test
- Built-in safety reminders applicable to each unique testing scenario

Real Time Data Applications
To improve efficiency and accuracy, we utilize the latest technology that increases the speed in which we share project information. Our data collectors use smart tablets that allow them to easily mark-up drawings and send them to the support engineer for review. Sending the data in real time allows for 24x7 engineering support.

The support engineer can quickly review the drawing, make any revisions, and send it back to the data collector before they return to work the following day. The data collector can review the progress with the customer as often as required. Before the job is finalized, they can review final drawings to ensure all data has been collected and all questions have been answered before they leave the site, eliminating unplanned follow-up visits.

Electronic Technical Library
We maintain an electronic library of international standards accessible to key employees 24x7. This information includes an index of standards written anywhere in the world and is updated every 60 days. This library’s resources include reference materials and standards from organizations such as IEEE, ANSI, UL, NETA and NFPA. It also includes general reference materials and specialized text on electrical theory, engineering and compliance.
9.0  Equipment
We continually invest in our equipment to ensure we have the newest technology from handheld units to large transformer testing gear. With access to more than 3,000 pieces of equipment on hand, we always have the right equipment for the job. Below are examples of our equipment:

- Doble F-2553 high power convertible power simulator for relay calibration
- Doble TR-3100 motion analyzer which measures travel and velocity of breaker contacts
- Online, digital low-resistance ohmmeters allow for safe and efficient readings on energized equipment
- Agema digital color infrared cameras with software-driven data management
- OMEGA data loggers for power quality measurements
- Alber battery testing systems for online monitoring of battery back-up systems
- State-of-the-art power measurement equipment that measures load, harmonics, and line disturbance from well-known manufacturers including BMI, Dranetz, Elite and RPM
- Laptop computers for all field and sales engineers to facilitate efficient communication, proposal preparation, and test data management
- Customized automation software to ensure the timely delivery of estimates, test reports, and test data

Research and Development
With more than four decades of experience in maneuvering electrical equipment around big and small spaces, we understand the challenges. Our engineering and R&D resources help develop technology, methodology, and tools that improve the safety, efficiency, and accuracy of electrical testing. Physical improvements have made our equipment:

- Easier to maneuver, allowing for increased accessibility to more difficult/smaller sites
- Weigh less so there is no need for a heavy crane
- Easier to roll over uneven surfaces, allowing our wheeled pieces of equipment to travel through areas others cannot
10.0 Test Reports

Information management and communication within a service program is often the weakest and most detrimental facet of a client-vendor interface. Data storage and retrieval must be friendly and useable. Not only do our test reports adhere to NETA standards, we make sure they are easy to read and are consistent.

As an independent third-party electrical testing, maintenance, and engineering services firm and a founding member of NETA, we help set the standards for test reports. Each of our test reports include: (1) a summary of the project, (2) a description of the equipment tested, (3) a description of tests, (4) the test data, and (5) analysis and recommendations. In addition, our reports meet the following requirements:

1. Identification of the testing organization
2. Humidity, temperature, and other conditions that may affect the results of the tests/calibrations
3. Date of inspections, tests, maintenance, and/or calibrations
4. Identification of the testing technician
5. Indication of inspections, tests, maintenance, and/or calibrations to be performed and recorded
6. Indication of expected results when calibrations are to be performed
7. Indication of “as-found” and “as-left” results, as applicable
8. Sufficient spaces to allow all results and comments to be noted

When our work is complete, you will receive a comprehensive engineering report as specified in the maintenance testing contract. These detailed reports are reviewed by a dedicated group and contain infrastructure data and clear recommendations for improving safety and reliability. These reports help with compliance as they meet the NFPA 70E and NERC requirements for documentation.
11.0 Services and Capabilities

Every plant goes through a natural lifecycle. A typical facility with a traditional architecture enjoys its highest efficiency and performance right at startup. Once online however, the plant begins to gradually deteriorate due to the dynamic and often harsh environment of the process, as well as the normal wear-and-tear on the equipment.

Contrast this with the lifecycle of an optimized plant where HVM can help your plant start up faster. Throughout the lifecycle, this plant will see continual improvement in performance that is made possible through predictive diagnostics, preventive maintenance strategies, life-extension services, and engineering studies. In an optimized plant, unplanned outages are virtually eliminated and replaced by more efficient turnarounds, improving your plant’s performance today, tomorrow and beyond.

As an independent third-party company, our recommendations are unbiased and based on principles of value engineering. We understand that the health and performance of your assets is vital to your success, and we have first-hand experience proving that electrical testing and maintenance has a dramatic impact on improving the cost of maintaining a reliable electrical power system.

Wherever you are in your plant’s lifecycle, healthy assets are the way to a healthier bottom line. As your partner, we can provide the most comprehensive solutions for your electrical system reliability and safety.

We service equipment such as:
11.1 Project Services

Our project services ensure that your facility is designed, built, and operates reliably and according to your project specifications. Whether building a data center, selecting technologies, planning an upgrade, or recommissioning an existing facility, we can support your projects and maximize your investment.

Commissioning Services
Commissioning is a quality assurance process that begins during planning and design and continues through construction, occupancy, and operations. The activities performed during each phase include a commissioning plan and specifications development, design review and scheduling, testing and verification, operational procedure development, training verification, and warranty reviews. Reference “Commissioning Services” section for more information on our capabilities.

Acceptance Testing
Acceptance testing is performed per NETA Acceptance Testing Specifications standards. Our experts will ensure your equipment is installed per manufacturer specification, integrated as needed, and able to safely and efficiently handle the designed load. Additionally, baseline data collected during your acceptance testing project is the foundation for required maintenance as stipulated by NFPA 70E. Reference “Acceptance Testing” section for more information on our capabilities.

Project Management
Combining a broad range of resources and knowledge, we can coordinate all aspects of your project and complete it on time and on budget, no matter the project size. Our services begin early and encompass a wide range of systems and capabilities. A certified project management team will ensure your project is a success and delivers the desired outcome.

Installation Services
Professional installation of all products and components is a key element of our project delivery service. As a general contractor that is licensed in many states and a company that works with a network of licensed contractors, we employ best practices for both electrical and mechanical installations.

Integrated Systems Testing
This process verifies integrated functional operation of critical building systems under designed load and under emergency conditions. An Integrated Systems Test script is developed that details the testing process for the entire critical system including the electrical and mechanical primary systems, redundant systems, backup systems, emergency and automatic switching systems, and building automation systems (BAS).

Electrical Engineering
Our experts work with you to fully understand your project requirements and recommend solutions. Our comprehensive engineering and design services give structure and context to the project planning team’s recommendations. Reference “Electrical Engineering Services” section for more information on our capabilities.
For more than a decade, High Voltage Maintenance’s team has been providing commissioning services to critical space facilities. Unlike some commissioners who primarily provide administrative oversight, our commissioning services team offers a comprehensive, hands-on approach to commissioning. We will work with you and your project teams from pre-design through construction and up to one year post-occupancy to verify and document that systems are designed, constructed, and tested to function safely and meet operational needs.

