GENERAL CONTROL SYSTEMS

Request for Proposal #2024-005

SCADA UPGRADES

General Control Systems
3520 Airport Road, Lakeland, FL 33811
(863) 250-8069

GENERAL CONTROL SYSTEMS

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SCADA UPGRADES

GENERAL CONTROL SYSTEMS

Transmittal Letter

Randall Powell – President
Official Corporate Contact

17 Corporate Circle
Albany, NY 12203

518.279.7543

Eric Sullivan – Business Development Manager
Alternate

3520 Airport Rd
Lakeland, FL 33811

863.250.8291

GENERAL CONTROL SYSTEMS

Corporate History and Qualifications

GCS began building control system panels and servicing instrumentation & controls equipment for several municipal and OEM clients in the Albany, NY area in 1996. Our services were expanded to include international crating and kitting of equipment for OEM suppliers as our businesses expanded. In 2005 GCS began what has turned out to be a long-term relationship with SUNY Polytechnic Institute in supporting cleanroom construction projects at the various campuses across Upstate NY. GCS became certified by the Control System Integrators Association (CSIA) in 2013 with implementing industry best-practices within the operation. In 2014 we continued to grow our services with an emphasis on custom-built machines and contract manufacturing services. In 2017 we furthered our operational excellence with an ISO-9001:2015 certified quality management system. GCS has expanded its business from New York to Texas, Florida, North Carolina, Virginia, and Massachusetts.

In 2021, GCS established a new branch in Lakeland, Florida. The GCS Florida leadership team consists of engineers who have worked together for over 20 years in the Florida Water/Wastewater industry. The branch comprises a team of highly skilled engineers, programmers, technicians, and electricians with extensive experience in the industry. This site hosts a UL508A panel shop, where the team has successfully designed and manufactured panels for Water/Wastewater projects all over the state of Florida. In addition, the GCS Florida team has extensive experience with VTSCADA and Schneider-based PLCs, including the Quantum, M340, and M580 platforms.

GCS is a technical solutions company that applies our knowledge of process controls, software and automation systems to serve our clients. Our areas of expertise include:

1. Process Controls, where we integrate PLCs and SCADA systems with instruments and automated valves to keep industrial processes running reliably and efficiently.
2. Control System Design & Manufacturing, where we design and implement custom control systems into a project that meets project requirements and satisfies client expectations.
3. Service Solutions, where our technical staff diagnose and perform site services to our client's installed equipment for better, more reliable operations.
4. Robotics Automation, where custom coordinated robotics solutions are developed to solve client's automation needs in assembly and material handling applications.
5. Manufacturing Automation, where we program and deploy systems to keep factory floors running smoothly and efficiently.

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Certifications:

- **VTSCADA Certified Solutions Provider**
- **UL508A Listed Panel Shop**
- **FL Electrical Contractor License**
- **FL Engineering Firm Certificate of Authorization**
- **Schneider Automation Alliance Partner**
- **SYTECH XLReporter Systems Integrator**
- **Control System Integrators Association (CSIA) certified**
- **ISO-9001:2015 certified**
- Wonderware Systems Integrator
- Rockwell Recognized Systems Integrator
- GE Intelligent Systems Integrator
- Win 911 Software Systems Integrator
- Square-D Platinum Builder
- Inductive Automation Certified Integrator
- ICex Certified Panel Shop, Cooper CH
- CSA Certified Panel Shop
- UR-Universal Robots Certified Systems Integrator
- Symantec Managed Service Provider
- Motorola ACE VAR
- Elpro Certified VAR
- IPPC Certified Export Crating Shop
- Endress+Hauser Preferred Systems Integrator
- Contract Engineering
- Startup & Testing
- Retrofit/Repair

GENERAL CONTROL SYSTEMS

Overall Design Aspects – Project Technical Summary

The SCADA Upgrades Design Criteria Package for the City of Margate encompasses a comprehensive project involving the Supervisory Control and Data Acquisition (SCADA) system upgrades for the East Water Treatment Plant (WTP), East Wastewater Treatment Plant (WWTP), and West WWTP facilities. The project aims to replace all system PLCs with M580 and M340, modify or replace existing control panels, install new network components and fiber optic cabling systems, and implement new SCADA system servers and graphics. This overhaul is designed to fully replace the existing control system at these facilities.

The project also involves replacing the existing Wonderware SCADA HMI system with a new VTScada HMI system, setting up redundant SCADA 50,000 tag count servers for both WTP and WWTP facilities, and establishing a new 100,000 tag count central SCADA server to combine applications from both plants. The servers will be located in their respective segmented networks with the central server be located in the Environmental network. It is noted that converting and maintaining the existing Wonderware historical data to the new VT Scada based SCADA system is a key component in the project.

Cybersecurity is a critical aspect of the project, with a focus designing and hardening the network structure by segmentation of the network into physically separate fiber optic ring-based networks with specific VLANs for Process Control, HMI, Management, and Environmental Services. Access control lists are to be developed based on these networks to enhance security and network performance. The network design includes utilizing layer 3 switches for routing, implementing encryption for communications where possible, and disabling vulnerable services like Telnet and HTTP in favor of more secure protocols like SSH and HTTPS. In addition, integration and utilization of RFID access system for SCADA terminals is to be included for operator access.

The project's overall success during the design build process will be through the workshop and review process with the owner and engineering team. These workshops will be used to ensure the owner's system is meeting their needs for current and future system reliability. These review workshops are a key element in the planning of the SCADA system upgrades. The workshops along with cybersecurity should be the foundation in the overall system design and of the project approach.

Furthermore, the project entails developing manuals for the City, including an Operator Reference Manual, PLC Design Standards Manual, and SCADA Design Standards Manual. Workshops will be conducted with City staff to define standards and preferences, and construction drawings and P&IDs will be provided for all WTP and WWTP processes. The project also includes programming standards documentation, graphic design workshops, and system reporting workshops to ensure a comprehensive and efficient SCADA system upgrade for the City of Margate

GENERAL CONTROL SYSTEMS

Key workshops include:

- Discuss existing operation of the Water Treatment Plant (WTP) and Wastewater Treatment Plant (WWTP) with plant staff.
- Conduct a walk-through of the plant to discuss the current operation of each process.
- Gather input from operations staff on needed modifications to simplify or optimize and improve system performance.
- Review existing PLC programs to understand existing control system data mapping from panel to panel to identify and develop the best approach for system PLC upgrades and reduce impacts on operations during the panel modification process.
- Develop specific process control narratives for each process in a written description format.
- Conduct workshops to define standards, preferences, and PLC code design, and SCADA screen design.
- Develop and review proposed tagging scheme for the new SCADA system.
- Review existing PLC code and develop standardized PLC code to meet programming requirements of the new control logic with similar or improved functionality.
- Develop standard page layouts for SCADA HMI graphics to ensure consistency and usability.
- Establish robust security measures, user access controls, and security levels for the SCADA system as well as hardware access list for firewall configuration.
- Validate system performance through performance acceptance testing and system validation.
- Define alarm prioritization and notifications for critical alarms to enhance operational awareness.
- Hold construction review meetings at the beginning of construction to verify requirements and answer questions.
- Develop onsite project activity schedule based on owner input.
- Coordinate upgrade activities to minimize impact on operations during project.

Overall project success will require proper planning of all aspects of the design build process to allow for the work to be executed in the most efficient manner. Once the initial system review has been completed, design, hardware submittals, and hardware procurement will focus on key items required for early onsite activities. This will permit required onsite activities to be executed while continuing design workshops for PLC code, SCADA Screens, and Standards are in development.

Early major onsite activities including the installation of fiber optic cabling conduits, conduit duct banks, central UPS installation, UPS conduits to existing panels, server rack, server, and network equipment installation. These onsite tasks will need to be completed prior to the PLC upgrades.

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After panel manufacturing, the system will be completely factory tested and modifications made prior to delivery and onsite installation.

The PLC upgrades and panel installation will be executed in a phased approach to minimize downtime and disruptions to normal operations. Planning and coordination with the owner during this phase of the project will be key. The primary factor to minimizing impact will be achieved in the earlier stages during the preliminary planning and installation.

During the upgrades, start up and system validation will involve comprehensive testing of all components, including the new Modicon M340 Remote I/O systems, fiber optic Ethernet switches, local operator interfaces with RFID card readers, UPS back up system, and air-to-air heat exchanger thermal management systems. System integrators and technicians will conduct thorough checks to verify proper functionality, connectivity, and communication protocols. Additionally, startup activities will include system calibration, software configuration, and user training to familiarize operators with the new SCADA system interface and features. Any issues or discrepancies identified during the startup phase will be promptly addressed and resolved to guarantee optimal system performance and reliability. Overall, the startup phase will play a critical role in ensuring the successful implementation and operation of the upgraded SCADA system at the City of Margate.

When the panel upgrades are finished and the system is operational, pen testing will be performed, and corrective actions taken to harden against any identified vulnerabilities. Once security has been optimized, final performance testing can begin.

Overall, the final project product will result in a state-of-the-art SCADA system at the City of Margate, characterized by improved reliability, enhanced security features, advanced monitoring and control capabilities, and efficient thermal management systems. The upgraded SCADA system will provide the City with a robust infrastructure for managing and monitoring its water treatment processes effectively and securely.