By working hand in hand with your design engineers and general contractor, our commissioners will ensure your project meets your needs from day one and is delivered on time and budget. Even more important, commissioning services ensure you get the results you expect. From lower operating costs and improved energy efficiency, to reduced downtime and increased reliability, commissioning your project today delivers benefits for many years to come.

Our commissioning experts are members in key industry associations such as ASHRAE and Building Commissioning Association (BCxA). Qualified staff members include NETA-certified technicians, certified Qualified Commissioning Providers (QCxP) and LEED Accredited Professionals (AP) who have training in ASHRAE commissioning guidelines and the LEED rating system.

**Proven. Consistent. Agile.**

Trust your mission critical facility to the commissioning experts at High Voltage Maintenance. Through our extensive experience in commissioning complex systems, we have developed proven processes which enable us to deliver consistent, quality results while increasing your speed to market.

**Services**

- Retro Commissioning
- Full Lifecycle Commissioning
- LEED Commissioning
- Commissioning Plan Development
- Project Management
- Integrated Systems Testing
- Personnel Training
A high percentage of early equipment failures can be traced to design, installation, or startup deficiencies. It is important to protect your plant’s investment in new equipment or systems with acceptance testing.

Acceptance testing protects the reliability and up time of a facility or piece of equipment. It also provides a baseline for trending and comparing data gathered during future maintenance testing. Our testing encompasses:

- **Pre-functional verification**: An inspection to verify proper installation prior to testing which covers the checking of belt tension, oil levels, labels, gauges and sensors.
- **Functional testing**: Testing performed in all operational modes to confirm that equipment operates according to the design intent.
- **Comprehensive report**: Report that includes testing results and any recommendations for infrastructure changes.

**Integrity. Efficiency. Accuracy.**

Ensure the integrity of your system by confirming your equipment is installed per manufacturer specifications and design intent. Our technical experts will ensure a quality installation that supports system reliability and reduces the threat of costly downtime while maximizing operating efficiency. We will also make sure you receive accurate baseline data to be used for improved asset management in the future.

**Services**

- Visual and Mechanical Inspections
- High Potential Testing
- Cable Fault Location
- Ground Fault / Ground Resistance Testing
- Breaker Time Travel Analysis
- Battery Testing
- Voltage/Load Recording
- Load Bank Testing
- Contact Resistance Testing
- Standby & Emergency System Testing
- Current Injection Testing
- Relay Functional Testing
- Thermographic/Infrared Testing
- Partial Discharge Testing
- Fluid/Oil Analysis
- VLF Testing
- Power Factor Testing
- Fall-of-Potential Testing
11.2 Maintenance Services

We take a holistic approach to ensuring the safe, reliable operation of your facility. Using our solutions, companies can overcome challenges managing maintenance for data center, healthcare, telecom, industrial facilities and more. With proper maintenance and regular testing, you can identify and correct problems that would otherwise go undetected.

Preventive Maintenance

A preventive maintenance program should be performed in accordance with accepted industry standards and safety practices, such as NFPA 70B and NETA’s Maintenance Testing Specifications. The following tests and services are part of our preventive maintenance program, designed to ensure your compliance:

- Turnaround and outage support
- Electrical testing
- Periodic inspection, cleaning and lubrication
- Calibration services

Reference “Preventive Maintenance” section for more information on our capabilities.

Predictive Maintenance

Predictive maintenance involves performing condition assessment tasks that monitor or trend equipment health to help determine what maintenance tasks should be performed to avoid unacceptable deterioration or drop off in performance. The following tests are part of our predictive maintenance program:

- Partial discharge testing
- Ultrasonics
- Infrared/thermography
- Fluid/oil analysis

Reference “Predictive Maintenance” section for more information on our capabilities.

Corrective Maintenance

As electrical equipment ages, components begin to wear and insulation deteriorates. Our corrective maintenance includes repairing transformers and switchgear, inspecting wiring connections for proper tightness or discrepancies, and replacing broken or worn out parts as needed. It may also include retrofitting in order to update your equipment with the latest technology instead of doing a full replacement.

Maintenance Management

According to the current NFPA 70E standard, equipment must be properly maintained in accordance with the manufacturer’s recommendations and applicable industry codes and standards. An effective electrical maintenance program will ensure compliance, enhance safety and reduce the probability of equipment failure. Some of our key services offered to help support your ongoing maintenance program include maintenance planning, program development, outage planning and method of procedures (MOP) development.
PREVENTIVE MAINTENANCE

Facilities are dependent upon their electrical systems to maintain the continuity of processes and to transmit critical data. The continuing reliability and integrity of an electrical power system is based on an established program of maintenance and operational testing. The maintenance procedures and frequencies should follow the recommendations of nationally recognized standards.

NFPA 70B: Recommended Practice for Electrical Equipment Maintenance provides maintenance guidelines including suggested intervals. Another valuable resource is NETA’s Standard for Maintenance Testing Specifications for Electrical Power Equipment and Systems, which has been adopted by the American National Standards Institute (ANSI/NETA MTS). These procedures and frequencies are used to develop a maintenance schedule that is based on the type of equipment, voltage, and ambient conditions.

Preventive tests and services provided by our NETA-certified field service engineers and technicians include:

- Insulation-resistance testing
- Ground resistance testing
- Dielectric withstand voltage test
- Clean, exercise, and lubricate components
- Troubleshoot and/or repair as necessary
- Thermographic survey
- Breaker time travel analysis
- Visual and mechanical inspection for functionality/operability
- Writing of test report with recommendations

Turnaround and Outage Support

Plant turnarounds constitute the single largest maintenance expense. Part of ensuring a successful turnaround is controlling the time and costs associated with the outage, while making sure assets get the service needed to continue performing safely and reliably. To make the most of planned maintenance time, take advantage of our range of services:

- Pre-outage planning
- Pre-outage electrical maintenance
- Maintenance and testing services
- Pre-outage diagnostic testing
- Pre-outage electrical maintenance
- Post-outage report and feedback

Electrical Testing

Electrical equipment aging and deteriorating is normal, but equipment failure is not inevitable. An effective electrical maintenance testing program identifies and recognizes factors leading to deterioration. It provides measures for reversing these effects and avoiding failures. A well-administered testing program can prevent accidents, save lives, minimize costly breakdowns, and reduce unplanned outages.
Predictive maintenance tests determine the condition of in-service equipment in order to recommend when maintenance should be performed. We offer a comprehensive profile of services to assess and trend the health of your equipment.

**Partial Discharge Testing**
Our integrated partial discharge (PD) testing and monitoring solutions are customized for you and can provide early warning signs of impending failure. We offer the latest technologies in both online and offline PD testing. Our new technology expands the type of equipment in which PD can be detected. This list includes cables, air and gas insulated switchgear, dry-type and liquid-filled transformers, potential transformers, control power transformers, current transformers, arresters, bus, switches, voltage regulators and circuit breakers, as well as others.

We use multiple sensors to improve accuracy including transient earth voltage sensors, ultra-high frequency sensors, high frequency current transformer sensors and acoustic emission or ultrasonic sensors. Depending on your specific operating requirements and application, we can customize a program for you. Choose from periodic partial discharge testing, continuous online monitoring, ultrasonics, dissipation factor, and permanently mounted sensors. We offer a wide variety of options to fit your specific needs.