GENERAL CONTROL SYSTEMS

Project Team

Project Manager – Milton Weaver, Director of Engineering

Project Superintendent – Eric Sullivan, Business Development Manager

Quality Manager – Christen Egan, Engineering Manager

Safety Manager – Cherish Decker, Project Manager & Safety Officer

Programming Lead – Carl von Dorn, Control Systems Engineer

Hardware Lead – Jeff Faulkner, Control Systems Engineer

Network and Cybersecurity Lead – Jimena Ibarra, Control Systems Engineer

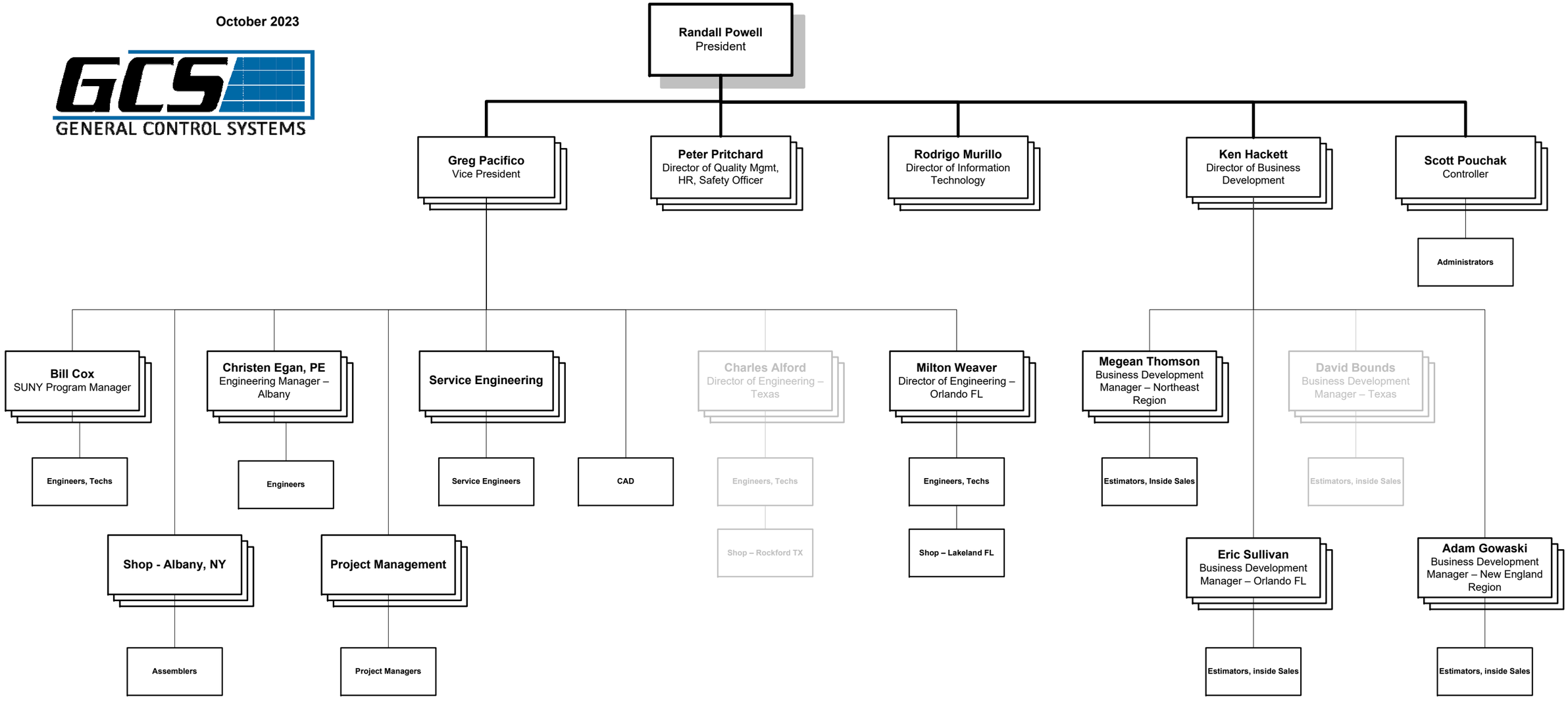
Commissioning Lead – Dylan Chamberlain, Control Systems Engineer & Project Manager

See attached resumes for qualifications.

General Control Systems, Inc.

October 2023

Organizational Chart – by Function



GENERAL CONTROL SYSTEMS

Personnel Assigned and Availability

The proposed assigned personnel are adequately available to perform the work associated with this project.

Project Manager – Milton Weaver, Director of Engineering

Project Superintendent – Eric Sullivan, Business Development Manager

Quality Manager – Christen Egan, Control Systems Engineer

Safety Manager – Cherish Decker, Project Manager & Safety Officer

Programming Lead – Carl von Dorn, Control Systems Engineer

Hardware Lead – Jeff Faulkner, Control Systems Engineer

Network and Cybersecurity Lead – Jimena Ibarra, Control Systems Engineer

Commissioning Lead – Dylan Chamberlain, Control Systems Engineer & Project Manager

Ron DeSantis, Governor

Melanie S. Griffin,Secretary

FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE
PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

EGAN, CHRISTEN LORRAINE

437 SECOND ST.
SCHENECTADY NY 12306

LICENSE NUMBER: PE94971

EXPIRATION DATE: FEBRUARY 28, 2025

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

POLK COUNTY LOCAL BUSINESS TAX APPLICATION FORM

ACCOUNT NO. 247321 **CLASS:** B+ **PAYMENT DUE BY:** 09/30/2023

OWNER NAME	LOCATION
RANDALL POWELL	**3520 AIRPORT RD** **LAKELAND**

BUSINESS NAME AND MAILING ADDRESS **CODE** **ACTIVITY TYPE**

GENERAL CONTROL SYSTEMS INC **230130** **CONTRACTOR ELECTRICAL UNLIMITED**
GENERAL CONTROL SYSTEMS INC
17 CORPORATE CIR
ALBANY, NY 12203

SIGN HERE **DSCOTT@GENERALCONTROLS**

SIGNATURE INDICATES APPLICANT READ AND UNDERSTANDS THE APPLICATION AFFIDAVIT ON THE BACK OF THE FORM AND AFFIRMS THE INFORMATION PROVIDED IS TRUE AND CORRECT.	**AMOUNT DUE: 82.19**

PAID - 2169190 01/09/2024 OPY **OLP 82.19 GENERAL CONTROL SYSTEMS INC**

For Your Information: What You Need To Know About Tangible Personal Property

Every individual or firm doing business and located in Polk County is also subject to the tangible personal property requirement.

An initial tangible personal property tax return is required to be filed with the Polk County Property Appraiser`s Office by April 1st of the year after the business opens. The initial return is required if the business owns or leases any personal property, without regard to the value of that personal property. In subsequent years, however, no return is required unless the combined value of all business equipment is more than 25,000 dollars.

To file an initial tangible personal property tax return or for additional information, visit Polk County Property Appraiser`s Office website, polkpa.org.

POLK COUNTY LOCAL BUSINESS TAX RECEIPT

ACCOUNT NO. 247321 **CLASS:** B+ **EXPIRES:** **09/30/2024**

OWNER NAME	LOCATION
RANDALL POWELL	**3520 AIRPORT RD** **LAKELAND**

BUSINESS NAME AND MAILING ADDRESS **CODE** **ACTIVITY TYPE**

GENERAL CONTROL SYSTEMS INC **230130** **CONTRACTOR ELECTRICAL UNLIMITED**
GENERAL CONTROL SYSTEMS INC
17 CORPORATE CIR
ALBANY, NY 12203

PROFESSIONAL LICENSE (IF APPLICABLE)
DBPR EC13006838

OFFICE OF JOE G. TEDDER, CFC * TAX COLLECTOR	THIS POLK COUNTY LOCAL BUSINESS TAX RECEIPT MUST BE CONSPICUOUSLY DISPLAYED AT THE BUSINESS LOCATION

PAID - 2169190 01/09/2024 OPY **OLP 82.19 GENERAL CONTROL SYSTEMS INC**

CITY OF LAKELAND

BUSINESS TAX RECEIPT

Business Tax Office, 228 S Massachusetts Ave., Lakeland, FL 33801

Expires on: 9/30/2024

Account Number: 1398527
Workers: 8
Square Footage: 5,130
Fee: $237.69

Location Address
3520 AIRPORT RD

Business Name & Mailing Address
GENERAL CONTROL SYSTEMS INC

RANDALL POWELL - OWNER
17 CORPORATE CIRCLE
ALBANY,NY 12203

This business tax receipt does not permit the holder to operate in violation of any City law, ordinance or regulation. Any change in location or ownership must be approved by the City Business Tax Section, subject to zoning restrictions. This Receipt does not constitute an endorsement, approval or disapproval of the holder's skill or competence or of the compliance or noncompliance of the holder with other laws, regulations or standards.

R. Brian Powell

RECEIPT MUST BE CONSPICUOUSLY DISPLAYED IN YOUR PLACE OF BUSINESS

VALID ONLY WHEN SIGNED

Bus. Type(s) Bus. Subtype(s)	Quantity
CAT I-OFFICE BUSINESS OFFICE	
CATEGORY I	

FLORIDA

2024 Florida Annual Resale Certificate for Sales Tax

DR-13
R. 10/23

This Certificate Expires on December 31, 2024

Business Name and Location Address	Certificate Number
GENERAL CONTROL SYSTEMS INC GENERAL CONTROL SYSTEMS 3520 AIRPORT RD LAKELAND, FL 33811-1035	63-8018603061-6

By extending this certificate or the certificate number to a selling dealer to make eligible purchases of taxable property or services exempt from sales tax and discretionary sales surtax, the person or business named above certifies that the taxable property or services purchased or rented will be resold or re-rented for one or more of the following purposes:

- Resale as tangible personal property
- Re-rental as tangible personal property
- Resale of services
- Re-rental as commercial real property
- Incorporation into tangible personal property being repaired
- Re-rental as transient rental property
- Incorporation as a material, ingredient, or component part of tangible personal property that is being produced for sale by manufacturing, compounding, or processing

Your *Florida Annual Resale Certificate for Sales Tax* (Annual Resale Certificate) allows you or your representatives to buy or rent property or services tax exempt when the property or service is resold or re-rented. You **may not** use your Annual Resale Certificate to make tax-exempt purchases or rentals of property or services that will be used by your business or for personal purposes. Florida law provides for criminal and civil penalties for fraudulent use of an Annual Resale Certificate.

As a seller, you must document each tax-exempt sale for resale using one of three methods. You can use a different method each time you make a tax-exempt sale for resale.

1. Obtain a copy (paper or electronic) of your customer's current Annual Resale Certificate.
2. For each sale, obtain a transaction authorization number using your customer's Annual Resale Certificate number.
3. Each calendar year, obtain annual vendor authorization numbers for your regular customers using their Annual Resale Certificate numbers.

Online: Visit **floridarevenue.com/taxes/certificates**

Phone: 877-357-3725 and enter your customer's Annual Resale Certificate number

Mobile App: Available for iPhone, iPad, and Android devices

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 8/1/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Arthur J. Gallagher Risk Management Services, LLC
30 Century Hill Drive
Suite 200
Latham NY 12110

CONTACT NAME: Kasie Winig
PHONE (A/C, No, Ext): 518-824-2012 **FAX (A/C, No):** 518-869-3580
E-MAIL ADDRESS: kasie_winig@ajg.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Atlantic Specialty Insurance Company	27154
INSURER B : Houston Casualty Company	42374
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED GENECON-16
General Control Systems, Inc
17 Corporate Circle
Albany NY 12203

COVERAGES **CERTIFICATE NUMBER:** 4414863 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC [ ] OTHER:	Y	Y	7110176050002	8/1/2023	8/1/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG 	$ 1,000,000 $ 1,000,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
A	**AUTOMOBILE LIABILITY** X ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS X HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY	Y	Y	7110176050002	8/1/2023	8/1/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) 	$ 1,000,000 $ $ $ $
A	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** [ ] CLAIMS-MADE DED RETENTION $			7110176050002	8/1/2023	8/1/2024	EACH OCCURRENCE AGGREGATE 	$ 10,000,000 $ 10,000,000 $
A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] N / A **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below		Y	4060480160002	8/1/2023	8/1/2024	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
A B A	Professional Liability Cyber Liability Installation Floater			7600109010002 H23NGP22541500 7110176050002	8/1/2023 5/10/2023 8/1/2023	8/1/2024 5/10/2024 8/1/2024	Limit Limit Limit	$5,000,000 $1,000,000 $150,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Blanket Additional Insured on the General Liability form #CG 2037
Blanket Waiver of Subrogation on the General Liability
Polk County is an additional insured with regard to Commercial General Liability & Automobile Liability. A waiver of subrogation applies for the General Liability, Automobile Liability and Workers Compensation policies.

CERTIFICATE HOLDER

Polk County
330 West Church St
Bartow, FL 33830
USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

OFFEROR'S CERTIFICATION

WHEN OFFEROR IS A CORPORATION

IN WITNESS WHEREOF, the Offeror hereto has executed this Proposal Form this 8th day of March, 20 24.

General Control Systems, Inc.
Printed Name of Corporation

New York
Printed State of Incorporation

By: Randall Powell
Signature of President or other authorized officer

(CORPORATE SEAL)

Randall Powell
Printed Name of President or other authorized officer

ATTEST:
By Peter Pittard
Secretary

17 Corporate Circle
Address of Corporation
Albany, NY 12203
City/State/Zip
518-270-8045
Business Phone Number

State of New York

County of Rensselaer

The foregoing instrument was acknowledged before me this 8th day of March, 2024, by Randall Powell (Name), President (Title) of General Control Systems (Company Name) on behalf of the corporation, who is personally known to me by means of ✓ physical presence or ___ online notarization or who has produced Visual ID as identification and who did (did not) take an oath.

WITNESS my hand and official seal.

NOTARY PUBLIC

JORDAN A. MANTELLO
Notary Public, State of New York
No. 01MA6426734
Qualified in Rensselaer County
Commission Expires May 16, 2026

Jordan Mantello
(Name of Notary Public: Print, Stamp, or type as Commissioned)

OFFEROR'S
QUALIFICATION STATEMENT

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter:

SUBMITTED TO: City of Margate (Purchasing Division)

ADDRESS: 5790 Margate Boulevard
Margate, Florida 33063

CIRCLE ONE

SUBMITTED BY: General Control Systems, Inc. Corporation
NAME: Eric Sullivan Partnership
ADDRESS: 3520 Airport Rd. Lakeland, FL 33811 Individual
PRINCIPAL OFFICE: 17 Corporate Circle Albany, NY 12203 Other

1. State the true, exact, correct, and complete name of the partnership, corporation, trade or fictitious name under which you do business and the address of the place of business. (Attach corporate documents from the State of Florida (sunbiz.org) to this statement.)

   The correct name of the Offeror is:
   General Control Systems, Inc.
   The address of the principal place of business is:
   17 Corporate Circle Albany, NY 12203

2. If Offeror is a corporation, answer the following:

   a. Date of Incorporation: August 1, 1996

   b. State of Incorporation: New York

   c. President's name: Randall Powell

   d. Vice President's name: Greg Pacifico

   e. Secretary's name: Peter Pritchard

   f. Treasurer's name: N/A

THE OFFEROR ACKNOWLEDGES AND UNDERSTANDS THAT THE INFORMATION CONTAINED IN RESPONSE TO THIS QUALIFICATIONS STATEMENT SHALL BE RELIED UPON BY OWNER IN AWARDING THE AGREEMENT AND SUCH INFORMATION IS WARRANTED BY OFFEROR TO BE TRUE. THE DISCOVERY OF ANY OMISSION OR MISSTATEMENT THAT MATERIALLY AFFECTS THE OFFEROR'S QUALIFICATIONS TO PERFORM UNDER THE CONTRACT SHALL CAUSE THE OWNER TO REJECT THE PROPOSAL, AND IF AFTER THE AWARD TO CANCEL AND TERMINATE THE AWARD AND/OR AGREEMENT.

Randall Powell

(Signature)

State of New York
County of Rensselaer

The foregoing instrument was acknowledged before me this 8th day of March, 2024, by Randall Powell, who is personally known to me by means of ✓ physical presence or ___ online notarization or who has produced as identification and who did (did not) take an oath.

WITNESS my hand and official seal.

NOTARY PUBLIC

JORDAN A. MANTELLO
Notary Public, State of New York
No. 01MA6426734
Qualified in Rensselaer County
Commission Expires May 16, 2026

(Name of Notary Public: Print, Stamp, or Type as Commssioned)

DRUG-FREE WORKPLACE PROGRAM FORM RFQ NO. 2024-005

In accordance with Section 287.087, State of Florida Statutes, preference shall be given to businesses with Drug-free Workplace Programs. Whenever two or more bids which are equal with respect to price, quality, and service are received for the procurement of commodities or contractual service, a bid received from a business that certifies that it has implemented a Drug-free Workplace Program shall be given preference in the award process. In the event that none of the tied vendors have a Drug-free Workplace program in effect, the City reserves the right to make final Decisions in the City's best interest. In order to have a Drug-free Workplace Program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the Workplace, the business's policy of maintaining a drug-free Workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contenders to, any violation of Chapter 893 or of any controlled substance law of the United States of any State, for a violation occurring in the Workplace no later than five (5) days after such conviction.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by any employee who is convicted.

6. Make a good faith effort to continue to maintain a drug-free Workplace through implementation. If bidder's company has a Drug-free Workplace Program, so certify below:

AS THE PERSON AUTHORIZED TO SIGN THE STATEMENT, I CERTIFY THAT THIS FIRM COMPLIES FULLY WITH THE ABOVE REQUIREMENTS.

SIGNATURE OF BIDDER: Randall Lowe DATE: 07/08/24

COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT

Bidder certifies that all **material**, equipment, etc. contained in this bid meets all O.S.H.A. requirements. Bidder further certifies that if he/she is the successful bidder, and the material, equipment, etc., delivered is subsequently found to be deficient in any O.S.H.A. requirement in effect on date of delivery, all costs necessary to bring the material, equipment, etc. into compliance with the aforementioned requirements shall be borne by the bidder.

OCCUPATIONAL HEALTH AND SAFETY - SAFETY DATA SHEET REQUIRED:

In compliance with Chapter 442, Florida Statutes, any item delivered from a contract resulting from this bid must be accompanied by a SAFETY DATA SHEET (SDS). The SDS must include the following information:

A. The chemical name and the common name of the toxic substance.

B. The hazards or other risks in the use of the toxic substances, including:

1. The potential for fire, explosion, corrosivity and reactivity;

2. The known acute and chronic health effects of risks from exposure, including the medical conditions which are generally recognized as being aggravated by exposure to the toxic substance; and

3. The primary routes of entry and symptoms of overexposure.

C. The proper precautions, handling practices, necessary personal protective equipment, and other safety precautions in the use of or exposure to the toxic substances, including appropriate emergency treatment in case of overexposure.

D. The emergency procedure for spills, fire, disposal and first aid.

E. A description in lay terms of the known specific potential health risks posed by the toxic substances intended to alert any person reading this information.

F. The year and month, if available, that the information was compiled and the name, address and emergency telephone number of the manufacturer responsible for preparing the information.

SIGNATURE: Paul W Lovell DATE: 02/08/24

NON-COLLUSIVE AFFIDAVIT FOR RFQ NO. 2024-005

State of New York)
County of Rensselaer)

Randall Powell being first duly sworn, deposes and says that:

He/she is the President, (Owner, Partner, Officer, Representative or Agent) of General Control Systems Offeror that has submitted the attached Proposal;

He/she is fully informed regarding the preparation and contents of the attached Proposal and of all pertinent circumstances regarding such Proposal;

Such Proposal is genuine and is not a collusive or sham Proposal;

Neither the said Offeror nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other Offeror, firm, or person to submit a collusive or sham Proposal in connection with the Work for which the attached Proposal has been submitted; or to refrain from bidding in connection with such Work; or have in any manner, directly or indirectly, sought by agreement or collusion, or communication, or conference with any Offeror, firm, or person to fix the price or prices in the attached Proposal or of any other Offeror, or to fix any overhead, profit, or cost elements of the Proposal price or the Proposal price of any other Offeror, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed Work;

The price or prices quoted in the attached Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Offeror or any other of its agents, representatives, owners, employees or parties in interest, including this affiant.

Signed, sealed and ~~delivered in the~~ presence of:

Witness

Witness

By Randall Powell

Randall Powell
Printed Name

President
Title

ACKNOWLEDGMENT
NON-COLLUSIVE AFFIDAVIT FOR RFQ NO. 2024-005

State of ~~Florida~~ New York
County of Rensselaer

On this the 8th day of March, 2024, before me, the undersigned Notary Public of the State of ~~Florida~~ New York, personally appeared
Randall Powell and
(Name(s) of individual(s) who appeared before notary)

whose name(s) is/are Subscribed to within the instrument, and he/she/they acknowledge that he/she/they executed it.

WITNESS my hand
And Official Seal

NOTARY PUBLIC
SEAL OF OFFICE

NOTARY PUBLIC, STATE OF ~~FLORIDA~~ New York
JORDAN A. MANTELLO
Notary Public, State of New York
No. 01MA6426734
Qualified in Rensselaer County
Commission Expires May 16, 2026
(Name of Notary Public: Print, Stamp, or Type of Commissioned)

☑ DID take an oath or
☐ DID NOT take an oath

Scrutinized Company Certification

I hereby swear or affirm that as of the date below this company is not listed on a Scrutinized Companies list created pursuant to 215.4725, 215.473, or 287.135, Florida Statutes. Pursuant to 287.135, Florida Statutes I further affirm that:

1. This company is not participating in a boycott of Israel such that it is not refusing to deal, terminating business activities, or taking other actions to limit commercial relations with Israel, or persons or entities doing business in Israel or in Israeli-controlled territories, in a discriminatory manner.
2. This Company does not appear on the Scrutinized Companies with Activities in Sudan List where the State Board of Administration has established the following criteria:
    a. Have a material business relationship with the government of Sudan or a government created project involving oil related, mineral extraction, or power generation activities, or
    b. Have a material business relationship involving the supply of military equipment, or
    c. Impart minimal benefit to disadvantaged citizens that are typically located in the geographic periphery of Sudan, or
    d. Have been complicit in the genocidal campaign in Darfur.
3. This Company does not appear on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List where the State Board of Administration has established the following criteria:
    a. Have a material business relationship with the government of Iran or a government-created project involving oil related or mineral extraction activities, or
    b. Have made material investments with the effect of significantly enhancing Iran's petroleum sector.
4. This Company is not engaged in business operations in Cuba or Syria.