**Infrared/Thermography**
Annual infrared scans are specified in NFPA 70B and are recommended by most insurance companies. These tests can easily detect hot spots in your critical equipment. However, not all infrared scans are the same. We use high-end cameras that offer the highest imaging resolution and temperature range to clearly understand where electrical connections and components have degraded. Information gathered helps you determine how to best address these hot spots before they result in serious problems that lead to unplanned downtime.

**Ultrasonics**
Ultrasonic testing finds leakage, signs of corona, and other invisible problems within an electrical system before they become large, expensive problems. Performed without disrupting plant or facility operations, ultrasonic testing is a non-destructive, non-invasive predictive maintenance tool. Because it maintains insulation integrity, it is commonly employed in applications such as cable terminations, switchgear, busbars and transformers. Ultrasonic measurement is most powerful on a comparative basis and can significantly increase the reliability of partial discharge detection.

**Fluid/Oil Analysis**
Fluids and oils circulate in large power transformers to insulate them from high-voltage stresses. These fluids contaminate easily due to leaky seals and corrosion. Increased reliability and performance can result from a rigorous preventive maintenance program that purifies and filters these fluids over the life of the equipment. Advanced mobile oil processing equipment provides vacuum, filtration, degasification, and dehydration of fluids/oils to restore optimum dielectric strength, viscosity, and insulation characteristics.
11.3 Electrical Engineering Services

Our highly qualified engineering resources provide innovative solutions to enhance the safety, operating performance, and reliability of your critical systems. Managing the complexities of your power system protection and ensuring safe, reliable operation can be a difficult challenge that requires multi-discipline expertise. We offer a variety of engineering services including electrical engineering design, power system studies, and engineering drawings. Learn more below:

**Electrical Engineering Design**

Our protection engineers will evaluate your system and design settings to ensure your equipment functions as it is designed to do and that it performs at its optimum capacity while meeting applicable regulatory requirements.

**Relay Design and Integration**

Our highly experienced integration engineers can help you identify the specific relay features, capabilities, and configuration that will best meet your facility’s requirements. In order to ensure our solution meets all of your needs including cost, space, time, functionality, and regulatory compliance, our team will meet with you to understand your specific requirements. We will then design a retrofit solution utilizing the best technology for your system. Once a solution has been designed, complete schematics and diagrams are developed and reviewed prior to construction.

**Relay Logic and Programming**

Another important part of the design process includes accurate relay logic and settings. Correct logic settings affect the speed, selectivity, and reliability of your relays. Our protection engineers are available to help you design and implement logic settings to ensure your scheme delivers the required protection for your operation.

**HMI/ Communications (SCADA) Programing**

Human machine interfaces (HMI) and communications are crucial networking components in any integrated SCADA system. Our engineers have the expertise to design, program, and implement a solution that will allow your operators such abilities as monitoring device status, polling metering data, creating multi-level user groups, or controlling protective devices such as breakers remotely.

**NERC Compliance Engineering Evaluation**

Evaluation of your infrastructure involves on-site data analysis and data collection by our highly-trained engineers who have years of experience working in and around operating generation plants. Once the data is collected, they will assemble and organize it to perform modeling and an engineering analysis of your electrical system. A complete NERC-approved mathematical proof will be provided for each load sensitive relay requiring study. Our engineers leverage
industry accepted software applications to model dynamic systems including PSSE, E-Tap, MatLab and Power World. Upon completion of the analysis, a comprehensive report will be provided with recommendations and corrective actions required for ensuring compliance and improving power system loadability at your facility.

**Power System Studies**

Our engineers help you optimize the design, function, and operation of your protection system by analyzing the operation of your power system during normal and fault situations. Our power system studies include:

**Short Circuit/Coordination Study**

A short circuit and coordination study helps to avoid accidents, productivity losses, costly fines, and higher insurance costs. By evaluating a system’s protective devices and the circuits they protect, a coordination study determines how long equipment can sustain operation without damage or failure. These studies provide power transformers, switchgear, substations, motor control centers, panelboards, and other equipment with the required protection to ensure minimum service interruption under overload and short-circuit conditions.

**Arc Flash Study**

Arc flash studies provide recommendations for PPE; boundaries for limited, restricted and prohibited approaches; and recommendations for flash protection and safe work practices. Once our technical staff has completed an arc flash analysis, the appropriate hazard warning labels will be provided. Reference “Arc Flash Study” section for more information on our capabilities.

**Power Quality/Harmonics**

Dips, spikes, surges, and momentary outages can damage critical equipment and systems, or cause them to malfunction. Our power quality studies and harmonic analyses identify grounding errors, harmonic distortions, and other issues that reduce the reliability of your power system. Experts rapidly assess problems by examining harmonics, load flow, and power factor. Once the nature of the disturbances or operating condition is understood, we identify solutions that reduce total system loading and ensure optimal system performance.

**Load Flow Analysis**

Load flow studies identify and correct power system issues, such as overloads, load imbalance, harmonic problems, poor power factor, or other operational issues. Using software that simulates actual steady-state operating conditions, our power system experts can virtually investigate multiple scenarios that may alter a facility’s load, creating operational or performance problems. The load flow study calculates load distribution and voltage profiles to examine the performance of the system and determine the effectiveness of voltage regulation or power factor correction equipment.

**Power Factor Study**

Measuring power factor detects insulation defects in electrical equipment. By maintaining a high power factor, a plant can avoid costly utility bills resulting from an enforced “low” power-factor clause or high kilovolt-ampere (kVA) demand. Power factor tests provide a benchmark which may be compared over periods of time in an organized manner and are used to identify trends within AC equipment insulation.

**Grounding Study**

A grounding system is one of the most important, yet neglected, segments of a critical facility’s electrical power system. Testing is required by the National Electrical Code (NEC). Proper grounding is essential to ensure personnel safety and service reliability. Our technical services team can ensure your system grounding complies with code requirements, and that your ground fault protection is adjusted and functions properly.
System Logic and Control Settings
Another important part of the relay design process includes accurate relay logic and settings. Correct logic settings affect the speed, selectivity, and reliability of relays. They ensure the correct relay elements are being used in the trip scheme and that the relay control logic will produce the desired results. Our protection engineers help you design and implement logic settings to ensure your scheme delivers the required protection for your operation.

Ground Fault Analysis/Troubleshooting
A low-level arcing ground fault can destroy switchgear in seconds, before the main service overcurrent protection will operate. Ground fault protection is required by the NEC and is usually installed only on circuits and services of 480/277 volt 1,000 amps and larger. A properly installed and operating ground fault protection system will detect and clear the fault in milliseconds, fast enough to limit damage to acceptable levels. Our experts can verify proper installation of sensor and grounding connections.

Engineering Drawings
HVM engineers can develop a road map to enable proper maintenance of equipment, design redundancy, and protection of your electrical distribution system. Learn more below:

Single/Three-Line Diagrams
Facility equipment and loads are continually added or removed in small increments, constantly changing an electrical infrastructure. We conduct a comprehensive site survey to inventory the equipment, verify drawings and processes, and evaluate design redundancy. The resulting detailed schematic shows the main components of the electrical system and the power distribution path. You will then have the information needed for system analysis and testing, as well as for future maintenance and engineering studies.