VENDOR/COMPANY NAME: General Control Systems

SIGNATURE: Randall Powell

PRINTED NAME: Randall Powell

TITLE: President DATE: 02/08/24

The scrutinized company list is maintained by the State Board of Administration and available at
http://www.sbafla.com/

CITY OF MARGATE
E-VERIFY FORM

Project Name:	RFQ SCADA UPGRADES
Project No.:	2024-005

ACKNOWLEDGEMENT

Definitions:

"Contractor" means a person or entity that has entered or is attempting to enter into a contract with a public employer to provide labor, supplies, or services to such employer in exchange for salary, wages, or other remuneration.

"Subcontractor" means a person or entity that provides labor, supplies, or services to or for a contractor or another subcontractor in exchange for salary, wages, or other remuneration.

Effective January 1, 2021, public and private employers, contractors and subcontractors will begin required registration with, and use of the E-verify system in order to verify the work authorization status of all newly hired employees. Vendor/Consultant/Contractor acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of:

a) All persons employed by Vendor/Consultant/Contractor to perform employment duties within Florida during the term of the contract; and

b) All persons (including subvendors/subconsultants/subcontractors) assigned by Vendor/Consultant/Contractor to perform work pursuant to the contract with the Department. The Vendor/Consultant/Contractor acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the contract is a condition of the contract with the City of Margate; and

c) Should vendor become successful Contractor awarded for the above-named project, by entering into this Contract, the Contractor becomes obligated to comply with the provisions of Section 448.095, Fla. Stat., "Employment Eligibility," as amended from time to time. This includes but is not limited to utilization of the E-Verify System to verify the work authorization status of all newly hired employees, and requiring all subcontractors to provide an affidavit attesting that the subcontractor does not employ, contract with, or subcontract with, an unauthorized alien. The contractor shall maintain a copy of such affidavit for the duration of the contract. Failure to comply will lead to termination of this Contract, or if a subcontractor knowingly violates the statute, the subcontract must be terminated immediately. Any challenge to termination under this provision must be filed in the Circuit Court no later than 20 calendar days after the date of termination. If this contract is terminated for a violation of the statute by the Contractor, the Contractor may not be awarded a public contract for a period of 1 year after the date of termination and shall be liable for any additional costs incurred by the City as a result of the termination.

COMPANY CONTACT INFORMATION

Company Name: General Control Systems	
Authorized Signature: Randall Powell	
Print Name: Randall Powell	
Title President	
Date: 3/8/2024	
Phone: (863) 250-8293	
Email: rpowell@generalcontrolsystems.com	
Website: Generalcontrolsystems.com	

ARCHITECT-ENGINEER QUALIFICATIONS

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION *(City and State)*
SCADA Upgrades City of Margate, Florida

2. PUBLIC NOTICE DATE	3. SOLICITATION OR PROJECT NUMBER
02/09/2024	2024-005

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE
Eric Sullivan - Business Development Manager

5. NAME OF FIRM
General Control Systems

6. TELEPHONE NUMBER	7. FAX NUMBER	8. E-MAIL ADDRESS
863-698-8266		esullivan@generalcontrolsystems.com

C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors.)

	(Check) PRIME	(Check) J-V PARTNER	(Check) SUBCONTRACTOR	9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
a.	✓			General Control Systems ☑ CHECK IF BRANCH OFFICE	3520 Airport Rd Lakeland, FL 33811	Design and Construction
b.				☐ CHECK IF BRANCH OFFICE		
c.				☐ CHECK IF BRANCH OFFICE		
d.				☐ CHECK IF BRANCH OFFICE		
e.				☐ CHECK IF BRANCH OFFICE		
f.				☐ CHECK IF BRANCH OFFICE		

D. ORGANIZATIONAL CHART OF PROPOSED TEAM ☑ *(Attached)*

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Milton Weaver	Project Manager	25	2.25

15. FIRM NAME AND LOCATION *(City and State)*

General Control Systems Lakeland, Florida

16. EDUCATION *(Degree and Specialization)*	17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*
B.S Mechanical Engineering	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

UL MTR

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: SCADA Upgrades Phase 1 Hillsborough County Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2008

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Installed county wide telemetry system communication backbone consisting of three master sites utilizing 220MHz radios. Developed SCADA system based on iFix HMI. Built RTUs and integrated the first 150 lift station sites onto the SCADA system. $4.5 Million.

b.

(1) TITLE AND LOCATION *(City and State)*: SCADA Upgrades Phase 2 Hillsborough County Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2014

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Build and install 300 RTU/PCP utilizing Schneider PLCs for lift stations and integrated them into the SCADA system that was established in phase 1. $12 Million.

c.

(1) TITLE AND LOCATION *(City and State)*: SCADA Upgrade Boco Raton Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Modify existing network and iFix SCADA/Telemetry system to utilize RF and cellular communication to water and wastewater sites. Build, install and integrate 290 RTUs with Allen Bradley PLCs into the City's water and wastewater system. $4.5 Million.

d.

(1) TITLE AND LOCATION *(City and State)*: Decatur Utilities SCADA System Decatur Alabama

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2011

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Installed networking equipment, iFix SCADA and 220 MHz telemetry system. Installed Allen Bradley PLC controls for 40 filter water plant and integrated into SCADA system. Installed 17 RTUs at various water tanks and booster sites and integrated them into SCADA. $1 Million.

e.

(1) TITLE AND LOCATION *(City and State)*: Tuscaloosa SCADA Improvement Project Tuscaloosa Alabama

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2006

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Established SCADA/Telemetry system at water and wastewater plants utilizing iFix HMI and RF. Built, installed and integrated RTUs with Allen Bradley PLCs at 40 lift stations and 20 water sites. Added ventilation to 40 lift station dry wells. $5 Million.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Eric Sullivan	Project Superintendent	32	2+

15. FIRM NAME AND LOCATION *(City and State)*
General Control Systems, Lakeland, FL

16. EDUCATION *(Degree and Specialization)*	17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*
5 Year Technical IBEW	Florida Electrical Masters License

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*
VT Scada, Schneider Unity Programming

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Central Regional WTF - Polk County FL (Project Management)		2019

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Project consisted of a new Central Regional Water Treatment Facility for Polk County Utilities, Project included eight Schneider M340 control panels and one redundant M580 control panel. The system include physically separated fiber optic networks for both SCADA and security system. Included VT development of new VT SCADA screens.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Diner Lake Booster Station - Polk County Florida (Project Management)		2019

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Project included two M340 control panels, instrumentation, chemical truck loading panel, cellular communication and local in plant fiber optic communications, network switch,and a separate fiber network for security. System included PLC and VT SCADA screen development.

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Polk County NCLF Scada Upgrades Project (PM\Programming)		2017

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Project included upgrading 13 control panels from GE Fanuc to Modicon M340, installing redundant VT SCADA Servers with redundant fiber optic and cellular communications to each station. Repairing existing fiber and testing damaged by heavy equipment. Project included installation, VT SCADA and PLC Programming.

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Polk County Lift Station Replacement Projects (Project Management)		2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Project included a multi year, multi contract replacement of over 60 plus lift station control panels with new modicon M340 duplex pump control panels, cellular communications, demolition, and installation of all control panels, duplicate SCADA screens, testing and startup to existing VT SCADA.

e.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Coconut Creek Lift Stations Upgrade Project (Project Management)		2014

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Project include manufacturing and installing 65 plus Motorola based RTUs with redundant cellular and Cambium Canopy communications to a new redundant VT SCADA system. Project included installation, programming for both PLCs and SCADA system.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Cherish Decker	Safety Manager	9	2

15. FIRM NAME AND LOCATION *(City and State)*

General Control Systems, Lakeland, FL

16. EDUCATION *(Degree and Specialization)*	17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*
AS in Construction Management	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

First Aid/CPR Certified, OSHA 30 Certified

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: North Central Landfill Phase VI Expansion, Lakeland, Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Designed and fabricated a control panel and UPS cabinet. Provided and calibrated field instruments. Provided, installed, and terminated fiber optic cable. PLC and SCADA programming included. TSYS T and cellular modem configuration included. Cost of the job was around $200,000. Managed the scope and cost of the project.

b.

(1) TITLE AND LOCATION *(City and State)*: Nordstrom, Honolulu, Hawaii

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2016

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Manufactured precast/prestressed concrete walls, columns, beams, and hollowcore for commercial building. Cost of job $1 million. My role was creating and managing the schedule for each job by coordinating with management and labors.

c.

(1) TITLE AND LOCATION *(City and State)*: American Savings Bank - Main Branch, Honolulu, Hawaii

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2017

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Manufactured architectural precast/prestressed concrete walls, columns, beams, and hollowcore for commercial buildings. Cost of job 2.5 million. My role was creating and managing the schedule for each job by coordinating with management and labors.

d.

(1) TITLE AND LOCATION *(City and State)*: Kailua Regional Wastewater Treatment Plant, Kailua, Hawaii

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2018

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Manufactured steel railings and boardwalks for wastewater treatment plant. Cost was $500,000. Managed the scope and cost of the project.

e.

(1) TITLE AND LOCATION *(City and State)*

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*:

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Carl A. von Dorn	Programming Lead	38	2

15. FIRM NAME AND LOCATION *(City and State)*

General Control Systems, Lakeland, FL

16. EDUCATION *(Degree and Specialization)*	17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*
BS Electrical Engineering -- Digital System Design AS Electrical Engineering Technology -- Power Systems AS Electronics Engineering Technology -- Digital Logic Design	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Omron Electronics SASE Silver Award, Omron Electronics PLC Trainer, numerous factory trainings for VFDs, vector drives, servo drives, digital process meters, HMIs, SCADA, PLCs, robotics, and instrumentation

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: City of Auburndale Auburndale, Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2024 onging

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Water production facility requiring process automation. Existing relay logic system to be upgraded with PLC based control and SCADA. Approx $100K. Electrical Design. PLC configuration and programming. Testing and startup.

b.

(1) TITLE AND LOCATION *(City and State)*: City of Port St. Lucie Port St. Lucie, Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2024 onging

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

New, multiple sites, Lift Station control packages for project pump contractor for 1000+ homes and apartments. we provided the controls, radio or fiber optic connect to centralized SCADA. Approx. $250K. Electrical design maintenance duties, program modification, field installation and startups.

c.