Wiring Diagrams
Accuracy is incredibly important when translating engineering designs into actual installations. Creating wiring drawings is a time-intensive, detail-oriented step in the protection and controls engineering process, connecting each device together such that each device operates properly within the system. Our protection and controls engineers have the applied installation experience and a quality process to ensure the creation of accurate and precise wiring diagrams.

Elevation Drawings (Panel Elevations)
Every relay panel has unique dimensions and physical characteristics. Specifying a replacement relay panel requires intuitive field experience with insight into the constructability of the installation. Our protection and controls engineers have the knowledge necessary to create detailed panel elevation drawings, ready to be used to procure custom-made panels.

Control Schematics
Control schematics are the basis for showing how various devices interoperate. Creating control schematics requires technical knowledge of existing relay makes and models with an applied knowledge of protection and control theory. Our experts can create protection and control schematics according to your specifications and needs.
ARC FLASH STUDY

Ensure worker safety and regulatory compliance with a comprehensive arc flash study. Our professional and degreed engineers receive ongoing education and adhere to strict standards in safety and electrical testing when performing a study that involves the following:

- **Data collection** – Collecting critical equipment information is necessary to perform accurate arc flash hazard analysis. Depending upon the incident energy levels present at a given location, the minimum required levels of PPE is determined.
- **Arc flash calculations** – Calculations are performed with state-of-the-art software and in accordance with NFPA and IEEE standards.
- **Comprehensive reporting** – Report includes the results of the hazard analysis and expert recommendations and helps ensure compliance with OSHA and NFPA standards. Once the study is completed, results should be maintained in the facility’s engineering documentation and incorporated into a published safety manual.

Ideally, an arc flash study should be done in conjunction with the acceptance testing and engineering studies at the time of commissioning since a short circuit study is required to perform the evaluation.

**Ensure Regulatory Compliance**

Improve worker safety by identifying potential hazards and implementing recommendations to mitigate risks. You can identify these hazards and ensure regulatory compliance by performing arc flash hazard analysis in accordance with industry guidelines. Once you have enhanced system performance, you will see greater productivity by reducing business disruption and lost man hours that may result from arc flash incidents.

**Related Services**

- Risk Assessment
- Hazard Labeling Plan
- Site Review/Compliance Assessment
- Protective Scheme Design Review
- Single-Line Diagrams
- Short Circuit and Coordination Studies
- Preventive Maintenance
- Electrical Safety Program Review/Development
- Training and Performance Evaluation
- Personal Protective Equipment
- Optional Annual Re-certification
- Documentation
11.4 Equipment Upgrades & Replacements

Aging electrical equipment typically has higher maintenance requirements, that not only cost more, but also pose higher safety risks for personnel. We offer a full range of services designed to help aging facilities operate at peak performance.

**Turnkey Relay Retrofits, Upgrades and Replacements**

Relay retrofits and upgrades provide a fast, cost-effective way to leverage the advantages of microprocessor relays without the expense of installing new switchgear. Turnkey relay upgrade solutions include generator protection, main-tie-main systems, feeder protection, arc flash mitigation, and medium-voltage back-up generation. We deliver solutions utilizing all major relay manufacturers and relay applications including engineering evaluation, relay design and integration, relay logic and settings, panel fabrication, demolition, installation, testing and startup support.

**Circuit Breaker Retrofits/Upgrades**

Replacing aging circuit breakers will lower maintenance requirements and reduce the safety risk to your personnel. Our electrical system experts can upgrade your assets with rebuilt and retrofitted equipment, allowing for improved performance at a lower cost. Our capabilities include low, medium and high voltage circuit breakers, including vacuum and SF6 technology.

**Battery Replacements**

Once a battery reaches less than 80 percent, it is recommended for replacement. We offer complete battery replacement solutions including both expert installation of new cells and proper recycling of spent batteries. We also offer a mobile power solution for safe and secure DC system maintenance and battery replacement. Our Mobile DC Power Services Unit is transportable to provide on-site temporary power during system maintenance and replacement.

**Direct Replacement Breakers**

Advances in circuit breaker technology have enabled asset managers to exchange older, often obsolete equipment for upgraded replacements without disrupting existing switchgear. Most replacement breakers are designed to fit into the existing switchgear cells with minimal modifications and will interface with the existing switchgear structure while maintaining safety interlocks inherent in the original design.
11.5 Compliance Services

Understanding and complying with ever-changing standards requires considerable knowledge of the requirements and methodology used to successfully implement the technical requirements. Our compliance experts can help you achieve compliance with the latest regulations and requirements from NERC, NFPA, IEEE, NETA and more.

NERC Compliance Programs
Achieving compliance with NERC requires knowledge of complex regulations. Our NERC compliance services provide generator and transmission owners and operators with the resources and tools needed to address reliability requirements. Compliance experts leverage in-depth understanding of NERC standards and how they impact power-producing infrastructure to help customers develop a compliance program. Our NERC compliance services include compliance assessment, engineering analysis and modeling, NERC program management, and relay retrofit and upgrades.

NFPA Compliance Programs
The intent of NFPA 70E: Standard for Electrical Safety in the Workplace is to provide guidelines for reducing exposure to the hazards of shock, electrocution, arc flash, and arc blast. To help you improve safety and achieve compliance, our team of NETA-certified technicians, power system engineers, and electrical engineers provide solutions for your electrical safety policy and maintenance practices. Our NFPA compliance services include electrical safety compliance assessment, arc flash study, change management and control, training, safety, maintenance, and documentation.

OSHA Safety Training
Our OSHA courses are designed to support continuing education and relicensing requirements of most states. Many Fortune 500 companies have approved the courses for corporate training, and they are accepted by IBEW, DOD, DOE, MSHA and OSHA (Safety Training). The courses also meet NETA's continuing certification program for certified technicians.

Arc Flash Compliance Services
OSHA can and does enforce the NFPA 70E guidelines on arc flash safety. To ensure compliance, you will need to determine the steps needed to meet OSHA and NFPA requirements. Our experienced engineers can conduct a comprehensive assessment at your facility to identify areas of risk and non-compliance. The results can then be analyzed to formulate a plan to bring your facility into compliance in the most efficient way possible.
11.6 Educational Services

Ensuring the safety of your workers and meeting the challenges of the latest safety requirements is a difficult task without assistance from qualified resources. Having delivered hundreds of on and off-site training courses annually, you can trust us to provide the education your team needs to become “qualified” electrical workers in accordance with NFPA 70E requirements.

Our training is delivered by equipment experts who are well-versed in the latest regulatory requirements. Whether customized on-site training is required or online training via WebEx, courses are designed around our customer’s schedule. We provide the industry’s leading innovative and cost-effective approach to training, offering comprehensive turnkey packages that are unparalleled in the industry.

We also offer consulting services that are designed to help customers improve the efficiency and performance of their most critical assets. These services will increase workplace safety, protection of property, and compliance with regulatory codes and standards. Solutions include:

- Specialized equipment training
- Safety training
- Safety audits
- Skill and training needs assessment
- Safety documentation
- Policy and procedure development

Here’s what customers had to say about our educational services:

“The course was very interesting. The instructor was outstanding and knew the information better than any class I have attended.”

“Great logical course progression; easily understood by different experience levels.”

“This was the most informative and entertaining electrical safety course that I’ve had. It was easier to retain the information I learned. Thank you for creating such a well-planned curriculum.”

“Great training course. Instructor provided detailed information regarding each topic. Extremely helpful in our line of work.”

“This was the most focused electrical arc flash course I have attended.”

“I had a general idea of electrical safety before but [the trainer] was able to explain everything I didn’t know, effectively and easily.”

“Easy to understand and presented accurately. The instructor is very knowledgeable.”

“Very good course, even for someone who does not have an electrical background.”

Note: HVM’s safety training programs meet current OSHA requirements including OSHA 1910.269, 330-333 (Subparts R and S).
11.7 Service Management & Support

Unexpected failure can pose serious hazards to your critical infrastructure. Whether it is a large-scale outage or a localized technical glitch, each emergency demands a prompt response. Our Customer Resolution Center associates utilize a robust knowledge database and leverage interactive technology. This enables us to quickly and consistently provide you quality service and real results. Learn more about our services below:

Customer Resolution Center

When you call our toll-free number for help dealing with your critical system issues, you will never reach an answering service or voicemail. You will always be connected with a person for immediate assistance. Our call center is staffed with infrastructure experts that are part of the largest customer support team in the industry. They are equipped with technology that indicates weather patterns and natural disasters so they fully understand the issues that may impact your facility. Team members are armed with the information they need to resolve your call, which on average, takes less than three minutes.

24x7 Emergency Response

Our technical support team and call center is available 24x7. Any time day or night, we can dispatch a NETA-certified technician to your site with the proper equipment required to troubleshoot the problem and quickly meet your unexpected needs on site.

Disaster Recovery Services

Disaster recovery services are designed to support your business continuity objective. Whether you are looking to assess the damage to electrical distribution equipment or need to conduct startup and commissioning of new or refurbished equipment, we can help. Our services are conducted according to guidelines from the National Electrical Manufacturers Association (NEMA) and adhere to ANSI/NETA specifications.

Our disaster recovery services include:

- Damage assessment
- Inspection and testing
- Equipment repair/recondition
- Equipment replacement
- Spare parts support
- Commissioning and startup
Appendix I - Directory of Locations

Directory of Locations
HVM team has strategically located service centers and satellite offices throughout the Midwest and New England regions. These locations provide our customers with access to local resources with direct service capability.

Connecticut
Connecticut Area Service Center
29 Diana Court
Cheshire, CT 06410
PH: (203) 949-2650

Illinois
Chicago Area Service Center
941 Busse Road
Elk Grove Village, IL 60007
PH: (847) 640-0005
FAX: (847) 640-0004

Indiana
Indianapolis Area Service Center
1052 S. Greenwood Springs Blvd.
Suite E
Greenwood, IN 46143
PH: (317) 322-2055
FAX: (317) 322-2056

Maryland
Baltimore Area Satellite Office
PH: (410) 309-6970
FAX: (410) 309-0220

Massachusetts
Boston Area Service Center
24 Walpole Park South, Suite 3
Walpole, MA 02081
PH: (508) 668-9205
FAX: (508) 668-2142

Michigan
Detroit Area Satellite Office
PH: (248) 305-5596

New York
New York Area Service Center
1 Penn Plaza Suite 1500
New York, NY 10119
PH: (718) 239-0359

Ohio
Cincinnati/Kentucky Satellite Office
PH: (859) 371-5355
FAX: (859) 371-5399
Columbus Area Satellite Office
PH: (614) 807-3408
Cleveland Area Satellite Office
PH: (440) 951-2706
Dayton Area Service Center
5100 Energy Drive
Dayton, OH 45414
PH: (937) 278-0811
FAX: (937) 278-7791

Pennsylvania
Pittsburgh Area Service Center
355 Vista Park Drive
Pittsburgh, PA 15205
PH: (412) 747-0550
FAX: (412) 747-0554

Wisconsin
Milwaukee Area Service Center
3000 S. Calhoun Road
New Berlin, Wisconsin 53151
PH: (262) 784-3660

FAX: (262) 784-5124
Appendix II - Laboratory Traceability Chart

LABORATORY ENVIRONMENT: (Temperature: 70±5°F) (Humidity: 25% to 70%)

- National Institute of Standards and Technology (NIST)
- Primary Laboratory Support
  - Audited Commercial Vendors

  **Primary Capabilities**
  - Frequency
  - Time

  **Secondary Capabilities**
  - Voltage
  - Current
  - Resistance
  - Pressure
  - Temperature
  - Mechanical/Dimensional
  - Infrared

- Customer Calibration Service
- Process Control Instruments
- Contract Services

- HVM
  - Test Equipment Inventory
  - Internal Support
Appendix III - HVM
Organizational Structure
To whom it may concern,

There have been two occasions that D.L.C. has done work at the county sewer plant. Both times there were issues with their work.

The first experience occurred while I was on vacation several years ago. There was a power outage at the Monroe St. pump station. The pumps would not restart, and it was determined that the switchgear was not operating.

D.L.C. was called because at the time, their business was located near the plant. They spent 4 hours trying to diagnose the problem and get the pumps running. Sewer department staff called me for help, and I was able to get them running in 5 minutes while on the phone.

The second instance occurred when the recloser bushing broke in the high yard. The unit was arcing and there were visible flames. We switched plant power to one side of our system.

Administrative director Gerry Moscinski called D.L.C. When they arrived they determined that we needed a new recloser and controller unit. The items were purchased and installed, but the controller unit was not programmed. Mr. Cioffi brought me into the high yard and he operated the switch from the telephone pole. The system did not work. I told him that we normally operate it from inside, so we tried it again but it did not work.

I asked Mr. Cioffi if the controller was programmed. He said it was not.

A few weeks later Square D came to check the system and asked where the old controller was. Mr. Cioffi said the controller was in the shop and he retrieved it and bought it to plant. The staff from Square D plugged it into their laptop and downloaded the program and got the system running.

I felt that D.L.C. and Mr. Cioffi should have known that a controller should be programmed before installation. As a result, there was a needless delay in getting our plant fully operational.

These two incidents happened years ago, and hopefully the staff is more experienced today.

I am putting my concerns in writing because I am the Maintenance Supervisor at the plant, and I was asked if I had any concerns with the two companies that submitted proposals to conduct our electrical maintenance plan.

Thanks for your time.

Michael Wilcox
At a meeting of the Board of Commissioners of the Rensselaer County Sewer District No. 1, held at the Wastewater Treatment Plant, 1000 River Road, Troy, NY 12180, in the Sewer District Conference Room, on April 26, 2023.

Present: ___________________ ___________________ ___________________ ___________________

________________________ ___________________ ___________________ ___________________

________________________ ___________________ ___________________ ___________________

________________________ ___________________ ___________________ ___________________

RESOLUTION

RESOLUTION MAKING RECOMMENDING TO THE RENSSELAER COUNTY LEGISLATURE pertaining to bids to implement a preventative maintenance plan for the 115/13.2 KV substation located at the wastewater treatment plant at the Rensselaer County Sewer District No. 1 Plant located at 1000 River Road, Troy, NY 12180.