(1) TITLE AND LOCATION *(City and State)*: City of Lakeland Utilities Publix WRWWF Lakeland, Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Upgrade of 8 PLC platforms with new PLC hardware, HMIs, and SCADA for facilities wide control and data communications interconnect. Approx $250K. PLC configuration, networking, programming, startup, field electrical changes and stepwise deployment of upgrades to minimize facility downtime and ensuring data communications.

d.

(1) TITLE AND LOCATION *(City and State)*: Polk County Utilities Cherry Hill WPF Lakeland, Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

New installation of a water production facility, approx 1M gallons/day. 2 wells, 3 HSPs, GST, and chlorine control for incoming and out going water, and digital interface to facility power system for control and monitoring. PLC, SCADA, and VFDs. Approx. $300K. Programming, system testing, FAT testing, field electrical changes, and startup.

e.

(1) TITLE AND LOCATION *(City and State)*: Polk County Utilities Central Regional Water Production Facility Bartow, Florida

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2020

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

New installation of a water production facility, approx 2-4M gallons/day. 4 wells, 5 HSPs, GST, ozone contact chamber, media filtration tanks, chlorination systems, ozone generator interface. Approx $700K. Programming of 8 PLC control systems, system networking, and local SCADA interface for custom ozone based hard water production facility

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Jeff Faulkner	Hardware Lead	32	2.5

15. FIRM NAME AND LOCATION *(City and State)*
General Control Systems, Lakeland, FL

16. EDUCATION *(Degree and Specialization)*	17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*
No degree.	N/A

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*
Naval Nuclear Power Program - ET/RO. Many industry trainings including Schneider Ecostruxture and VTScada. Instrumentation engineering.

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: **City of Lakeland Quantum Replacement West WRF Project, FL**

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☑ Check if project performed with current firm

Modernized 8 Modicon Quantum PLCs and Maple HMIs with new Schneider M580 PLCs and new Maple HMIs. I was the project manager and SCADA/HMI programmer. This was a $270K project.

b.

(1) TITLE AND LOCATION *(City and State)*: **Lakeland Glendale Belt Thickeners PLC Replacements, FL**

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☑ Check if project performed with current firm

Upgraded 2 old Allen Bradley SLC PLCS with new Schneider M340 PLCs. Added Maple HMI to each control panel and eliminated most discrete I/O on the door. We then integrated 2 new polymer systems. I was the PM, SCADA/HMI programmer, and field instruments expert. This was a $60K project.

c.

(1) TITLE AND LOCATION *(City and State)*: **Drain Field Road Booster Quantum PLC Replacement, Lakeland**

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2022

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☑ Check if project performed with current firm

Modernized Quantum PLC with Schneider M580 PLC and debugged Magelis HMI that was not working prior to project commencing. I was the PM and SCADA/HMI programmer. This was a $24K project.

d.

(1) TITLE AND LOCATION *(City and State)*: OCU SWRF Phase V, Orange County, FL

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Complete overhaul of every system at OCU SWRF. We specifically added over a dozen Siemens S7 1500 PLCs. In the course of the project we virtualized their SCADA/Historian and migrated from SI7 driver to IGS. I was the SCADA engineer. This project was done in phases that amounted to several million dollars.

e.

(1) TITLE AND LOCATION *(City and State)*: KSC LP39B control system renovation, Titusville, FL

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2016

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Modernized Modicon Momentum PLCs with new Momentum PLCs with firmware for Concept and IEC FB functionality. There were 21 equipment PLCs and 20+ HVAC PLCs. We also added 19 Magelis HMIs. I was the PLC/HMI programmer. This was a several million dollar project.

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Jimena Ibarra	Network and Cybersecurity Lead	9	2

15. FIRM NAME AND LOCATION *(City and State)*

General Control Systems, Lakeland, FL

16. EDUCATION *(Degree and Specialization)*	17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*
Computer Systems and Information Technology - Technical College	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Schneider Ecostruxure, VTScada Advanced Certification, Cisco CCNA, Comptia Secure Infrastructure Specialist

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Polk County, FL		2020

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Project included upgrade of existing PLC and SCADA controls to Schneider M340s and VTScada in 17 water plants and 3 wastewater facilities. Key role in VTScada programming and SCADA workstation installation.

b.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Dunedin, FL		Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Ongoing project that includes upgrades of existing PLC and SCADA controls at 42 lift stations city-wide. Key role in VTScada programming and installation of new SCADA servers. Project cost of 4.365 million

c.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Polk County, FL		Ongoing

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Key role in programming and installation of new VTScada controls at flare site in Polk County Landfill

d.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Albany, NY		2022

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☑ Check if project performed with current firm

Key role in programming of new VTScada controls for building automation at Curia Global

e.

(1) TITLE AND LOCATION *(City and State)*	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Polk County, FL		2021

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE

☐ Check if project performed with current firm

Began project layout for installation of a separate SCADA and I.T. network for Polk County landfill

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME	13. ROLE IN THIS CONTRACT	14. YEARS EXPERIENCE	
		a. TOTAL	b. WITH CURRENT FIRM
Dylan Chamberlian	Commissioning Lead	12	1

15. FIRM NAME AND LOCATION *(City and State)*

General Controls Systems Inc. Lakeland, FL

16. EDUCATION *(Degree and Specialization)*	17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*
Tampa Area Electrical JATC Apprentice (5 Year Program) Tampa Area Electrical JATC Instructor (4 Year Program) Michigan State University Rockwell Automation University (Online)	

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

IBEW Journeyman Wire Man, EPRI Level-2 Instrumentation Calibration & Process Control, Electrical Instructor, & Logic Developer, Rockwell Studio 5000

19. RELEVANT PROJECTS

a.

(1) TITLE AND LOCATION *(City and State)*: TAE-JATC Electrical Instructor, Tampa, FL

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2023

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Trained 12-18 students a day both hands-on and class room courses from: Electrical Safety & Theory, NFPA 70 & 70E, Motor Controls, Programmable Logic, and Instrumentation

b.

(1) TITLE AND LOCATION *(City and State)*: General Foreman/Controls Technician, Lakeland, FL

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2019

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Lakeland Electric McIntoch Power Plant, Demo and Replaced 4-Motor Control Centers and Coal Tunnel Lighting. Job cost at $1,200,000

c.

(1) TITLE AND LOCATION *(City and State)*: General Foreman/Controls Technician, Okeechobee & Sanford, FL

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2019

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

FP&L Martin County, Installed and Commissioned 4- Hydrogen Gas Analyzers for E-One Co. Job cost: $560,000
FP&L Sanford Power Plant, Installed and Commissioned 2- Hydrogen Gas Analyzers for E-One Co. Job cost:$280,000

d.

(1) TITLE AND LOCATION *(City and State)*: General Foreman/Controls Technician, Tampa, FL

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2018

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

Plains LPG, Instrumentation, Troubleshooting, & Startup, LPG Railroad Off-loading Facility. Job cost: 5,250,000

e.

(1) TITLE AND LOCATION *(City and State)*: Foremen/Instrument Technion, Dayton, FL

(2) YEAR COMPLETED — PROFESSIONAL SERVICES: | CONSTRUCTION *(If applicable)*: 2018

(3) BRIEF DESCRIPTION *(Brief scope, size, cost, etc.)* AND SPECIFIC ROLE — ☐ Check if project performed with current firm

B Braun Medical Inc., Instrumentation & Controls, Troubleshooting, & Startup, Plant Build-out. Job cost: 4,500,000

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER
1

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
City of Lakeland Quantum Replacement West WRF, Lakeland, FL	2023	

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
City of Lakeland	Jeff Edwards	863-834-6360

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Replacement of existing Modicon Quantum PLC racks and I/O cards with Modicon M580 racks, processor, and I/O cards. Provided I/O check, startup services, and process control verification in presence of the owner.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	General Control Systems	Lakeland, FL	SCADA system programmer
b.			
c.			
d.			
e.			
f.			

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER 2

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Kesselring Site - Sanity Waste Treatment Facility PLC, Software, and Computer Upgrades, Niskayuna, NY		2023

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Fluor Marine Propulsion	Nicholas Coppola	518-884-3556

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Furnished all necessary control equipment and services for upgrading all obsolete components in the existing SWTF control system. Installed, tested, and commissioned SCADA hardware, software, and programming. Integrated new communication protocols with a Gas Detection System, Sludge Flow Meter, and SCADA data collection from other control panels.

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	General Control Systems	Albany, NY	SCADA System Integrator
b.			
c.			
d.			
e.			
f.			

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT *(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)*	20. EXAMPLE PROJECT KEY NUMBER 3

21. TITLE AND LOCATION *(City and State)*	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION *(If applicable)*
Watkins Glen-Montour Falls WWTF Watkins Glen, NY		2021

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
Watkins Glen-Montour Falls	LaRue VanZile	607-734-4151

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

This was a new facility built to service both the Villages of Watkins Glen and Montour Falls including (2) new pump stations. GCS provided and implemented the new Allen Bradley Factory Talk SCADA system, designed and fabricated multiple control panels that included PLC/HMI programming, VFD's and instrumentation. $440,859

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION *(City and State)*	(3) ROLE
a.	General Control Systems	Albany, NY	SCADA System Integrator
b.			
c.			
d.			
e.			
f.			

G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

26. NAMES OF KEY PERSONNEL *(From Section E, Block 12)*	27. ROLE IN THIS CONTRACT *(From Section E, Block 13)*	28. EXAMPLE PROJECTS LISTED IN SECTION F *(Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.)*									
		1	2	3	4	5	6	7	8	9	10
Milton Weaver	Project Manager	X									
Eric Sullivan	Project Superintendent	X									
Christen Egan	Quality Manager		X	X							
Cherish Decker	Safety Manager										
Carl von Dorn	Programming Lead	X									
Jeff Faulkner	Hardware Lead	X									
Jimena Ibarra	Network and Cybersecurity Lead	X									
Dylan Chamberlain	Commissioning Lead										

29. EXAMPLE PROJECTS KEY

NUMBER	TITLE OF EXAMPLE PROJECT *(From Section F)*	NUMBER	TITLE OF EXAMPLE PROJECT *(From Section F)*
1	City of Lakeland Quantum Replacement West WRF	6	
2	Kesselring Site	7	
3	Watkins Glen-Montour Falls WWTF	8	
4		9	
5		10	

H. ADDITIONAL INFORMATION

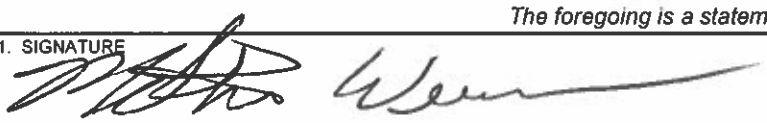
30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.

See all attached forms

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

31. SIGNATURE



32. DATE

3/13/2024

33. NAME AND TITLE

Milton Weaver, Director of Engineering

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*: 2024-005

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (*or Branch Office*) NAME: General Control Systems, Inc.	3. YEAR ESTABLISHED: 2021
	4. UNIQUE ENTITY IDENTIFIER:
2b. STREET: 3520 Airport Rd	5. OWNERSHIP
	a. TYPE: Corporation
2c. CITY: Lakeland	2d. STATE: FL
	2e. ZIP CODE: 33811
	b. SMALL BUSINESS STATUS:
6a. POINT OF CONTACT NAME AND TITLE: Eric Sullivan, Business Development Manager	7. NAME OF FIRM *(If Block 2a is a Branch Office)*
6b. TELEPHONE NUMBER: 863-698-8266	6c. EMAIL ADDRESS: esullivan@generalcontrolsystems.com
	General Control Systems, Inc.

8a. FORMER FIRM NAME(S) *(If any)*	8b. YEAR ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE

10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS

a. Function Code	b. Discipline	c. Number of Employees (1) FIRM	c. Number of Employees (2) BRANCH	a. Profile Code	b. Experience	c. Revenue Index Number *(see below)*
21	Electrical Engineer		1			
42	Mechanical Engineer		1			
4	Computer Programmer		3			
48	Project Managers		5			
18	Estimator		3			
58	Technician		4			
	Other Employees					
	Total		17			

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

(Insert revenue index number shown at right)

a. Federal Work	
b. Non-Federal Work	
c. Total Work	

PROFESSIONAL SERVICES REVENUE INDEX NUMBER

1. Less than $100,000
2. $100,000 to less than $250,000
3. $250,000 to less than $500,000
4. $500,000 to less than $1 million
5. $1 million to less than $2 million
6. $2 million to less than $5 million
7. $5 million to less than $10 million
8. $10 million to less than $25 million
9. $25 million to less than $50 million
10. $50 million or greater

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE

b. DATE: 3/13/2024

c. NAME AND TITLE: Milton Weaver, Director of Engineering

DOCUMENT 00451K

INSTRUMENTATION AND CONTROL SYSTEM CONTRACTOR (ICSC) QUALIFICATIONS FORM

ARTICLE 1 — QUALIFICATION DETERMINATION

1.01 Owner has sole discretion in the determination of qualified businesses.

1.02 Refer to Section 17050 – Common Work Results for Process Control and Instrumentation Systems for additional qualifications requirements. Complete the information required in this section and submit all information requested in Section 17050. Where there is a discrepancy between this section and Section 17050 the requirements of this section take precedence.

ARTICLE 2 — CONTACT AND OWNERSHIP INFORMATION

2.01 Provide contact information for the business:

Legal Name of Business:	General Control Systems Inc.		
Corporate Office			
Name:	Randall Powell	Phone number:	518-279-7543
Title:	President	Email address:	rpowell@generalcontrolsystems.com
Business address of corporate office:	17 Corporate Circle Albany, NY 12203		
Local Office			
Name:	Eric Sullivan	Phone number:	863-250-8291
Title:	Business Development Manager	Email address:	esullivan@generalcontrolsystems.com
Business address of local office:	3520 Airport Road Lakeland, FL 33811		

2.02 Provide information on the business's organizational structure:

Form of Business:	☐ Sole Proprietorship ☐ Partnership ☒ Corporation
☐ Limited Liability Company ☐ Joint Venture comprised of the following companies:	
	1.
	2.

	3.

Provide a separate Qualification Statement for each Joint Venture entity.			
Date Business was formed:	1996	State in which business was formed:	NY
Is this business authorized to operate in the Project location?	☒ Yes ☐ No ☐ Pending		

2.03 Identify all businesses that own Business in whole or in part (25 percent or greater), or that are wholly or partly (25 percent or greater) owned by Business:

Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			
Name of business:		Affiliation:	
Address:			

2.04 Provide information regarding the business's officers, partners, and limits of authority.

Name:	Randall Powell	Title:	President
Authorized to sign contracts: ☒ Yes ☐ No		Limit of Authority:	$ No Limit
Name:	Gregory Pacifico	Title:	Vice President
Authorized to sign contracts: ☒ Yes ☐ No		Limit of Authority:	$ No Limit
Name:		Title:	
Authorized to sign contracts: ☐ Yes ☐ No		Limit of Authority:	$
Name:		Title:	

2.05 License requirements

A. Licensed in the state where the project is to be constructed continuously for minimum period of 5 years.

License Number:	P21000095426

ARTICLE 3 — FINANCIAL

3.01 Financial requirements:

A. The financial condition of the business cannot be such that its financial ability to complete the Project is in doubt, in the opinion of the Owner.

3.02 Provide the most recent audited financial statement, and if such audited financial statement is not current, also provide the most current financial statement.

3.03 Provide information regarding the business's financial stability.

Financial Institution:	Key Bank	
Business address:	66 South Pearl Street Albany, NY 12207	
Date of business's most recent financial statement:	2022	☐ Attached
Date of business's most recent audited financial statement:	N/A	☐ Attached
Financial indicators from the most recent financial statement		
Contractor's Current Ratio (Current Assets ÷ Current Liabilities)		1.9
Contractor's Quick Ratio ((Cash and Cash Equivalents + Accounts Receivable + Short Term Investments) ÷ Current Liabilities)		1.1
Is the business in bankruptcy?		NO

ARTICLE 4 — SAFETY

4.01 Must have a designated Safety Manager. **Cherish Decker**

4.02 Submit a copy of the company's Safety Program. **See Attached Safety Manual**

4.03 Submit the company protocol for call-in of emergency work. **See Safety Manual Section 5 - Incident Reporting Procedure**

A. Must have a 24-hour 7 day a week emergency on call service with a dedicated 1-800 number that is answered by a person and not a recording.

4.04 Submit a statement that all employees that perform work:

A. Have completed the company safety training. **See attatched**

4.05 provide information regarding Business's safety organization and safety performance.

Name of Business's Safety	Peter Pritchard/ Cherish Decker	
Safety Certifications		
Certification Name	Issuing Agency	Expiration
ISO 9001	American Systems Registrar	02/20/2025
CSIA Certified	Control Systems Integrators Association	10/22/2025

4.06 Provide 3 years of data in the format below that includes Contractor's Worker's Compensation Insurance Experience Modification Rate (EMR), Total Recordable Injury Rate (TRIR) for incidents, and Total Number of Recorded Man Hours (MH) based on 29 CFR 1904 OSHA Recording and Reporting Occupational Injuries and Illness

requirements. Bidder shall submit Worker's Compensation Insurance Experience Modification Rate (EMR) letter from insurance broker with signed Agreement. **See attatched**

Year									
Company	EMR	TRIR	MH	EMR	TRIR	MH	EMR	TRIR	MH
	.86	2	124945	.80	0	118775	.82	0	85344

ARTICLE 5 — FACILITIES

5.01 Provide information regarding the facilities:

REQUIREMENT	YES OR NO
Does the business have a permanent service facility?	YES
Does the business have their own operating UL listed panel fabrication and testing facility?	YES
Does the business have a facility equipped with the tools and test equipment necessary to calibrate, test, and process start-up of the instrumentation, SCADA/HMI/PLC-based control systems, and wireless communications systems hardware and software furnished under this Contract, including remote diagnostic capability?	YES

ARTICLE 6 — EXPERIENCE AND RESOURCES

6.01 Provide information regarding the business:

REQUIREMENT	YES OR NO
Has the business been operating at least 5 years?	YES
Has the business been performing PCS system integration services for at least 5 years?	YES
Has the business been supplying PCS systems to the water and wastewater industries for at least 3 years?	YES
Has the business had at least $3.0 million, annual gross revenue?	YES
Does the business or any of its officers have adverse criminal or legal records, such as criminal convictions, defaults, loss of licenses, etc.?	NO
Does the business have a poor project performance record, such as repeated claims, litigation, defaults, etc.?	NO
Does the business have a minimum of 15 permanent, full-time technical employees, all of whom must be regularly engaged in I&C/PCS design and implementation work?	YES
Does the business have a permanent local office within 300 miles of the Project Site that is staffed with at least 3 technical or field service employees (excluding administrative staff) and has been so staffed for the past 12 months?	YES

Certifications and licenses:	
VTScada Certified Solution Provider	YES
UL 508 Certified Panel Shop	YES
FL Electrical Contractor License	YES
FL Engineering Firm Certificate of Authorization	YES
Please list any other relevant certifications or licenses below:	
Does the business have a training program staffed by qualified instructors, to provide proper training in the operation and maintenance of equipment as specified in the Contract Documents?	YES

6.02 Provide information that will identify the overall size and capacity of the business.

Average number of full-time employees:	85
Estimate of gross revenue for the current year:	$35MM
Estimate of gross revenue for the previous year:	$25MM

6.03 Provide information regarding the business's current workload.

A. Submit all projects currently under contract using the form provided in Attachment A – Project Experience.

6.04 Provide information regarding the business's previous contracting experience.

Years of experience with projects similar to the proposed project: 30				
As an ICSC:	X	As a joint venturer:		
Has business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:				
Been disqualified as a bidder by any local, state, or federal agency within the last 5 years? ☐ Yes ☒ No				
Been barred from contracting by any local, state, or federal agency within the last 5 years? ☐ Yes ☒ No				
Been released from a bid in the past 5 years? ☐ Yes ☒ No				
Defaulted on a project or failed to complete any contract awarded to it? ☐ Yes ☒ No				
Refused to construct or refused to provide materials defined in the contract documents or in a change order? ☐ Yes ☒ No				
Been a party to any currently pending litigation or arbitration? ☐ Yes ☒ No				
Provide full details in a separate attachment if the response to any of these questions is Yes.				

Water & Wastewater Projects

Note: This list is a sample only and does not include all GCS Water and Wastewater projects.

Current Projects

New Britain CT WTP SCADA Improvements:

Expected Completion: Q2 2024
Location: City of New Britain, CT
Project Size: $1.4M

Scope of Work: Upgrade of existing GE iFix SCADA platform with new servers and SCADA work stations, multiple new SCADA nodes including mobile devices, implementation of a new system wide network complete with a multi-tiered cyber security assessment and testing, upgrades of all existing Modicon Quantum PLC and IO to the most current Unity M580 platform and associated configuration and programming.