WHEREAS, A determination has been made that a preventative maintenance plan for the 115/13.2 KV substation is needed at the Wastewater Treatment Plant for Rensselaer County Sewer District No. 1 ("District"), specifically to implement a preventative maintenance plan for the 115/13.2 KV substation located at the wastewater treatment plant at the Rensselaer County Sewer District No. 1 Plant ("Plant") located at 1000 River Road, Troy, NY 12180, which is vital in the operations of the sewer district; and

WHEREAS, A Request for Proposals was issued by the County of Rensselaer Bureau of Central Services - Purchasing Division, in full compliance with all applicable competitive bidding and publication requirements, for implementation of such preventative maintenance plan for the 115/13.2 KV substation located at the said wastewater treatment Plant at the Rensselaer County Sewer District No. 1, and requesting proposals for such preventative maintenance plan; and

WHEREAS, The Request for Proposals resulted in receipt of bids from High Voltage Electric Service, Inc. ($430,242.00) and DLC Electric, LLC ($418,400.00); and

WHEREAS, All purchasing guidelines as set forth in the Purchasing Policies and Procedure Manual have been followed and two bids have been received, with ________________________________ being the lowest responsive and responsible bidder; and

WHEREAS, This Resolution shall be transmitted to and filed with the Rensselaer County Legislature;

Now, therefore, be it

RESOLVED, That there were two bids and the Rensselaer County Sewer District No. 1 identifies ________________________________ as the lowest responsive and responsible bidder and that the Rensselaer County Legislature receive the District’s recommendation regarding such bid.

Resolution ADOPTED by the following vote on April 26, 2023:

Ayes: _____ Nays: _____ Abstain: ____
Memo: REGARDING BID PROCEDURES (Rensselaer County Sewer District No. 1)

BID RFB-22-59 Maintenance Plan Rensselaer County Sewer District
From: Jaime B. Thomas, Counsel to the Sewer District
Date: April 13, 2023

Regarding the above bid matter, 2 bids have been received, one from DLS Electric and one from High Voltage Electric Service. For the reasons stated below, Rensselaer County Sewer District No. 1 should place the matter of these bids on the agenda for a meeting of the board of the Rensselaer County Sewer District No. 1. The board of the Rensselaer County Sewer District No. 1 should vote on how to act regarding these bids. The Sewer District should then communicate its recommendation to the County Legislature. The County Legislature will then address the bid in due course. Pending receipt of direction from the County Legislature, the Rensselaer County Sewer District No. 1 can take no further or other action with regard to such bid.

Analysis Structure of Rensselaer County Sewer District No. 1 and subordination to County Legislature

As we know, the Rensselaer County Sewer District No. 1 is an administrative agency of Rensselaer County, in particular, of the County Legislature. Most actions of the Sewer District, and all contracts are subject to vote and approval of the County Legislature. The Sewer District was created to provide sewage transportation, treatment and disposal services, as well as to, among other things, operate and maintain a sewage interceptor system and waste water treatment plant. The combined sewer system is utilized to convey sewage and storm water to the County Sewer District’s treatment facilities.

Under § 261 of the NYS County Law, the following is how the Sewer District operates. When the County Sewer District was established, the County Legislature Resolution appointed a board and approved hiring an employee as the administrative director of the Sewer District. Also pursuant to § 261, all matters relating to the membership of the Sewer District are determined by the County Legislature. The title of the administrative head and the Sewer District Board is determined by the County Legislature.

Since its inception, the Sewer District has functioned in accordance with State Law. Section 265 of the NYS County Law states the procedural requirements. I have not been provided with any resolution indicating otherwise. Based on the statutes, the following applies.

Sec. 265 “b. upon the adoption of a resolution, the administrative head or body of a district, with the approval of the county legislative body, may enter into such contracts, as it may deem necessary, with any person, corporation or association for the purpose of ensuring that the cost of the county district will not constitute an undue burden upon the property within such district and may require the filing of a surety bond or bonds or the deposit of cash or securities with the county treasurer to ensure the performance of such contracts.”

Pursuant to § 251, the County Legislature may appoint or establish an officer and board which possesses the express power to act as such an agency, to act as a county sewer, wastewater disposal agency (hereinafter referred to in this article as the “agency”) having the powers hereinafter prescribed and such other powers and duties as the County Legislature may determine necessary to carry into effect the provisions of this article. All matters relating to the membership
of such agency, including, but not limited to, numbers, method of selection, tenure, qualifications and compensation, shall be determined by the County Legislature.


B. **Contracts subject to approval of County Legislature**

The procedure that Rensselaer County Sewer District No. 1 should follow to obtain County Legislature review of a contract is to place that contract on the agenda for a meeting of the board of the Rensselaer County Sewer District No. 1. The same procedure should be followed for a matter for which bids have been received. The board of the Rensselaer County Sewer District No. 1 should vote on the contract or bid, and communicate its recommendation to the County Legislature. The County Legislature will then address the said bid or contract in due course. Pending receipt of direction from the County Legislature the Rensselaer County Sewer District No. 1 can take no further action with regard to such bid or contract.
Office of the Attorney General of the State of New York

INFORMAL OPINION 2003-5  April 30, 2003

Opinion By: KATHRYN SHEINGOLD, Assistant Solicitor General in Charge of Opinions

Your final question is what oversight and authority the Seneca County board of supervisors retains over the operation and administration of the water and sewer districts and their boards. We conclude that the board of supervisors retains considerable supervisory power over the districts.

Background
According to your letter, pursuant to local law, each county water and sewer district board has the powers granted in Article 5-A of the County Law (e.g., the power to acquire interests in real property; to construct or repair facilities in or under the roads for the conveyance of water or sewage; to establish, subject to confirmation by the board of supervisors, rates for the sale of water to or the collection and disposal of sewage from other entities). Furthermore, under local law, each board has the power to appoint and determine the salary of a district administrator. The district administrator serves at the pleasure of the district board. Local law also authorizes each district board to "retain the services of an engineer, attorney, clerk, secretary or others" as the board deems necessary. Each board has determined that it requires the services of a clerk/secretary.

Under the local laws creating the water and sewer districts, the county treasurer is the custodian of district funds and is responsible [*5] for paying the claims against the districts. The town of Romulus, however, performs the day-to-day bookkeeping duties of the districts, pursuant to contract.

The creation and maintenance of certain county improvement districts (water, sewer, drainage, and refuse districts) are authorized by County Law Article 5-A.

Analysis

D. County Board of Supervisors' Oversight of Operation of Districts and District Boards

Your final question is what authority the county board of supervisors retains over the operation and administration of the water and sewer districts and their boards.

An improvement district, such as a water or sewer district, [*26] is an administrative unit of the municipality creating it. Tom Sawyer Motor Inns, Inc. v. Chemung County Sewer District No. 1,
The powers conferred by statute on an administrative unit of a county government are not powers exercised by districts as if they were separate and independent governmental units; rather, they are subject to the overall control of the county board of supervisors. Tom Sawyer Motor Inns, at 721.

The county board of supervisors retains regulatory control over the water and sewer districts. See, e.g., County Law § 264 ("the board of supervisors shall have power to adopt, amend and repeal, from time to time, rules and regulations for the operation of a county district and the use of water in a water district including regulation of the manner of making [*27] connections and the construction of the county system and all facilities and appurtenances"). The county board of supervisors also determines all matters relating to the composition of the administrative head or body of the district, including the tenure and qualifications of the administrative head or body of the district. County Law § 261. Finally, certain of the district administrator's powers are specifically subject to authorization by or approval of the board of supervisors, e.g., entering into contracts (County Law § 265), determining rates to be charged (County Law § 266), and prescribing the manner of provision of services (id.). Therefore, the county board of supervisors retains significant control over the water and sewer districts after their formation.

Conclusion
In conclusion, therefore, we are of the opinion that (1) members of the water and sewer district boards may not be paid a flat fee in lieu of actual expenses incurred in attending board meetings; (2) the positions of town supervisor and district administrator are compatible; [*28] (3) the positions of town district employee and county district clerk/secretary as described (with identical, ministerial duties) are compatible; and (4) the county board of supervisors retains considerable control over the water and sewer districts within that county subsequent to the districts' creation.

The Attorney General renders formal opinions only to officers and departments of the State government. This perforce is an informal and unofficial expression of the views of this office.
## BID TABULATION

**BID NO.:** RFB-22-59  
**DESCRIPTION:** Maintenance Plan - Rensselaer County Sewer District #1  
**OPENING DATE:** Wednesday, 1/4/2023  
**TIME:** 10:30 a.m.

<table>
<thead>
<tr>
<th>VENDOR</th>
<th>SURETY</th>
<th>NON-COLLUSIVE</th>
<th>LOCAL LAW #2</th>
<th>AMOUNT OF BID</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLC Electric LLC</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>$418,400.00</td>
</tr>
<tr>
<td>High Voltage Electric</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>$430,242.00</td>
</tr>
</tbody>
</table>
OFFICIAL BID FORM

Rensselaer County: Date of submission of Bids up to and including 10:30 a.m., Wednesday, January 4, 2023, after which time all bids received will be opened and read aloud.

**Maintenance Plan – Rensselaer County Sewer District**

<table>
<thead>
<tr>
<th>Contract Period</th>
<th>Year 1 Rate:</th>
<th>Year 2 Rate:</th>
<th>Year 3 Rate:</th>
<th>Year 4 Rate:</th>
<th>Year 5 Rate:</th>
<th>Year 6 Rate:</th>
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<td>(4/3/23 to 12/31/23)</td>
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<td>(1/1/24 to 12/31/24)</td>
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<td>3rd Contract Period</td>
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</tbody>
</table>

**TOTAL BID PRICE:** $418,400.00

(Add Year 1 through Year 6)

- Contract Agreement: The specifications detailed herein and the bidder's signed bid response, acknowledged by Rensselaer County's Notice of Award, shall constitute the entire agreement between the successful bidder and Rensselaer County. Bidder agrees to all terms stated herein.
- New York State Prevailing Wage Article 8 applies to this project. PRC#2022013498. Please refer to Page 9.
- Signed Certification of Compliance with Local Law #2 and Non-Collusive Agreement
- Surety: Please refer to Pages 2 and 9.

**Bidder**: DLC Electric, LLC

**Federal Tax ID #**: 26-3478565

**Address**: 479 State Route 40

**City**: Troy, **State**: NY, **Zip**: 12182

**Authorized Signature**: Margaret Cioffi

**Print Name**: Margaret Cioffi

**Date**: 1/4/2023

**Phone**: 518-326-8130, **Fax**: 518-326-8132

**Email**: rcioffi@dlcelectric.net
LOCAL LAW #2, 1992
CERTIFICATION of COMPLIANCE

Local Law No. 2 for the Year 1992, adopted by the County of Rensselaer and effective as of September 1, 1992, provided for certain changes to the County’s Code of Ethics, adopted originally in 1989. One of the changes provided for by the 1992 legislation affects those persons and entities who wish to do business with the County of Rensselaer and Hudson Valley Community College. In substance, the Code of Ethics, as amended, provides as follows:

"No elected public official or family member hereof, nor any partnership [or] unincorporated association in which he or she is a member or employee or in which he or she has a proprietary interest, nor any business or professional corporation of which he or she is an officer, director or legally or beneficially owns or controls more than five percent of the outstanding stock, shall have business dealings with Rensselaer County or any of its boards, agencies, commissions, authorities, districts and Hudson Valley Community College. For purposes of this subdivision, business dealings shall include contracts with Rensselaer County, its boards, agencies, commissions, authorities, districts and Hudson Valley Community College, gained through competitive bidding."

For the purposes of the above section, the term "family member" means "...a spouse, child, step-child, brother, sister parent, or dependent of Rensselaer County officer, employee, public official and party officers."

Should you have any questions concerning the foregoing, you should feel free to contact the Office of the Rensselaer County Attorney, located at the Rensselaer County Government Center, 99 Troy Road, East Greenbush, New York 12061, either in writing or by telephone. The telephone number for the County Attorney’s office is (518) 270-2950. Their facsimile number is (518) 270-2922.

STATE OF NEW YORK
COUNTY OF RENSSELAER

The undersigned vendor/bidder hereby certifies and affirms to the County of Rensselaer, New York that it has reviewed the pertinent provisions of Local Law No. 2 of the Year 1992 for the County of Rensselaer, New York and that the undersigned vendor/bidder is not in violation of those provisions pertaining to business dealings with the County of Rensselaer.

- PRINT or TYPE ALL INFORMATION except "SIGNATURE" -

DLC Electric, LLC
(Name of Vendor/Company)
Margaret Cioffi, Managing Member
(Person authorized to sign & Title)
479 State Route 40
(Street or Box Number)
Troy, NY 12182
(City, State, Zip Code)

Margaret Cioffi
(Authorized Signature) 1/4/23
(Date)

SUBMIT THIS FORM WITH YOUR BID
CONTRACT CLAUSES REQUIRED BY LAW AND INCLUDED AS PROVISION OF THE BID

Upon the refusal of a person, when called before a Grand Jury, head of a municipality, or other Municipal Agency, which is empowered to compel the attendance of witnesses and examine them under oath, to testify in an investigation concerning any transaction or contract had with the State, any political subdivision thereof, a public authority or with any public department, agency or official of the State or any political sub-division thereof or of any public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract,

(a) such person, any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from district, or any public department, agency or official thereof, for goods, work or services for a period of five years after such refusal, and to provide also that

(b) any and all contracts made with any municipal corporation or any public department, agency or official thereof or with any fire district or any agency or official thereof by such person, and by any firm, partnership or corporation of which he is a member, partner, director or officer may be canceled or terminated by the municipal corporation or fire district without incurring any penalty or damages on account of such cancellation or termination, but any monies owing by the municipal corporation or fire district for goods delivered or work done prior to the cancellation or termination shall be paid.