Dunedin Lift Station Control Panel and Lift Station SCADA System Upgrades:

Expected Completion: Q4 2024
Location: City of Dunedin, FL
Project Size: $4.5M

Scope of Work: This is a prime contract that entails work at the main wastewater treatment plant and at all 48 remote lift stations. The upgrades include the implementation of a new VTScada SCADA system with new servers, all new PLC and pump control panels, VFD's, instrumentation at all locations and a new cellular based telemetry system.

City of Bastrop, TX New WWTP:

Expected Completion: Q2 2024
Location: Bastrop, Texas
Project Size: $700K

Scope of Work: Brand new Wastewater Treatment Plant decommissioning 2 plants to commutate and run with the new WWTP #3. Utilizing and installing new AVEVA Edge for SCADA including new rack mount servers, client workstations, Win-911, XL reporter and Allen Bradley PLCs with Remote I/O. Dual Fiber Networks were implemented for plant communication. Instrumentation and Radio Telemetry for remote sites. Integration of vendor supplied control panels.

Water & Wastewater Projects

South Street WWTF Upgrade:

Expected Completion: Q3 2024
Location: Ridgefield, CT
Project Size: $850K

Scope of Work: A major overhaul of the existing South Street Wastewater Treatment Facility that includes significant upgrades to plant controls and instrumentation. GCS's scope of work includes installation, development and implementation of a new SCADA system with multiple workstations and thin clients, (2) new SCADA and Historian servers and a new fiber communication network complete with fiber optic cable, managed switches and patch panels. Design, fabrication, programming and HMI/OIT screen configurations of multiple new control panels including a main SCADA control panel equipped with hot standby redundant PLC's to be provided. All new instrumentation consisting of over 100 different devices including a complete gas detection system are also to be supplied, configured and calibrated.

City of Fitchburg, MA SCADA Upgrade Project:

Completion: Q4 2024
Location: Fitchburg, MA
Project Size: $740K

Scope of Work: Includes the implementation of a new VTSCADA system, design and fabrication of 25+ new MCP/control panels, multiple RTU's, PLC/HMI/OIT programming and instrumentation.

CCUA Peters Creek WRF Expansion:

Expected Completion: Q4 2024
Location: Cove Springs, FL
Project Size: $484K

Scope of Work: Expansion of a water reclamation facility. GCS's scope of work includes PLC programming, OEM panel integration, VT SCADA programming, software, reporting, network and local configuration for equipment control or connection to control status indication, as required for a fully functional system. Supply, install, and integrate all necessary hardware, components, network requirements, monitoring and instrumentation for the communication and control of the new plant. The project instrumentation and control system shall include (3) control panels, field instrumentation, SCADA workstations, alarm panel, IT Network Rack, Fiber Optic Cabling.

Water & Wastewater Projects

North Central Landfill-Wetlands Construction:

Expected Completion: Q3 2024
Location: Polk County, FL
Project Size: $610K

Scope of Work: Design, program and fabricate (4) control panels. Supply and calibrate instrumentation for (4) leachate process areas at the Polk County Landfill.

Daytona Beach, FL Heineman Street Potable Water Ground Storage Tank and Pump Station

Expected Completion: Q3 2024
Location: Daytona Beach, FL
Project Size: $595K

Scope of Work: Design, program, and fabricate (4) Allen Bradley CompactLogix 5380 control panels. Integrate new instrumentation into the existing VTSCADA system. Set up and tracking of process control trends with system configuration editing and monitoring of system performance.

PROJECT EXPERIENCE

PROJECT NAME:	DATE COMPLETED: 9/12/23
City of Lakeland Quantum Replacement West WRF	PROJECT DURATION: 7/12/22 - 9/12/23
GENERAL CONTRACTOR NAME: N/A	GENERAL CONTRACTOR ADDRESS:
GENERAL CONTRACTOR CONTACT PERSON: N/A	GENERAL CONTRACTOR CONTACT PHONE NO. (Office and mobile number):
OWNER NAME: City of Lakeland	OWNER ADDRESS: 1825 Glendale St Lakeland, FL 33803
OWNER CONTACT PERSON: Jeff Edwards	OWNER CONTACT PHONE NO. (Office and mobile number): 863-834-6360 / 863-209-1586
DESIGN FIRM NAME: N/A	DESIGN FIRM ADDRESS:
DESIGN FIRM CONTACT PERSON: N/A	DESIGN FIRM CONTACT PHONE NO. (Office and mobile number):
BRIEF DESCRIPTION OF THE SYSTEM:	PLC/HMI Modernization
INITIAL PROJECT SUBCONTRACT COST:	$259,400
CHANGE ORDER COSTS FOR SUBCONTRACT:	N/A
FINAL PROJECT SUBCONTRACT COST:	$259,400
COMMENTS OR EXCEPTIONS:	
BRIEF APPLICATION SOFTWARE DESCRIPTION:	
COMPUTER-BASED SCADA SYSTEM HARDWARE MANUFACTURER PLATFORM:	Virtualized
COMPUTER-BASED SCADA SYSTEM SOFTWARE MANUFACTURER PLATFORM:	GE iFIX

PLC BASED CONTROL SYSTEM MANUFACTURER AND PLATFORM:	Schneider Quantum to M580
NETWORK EQUIPMENT MANUFACTURER AND PLATFORM:	N-TRON
APPROXIMATE NUMBER OF PLCs:	8
APPROXIMATE NUMBER OF INPUT AND OUTPUT SIGNALS:	CONTRACTED COST OF THE PCIS SYSTEM:
ANALOG: 90	BASE AMOUNT: $259,400
DIGITAL: 220	CHANGE ORDERS: 0
FIELDBUS: N/A	TOTAL: $259,400
COMMENTS OR EXCEPTIONS:	N/A

PROJECT EXPERIENCE

PROJECT NAME:	DATE COMPLETED: 4/14/2023
Kesselring Site - Sanitary Waste Treatment Facility PLC, Software and Computer Upgrades	PROJECT DURATION: 1/6/2023-4/14/2023
GENERAL CONTRACTOR NAME: N/A	GENERAL CONTRACTOR ADDRESS:
GENERAL CONTRACTOR CONTACT PERSON: N/A	GENERAL CONTRACTOR CONTACT PHONE NO. (Office and mobile number):
OWNER NAME: Fluor Marine Propulsion	OWNER ADDRESS: 2401 River Rd Niskayuna, NY 12309
OWNER CONTACT PERSON: Nicholas Coppola	OWNER CONTACT PHONE NO. (Office and mobile number): 518-884-3556
DESIGN FIRM NAME: Aqua Aerobic Systems, Inc.	DESIGN FIRM ADDRESS: 6306 N Alpine Rd Loves Park, IL 61111
DESIGN FIRM CONTACT PERSON:	DESIGN FIRM CONTACT PHONE NO. (Office and mobile number): 815-654-2501
BRIEF DESCRIPTION OF THE SYSTEM:	Upgrades to SCADA Wonderware system
INITIAL PROJECT SUBCONTRACT COST:	$238,325.00
CHANGE ORDER COSTS FOR SUBCONTRACT:	$14,999
FINAL PROJECT SUBCONTRACT COST:	$253,324.00
COMMENTS OR EXCEPTIONS:	N/A
BRIEF APPLICATION SOFTWARE DESCRIPTION:	
COMPUTER-BASED SCADA SYSTEM HARDWARE MANUFACTURER PLATFORM:	
COMPUTER-BASED SCADA SYSTEM SOFTWARE MANUFACTURER PLATFORM:	SCADA Wonderware Intouch

PLC BASED CONTROL SYSTEM MANUFACTURER AND PLATFORM:	Schneider Modicon M580
NETWORK EQUIPMENT MANUFACTURER AND PLATFORM:	N/A
APPROXIMATE NUMBER OF PLCs:	3
APPROXIMATE NUMBER OF INPUT AND OUTPUT SIGNALS:	CONTRACTED COST OF THE PCIS SYSTEM:
ANALOG: 24	BASE AMOUNT: $238,325.00
DIGITAL: 135	CHANGE ORDERS: $14,999
FIELDBUS: N/A	TOTAL: $253,324
COMMENTS OR EXCEPTIONS:	

PROJECT EXPERIENCE

PROJECT NAME:	DATE COMPLETED: Q1 2021
Watkins Glen-Montour Falls WWTF	PROJECT DURATION: 2.5 years
GENERAL CONTRACTOR NAME: Streeter Associates	GENERAL CONTRACTOR ADDRESS: 101 E Woodlawn Av Elmira, NY 14901
GENERAL CONTRACTOR CONTACT PERSON: Chris Muehl	GENERAL CONTRACTOR CONTACT PHONE NO. (Office and mobile number): 607-734-4151
OWNER NAME: Watkins Glen-Montour Falls	OWNER ADDRESS: 449 S. Clute Park Rd Watkins Glen, NY 14891
OWNER CONTACT PERSON: LaRue VanZile	OWNER CONTACT PHONE NO. (Office and mobile number): 607-857-6627
DESIGN FIRM NAME: Larson Design Group	DESIGN FIRM ADDRESS: 8836 State Route 434 Apalachin, NY 13732
DESIGN FIRM CONTACT PERSON: Brad Sick	DESIGN FIRM CONTACT PHONE NO. (Office and mobile number): 607-936-7076
BRIEF DESCRIPTION OF THE SYSTEM:	New Allen Bradley Factory Talk SCADA system, PLC/HMI prog
INITIAL PROJECT SUBCONTRACT COST:	$301,100
CHANGE ORDER COSTS FOR SUBCONTRACT:	$139,759
FINAL PROJECT SUBCONTRACT COST:	$440,859
COMMENTS OR EXCEPTIONS:	
BRIEF APPLICATION SOFTWARE DESCRIPTION:	
COMPUTER-BASED SCADA SYSTEM HARDWARE MANUFACTURER PLATFORM:	Allen Bradley
COMPUTER-BASED SCADA SYSTEM SOFTWARE MANUFACTURER PLATFORM:	Factory Talk SCADA

PLC BASED CONTROL SYSTEM MANUFACTURER AND PLATFORM:	Allen Bradley Flex I/O 1794 & CompactLogix
NETWORK EQUIPMENT MANUFACTURER AND PLATFORM:	N/A
APPROXIMATE NUMBER OF PLCs:	8
APPROXIMATE NUMBER OF INPUT AND OUTPUT SIGNALS:	CONTRACTED COST OF THE PCIS SYSTEM:
ANALOG: 29	BASE AMOUNT: $301,100
DIGITAL: 77	CHANGE ORDERS: $139,759
FIELDBUS:	TOTAL: $440,859
COMMENTS OR EXCEPTIONS:	