Each contract to which the municipality is a party and which is of such character that the employees engaged thereon are required to be insured under the provisions of the Workmen's Compensation Law, shall contain a stipulation that such contract shall be void and of no effect unless the person or corporation making or performing such contract shall secure compensation for the benefit of, and keep insured during the life of such contract, such employees in compliance with the provision of the Workmen's Compensation Law.

A contractor, to whom any contract shall be let, granted or awarded, as required by law, shall not assign, transfer, convey, sublet or otherwise dispose of the same, or of his right, title, or interest therein, or his power to execute such contract, to any other person or corporation without the previous consent in writing of the municipality awarding the contract.

NON-COLLUSIVE BIDDING CERTIFICATION

(a) By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury that to the best of knowledge and belief:

(1) The prices in this bid have been arrived at independently, without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to the opening directly or indirectly, to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person, partnership or Corporation to submit or not to submit a bid, for the purpose of restricting competition.

SIGNED: Margaret Croft
TITLE: Managing Member
FIRM: DLC Electric, LLC
DATED: 1/4/2023

SUBMIT THIS FORM WITH YOUR BID
OFFICIAL BID FORM

Rensselaer County: Date of submission of Bids up to and including 10:30 a.m., Wednesday, January 4, 2023, after which time all bids received will be opened and read aloud.

Maintenance Plan – Rensselaer County Sewer District

Initial Contract Period
(4/3/23 to 12/31/23)                          Year 1 Rate:  $37,332.00

2nd Contract Period
(1/1/24 to 12/31/24)                          Year 2 Rate:  $40,336.00

3rd Contract Period
(1/1/25 to 12/31/25)                          Year 3 Rate:  $41,776.00

4th Contract Period
(1/1/26 to 12/31/26)                          Year 4 Rate:  $42,737.00

5th Contract Period
(1/1/27 to 12/31/27)                          Year 5 Rate:  $44,533.00

6th Contract Period
(1/1/28 to 12/31/28)                          Year 6 Rate:  $223,528.00

TOTAL BID PRICE: $430,242.00
(Add Year 1 through Year 6)

- Contract Agreement: The specifications detailed herein and the bidder's signed bid response, acknowledged by Rensselaer County's Notice of Award, shall constitute the entire agreement between the successful bidder and Rensselaer County. Bidder agrees to all terms stated herein.
- New York State Prevailing Wage Article 8 applies to this project. PRC#2022013498. Please refer to Page 9.
- Signed Certification of Compliance with Local Law #2 and Non-Collusive Agreement
- Surety: Please refer to Pages 2 and 9.

Bidder: High Voltage Electric Service, Inc.                  Federal Tax ID #: 14-1726550

Address:  6 Seward Street                          City: Albany                        State: NY                        Zip: 12203

Authorized Signature: ___________________________  Print Name: Magda M. Mininberg

Date: December 29, 2022                        Phone: 518-869-4961                  Fax: 518-869-4962

Email: kv115@aol.com  12/29/2022
LOCAL LAW #2, 1992
CERTIFICATION of COMPLIANCE

Local Law No. 2 for the Year 1992, adopted by the County of Rensselaer and effective as of September 1, 1992, provided for certain changes to the County's Code of Ethics, adopted originally in 1989. One of the changes provided for by the 1992 legislation affects those persons and entities who wish to do business with the County of Rensselaer and Hudson Valley Community College. In substance, the Code of Ethics, as amended, provides as follows:

"No elected public official or family member hereof, nor any partnership [or] unincorporated association in which he or she is a member or employee or in which he or she has a proprietary interest, nor any business or professional corporation of which he or she is an officer, director or legally or beneficially owns or controls more than five percent of the outstanding stock, shall have business dealings with Rensselaer County or any of its boards, agencies, commissions, authorities, districts and Hudson Valley Community College. For purposes of this subdivision, business dealings shall include contracts with Rensselaer County, its boards, agencies, commissions, authorities, districts and Hudson Valley Community College, gained through competitive bidding."

For the purposes of the above section, the term "family member" means "...a spouse, child, step-child, brother, sister parent, or dependent of Rensselaer County officer, employee, public official and party officers."

Should you have any questions concerning the foregoing, you should feel free to contact the Office of the Rensselaer County Attorney, located at the Rensselaer County Government Center, 99 Troy Road, East Greenbush, New York 12061, either in writing or by telephone. The telephone number for the County Attorney's office is (518) 270-2950. Their facsimile number is (518) 270-2922.

STATE OF NEW YORK
COUNTY OF RENSSELAER

The undersigned vendor/bidder hereby certifies and affirms to the County of Rensselaer, New York that it has reviewed the pertinent provisions of Local Law No. 2 of the Year 1992 for the County of Rensselaer, New York and that the undersigned vendor/bidder is not in violation of those provisions pertaining to business dealings with the County of Rensselaer.

- PRINT or TYPE ALL INFORMATION except "SIGNATURE" -

__________________________________________
High Voltage Electric Service, Inc.
(Name of Vendor/Company)

__________________________________________
Gus J. Mininberg, President
(Person authorized to sign & Title)

__________________________________________
6 Seward Street
(Street or Box Number)

__________________________________________
Albany, NY 12203
(City, State, Zip Code)

[Signature]
(Authorized Signature)

12/29/2022
(Date)

SUBMIT THIS FORM WITH YOUR BID
CONTRACT CLAUSES REQUIRED BY LAW AND INCLUDED AS PROVISION OF THE BID

Upon the refusal of a person, when called before a Grand Jury, head of a municipality, or other Municipal Agency, which is empowered to compel the attendance of witnesses and examine them under oath, to testify in an investigation concerning any transaction or contract had with the State, any political subdivision thereof, a public authority or with any public department, agency or official of the State or any political sub-division thereof or of any public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract,

(a) such person, any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from district, or any public department, agency or official thereof, for goods, work or services for a period of five years after such refusal, and to provide also that

(b) any and all contracts made with any municipal corporation or any public department, agency or official thereof or with any fire district or any agency or official thereof by such person, and by any firm, partnership or corporation of which he is a member, partner, director or officer may be canceled or terminated by the municipal corporation or fire district without incurring any penalty or damages on account of such cancellation or termination, but any monies owing by the municipal corporation or fire district for goods delivered or work done prior to the cancellation or termination shall be paid.

Each contract to which the municipality is a party and which is of such character that the employees engaged thereon are required to be insured under the provisions of the Workmen’s Compensation Law, shall contain a stipulation that such contract shall be void and of no effect unless the person or corporation making or performing such contract shall secure compensation for the benefit of, and keep insured during the life of such contract, such employees in compliance with the provision of the Workmen’s Compensation Law.

A contractor, to whom any contract shall be let, granted or awarded, as required by law, shall not assign, transfer, convey, sublet or otherwise dispose of the same, or of his right, title, or interest therein, or his power to execute such contract, to any other person or corporation without the previous consent in writing of the municipality awarding the contract.

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knowledge and belief:

(1) The prices in this bid have been arrived at independently, without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to the opening directly or indirectly, to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person, partnership or Corporation to submit or not to submit a bid, for the purpose of restricting competition.

SIGNED: ___________________________ DATED: 12/29/2022

TITLE: Gus J. Mininberg, President

FIRM: High Voltage Electric Service, Inc.

SUBMIT THIS FORM WITH YOUR BID