GENERAL CONTROL SYSTEMS

Project Manager

Milton Weaver

Director of Engineering
Experience: 28 years total, 2 years at GCS

Education:
Bachelor of Science in Mechanical Engineering University of Alabama

Technical Experience:
Project Management
Industrial Automation System Design
SCADA/HMI Design and Development
PLC Software Configuration & Design Instrumentation
& Process Control Cellular/Radio Networking

Certifications:
UL 508A Qualified Manufacturer Technical Representative

Work Experience:
Director of Engineering
General Control Systems, Inc., Lakeland, Florida March 2022 - Present

Project Engineer
Curry Controls Company 2000 – 2021

GENERAL CONTROL SYSTEMS

Project Superintendent

Eric Sullivan

Business Development Manager
Experience: 28 years total, 2 years at GCS

Education:
Polk State College Lakeland, Florida
Tampa NJATC (5 Years)

State of Florida Certified Electrical Qualifier

Technical Experience:
Senior Project Manager
SCADA/HMI Programming (GE IFix, VT SCADA)
PLC Programming (Schneider Proworks NXT & 32, Unity, GE ME)
Logic Developer, Rockwell Studio 5000
Instrumentation Calibration & Process Control
Electrical Design, Installation, Trouble-Shooting, & Startup

Work Experience:
Business Development Manager
General Control Systems, Inc., Lakeland, Florida September 2021 – Present

Senior Project Manager
Curry Controls Company / Revere April 1995 – September 2021

Electrician
J.H. Ham Engineering June 1992 – April 1995

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Quality Manager

Christen Egan, P.E.

Engineering Manager
Experience: 10 years total, 10 years at GCS

Education:

Bachelor of Science in Biomedical Rensselaer Polytechnic Institute
Bachelor of Science in Electrical Engineering Rensselaer Polytechnic Institute

Technical Experience:

SCADA/HMI Design and Development
PLC Software Configuration & Design
Motor & Drive Configuration
Instrumentation & Process Control
Cellular/Radio Networking
Certified Associate in Project Management (CAPM)
Robotics

Work Experience:

Control System Engineer
General Control Systems, Inc. 2014 – Current

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Safety Manager

Cherish Decker

Project Manager / Safety Officer
Experience: 8 years total, 2 years at GCS

Education:

Associate in Science in Construction Management Honolulu Community College

Technical Experience:

Project Management
Microsoft Project

Certifications:

First Aid / CPR
OSHA 30

Work Experience:

Project Manager
General Control Systems, Inc., Lakeland, FL Aug 2022- Present

Production Control/Materials Coordinator/ Safety Officer
GPRM Prestress, Honolulu, HI July 2014-Nov 2017 and April 2019 – April 2022

Project Manager
McSweeney Steel, Tacoma, WA Dec 2017 – March 2019

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Programming Lead

Carl von Dorn

Control System Engineer
Experience: 20 years total, 2 years at GCS

Education:

Bachelors of Electrical Engineering 1986 – University of North Carolina at Charlotte
Associates Degree Electrical Engineering Technology 1983 – Central Piedmont Community College
Associates Degree Electronics Engineering Technology 1983 – Central Piedmont Community College
United States Coast Guard Academy 1892-1983
Virginia Military Academy 1891-1982

Technical Experience:

Programmable Controllers
Omron: C, CV, and NJ series
Schneider Electric: M340, M580, Momentum and Quantum
Mitsubishi Electric: Fx, Fx1, Fx2, Q Series

SCADA Software
VT SCADA, WonderWare, Intellution, Indusoft

HMI
Omron: NT, NS, NB and NA Series
Red Lion
Mitsubishi: GOT Series

VFD
Baldor, Danfoss, Omron, Schneider Electric

Work Experience:

Control System Engineer
General Control Systems, Inc., Lakeland, Florida March 2022 – Present

Project Engineer / Programmer
Curry Controls Company / Revere, Lakeland, Florida April 2018 – February 2022

Sales and Applications Engineer
Adams Air and Automation 2015 – 2017

Applications Engineer
AA Electric S.E., Inc. 1999 – 2015 and 1989 – 1993

Software Development
Gribetz International 1994 – 1996

Electrical System Design & Circuit Board Design
Philips Components Tantalum Chip Manufacturing 1986 -1989

Electronics Repair, Panel Build, System Design, Software Development
Select Controls Inc. 1983 – 1985

GENERAL CONTROL SYSTEMS

Hardware Lead

Jeff Faulkner

Control Systems Engineer
Experience: 29 years total, 2 years at GCS

Education:
United States Navy Nuclear Power Program – Reactor Operator
NFAS/NNPS Orlando, Florida
NPTU Ballston Spa, New York

Certifications:
Schneider Electric EcoStruxure Plant Certified- Control System
Schneider Electric Ethernet Networking
Schneider Electric Control Expert
Schneider Electric GEO SCADA

Technical Experience:
SCADA/HMI Design and Development
PLC Programming
DCS Programming
Systems Administration
Instrumentation and Controls Specification/Installation/Calibration
Power Plant Operations and Maintenance (Nuclear/Fossil) Particle Accelerator Operations

Work Experience:
Control System Engineer
General Control Systems, Inc., Lakeland, Florida March 2022 – Present

Project Engineer
Curry Controls Company 2014 – 2021

RMC Controls Engineer
Mitsubishi Power Systems 2012 – 2014

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Network & Cybersecurity Lead

Jimena Ibarra

Control System Engineer
Experience: 9 years total, 2 years at GCS

Education:
Computer Systems & Information Technology Traviss Technical College

Certifications:
Ignition 8.1 Certified
Schneider Electric EcoStruxure Plant Certified- Control System
Schneider Electric Ethernet Networking
Schneider Electric Control Expert
Schneider Electric GEO SCADA
CISCO CCNA
VTSCADA Advanced Certification
CompTIA Secure Infrastructure Specialist

Technical Experience:
SCADA/HMI Programming
PLC Software Troubleshooting
Water and Wastewater Controls Integration

Work Experience:
Control System Engineer
General Control Systems, Inc., Lakeland, Florida March 2022 – Present

SCADA Programmer
Curry Controls Company/Revere December 2019 – December 2021

SCADA Specialist
Polk County Board of County Commissioners August 2016 – December 2019

GENERAL CONTROL SYSTEMS

Commissioning Lead

Dylan Chamberlain

Control System Engineer / Project Manager
Experience: 12 years total, 1 years at GCS

Education:

Tampa Area Electrical JATC (5 Year Program)
Tampa Area Electrical JATC Instructor (4 Year Program) Michigan State University
Rockwell Automation University (Online)

State of Florida Certified Electrical Qualifier

Technical Experience:

Journeyman Wire Man
Instrumentation Calibration & Process Control
Electrical Design, Installation, Troubleshooting, & Startup
Electrical Instructor
Logic Developer, Rockwell Studio 5000

Work Experience:

Control System Engineer/ Project Manager
General Control Systems, Inc., Lakeland, Florida September 2023 - Present

Electrical Instructor
Tampa Area Electrical JATC, January 2020 – December 2024

General Foreman / Controls Technician
Electro Design Engineering, Inc., July 2018 – December 2019

Controls Technician
Curry Controls Company May 2013 – June 2018

General Control Systems, Inc.

Safety Manual

Document Revision 1.10

Date of Issue: 6/29/2023

Process/Procedure Owner: PP

Approved By: RP

Confidentiality Level: Low

Procedure Number: 230-ADMIN-01

Revision History:

Rev. Number	Date of Issue	Author(s)	Brief Description of Change
1.5	1/15/2021	EB	Updates to Confined Space section, removal of foreman references; minor edits
1.6	9/15/2021	PP	Moved Safety Plan into QMS as a Procedure and changed title to Safety Manual; modification of New Employee Training section, edits to Accident Reporting section, removal of Safety Committee, removal of Respirator Program section and appendices; other minor and format edits
1.7	1/10/2022	PP	Modified Policy Statement and TOC pages to contain Company Logo
1.8	1/18/2022	PP	Changed “Accident” to “Incident” in Section 5 and in title of Appendix A
1.9	6/1/2023	PP	Updates on Designated Employees for first aid, electrical continuity testing update on documenting testing results, several improvements to Electrical Safety methods and procedures, additions to PPE responsibilities and fire extinguisher training added
1.10	6/29/2023	PP	Added Ladder Inspection Checklist as Appendix H

SAFETY MANUAL - POLICY STATEMENT

General Control Systems, Inc. places a top priority on the safety of its employees on the projects that we perform, and on creation of a safe environment where its employees can successfully complete projects that meet client requirements. This Safety Manual establishes the necessary framework and expectations that all work shall be performed, both at customer construction sites and within Company facilities.

We recognizes that construction activities can be a very hazardous business and that accident prevention, through hazard recognition and abatement, is an important part of labor management and successful construction.

We believe there is a direct tie-in between good jobsite housekeeping and an organized Project Manager; a manager who promotes and enforces the use of personal protective equipment such as hard hats and safety glasses is the same manager who maximizes productivity and contribution to profit.

General Control Systems, Inc. management will take this into account in employee promotion and supervisor selection.

General Control Systems, Inc. employees are also expected to play a significant role in accident prevention. Over eighty percent of work-related accidents in the U.S. are the result of unsafe acts. Training employees to practice safe work habits is a management responsibility. We expect nothing less than a positive response to these efforts.

Finally, the responsibility to enforce the General Control Systems, Inc. Safety Policy belongs to the Project Managers and Supervisors. They shall be held accountable for the results.

Randall Powell, President

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List of Appendices

1. Section 1 – Statement of Subcontractor Compliance

The prevention of injuries, accidents and property damage shall be of primary concern to all subcontractors in all work activities.

Each subcontractor shall report injuries, accidents and property damage to their General Control Systems, Inc. representative.

Each employee of a subcontractor shall follow all rules and regulations for both his own health and safety and that of his fellow workers.

In addition, each subcontractor shall be held accountable for the maintenance of a safe and healthful work environment.

The subcontractor must comply with all applicable State and Federal safety and health regulations and their safety policies must either meet or exceed the requirements outlined in the General Control Systems, Inc. Safety Policy. If the subcontractor's safety policies do not meet or exceed the requirements set forth by General Control Systems, Inc., then the subcontractor shall abide by the safety policies and procedures outlined in this Policy.

2. Section 2 – Safety and Health Duties and Responsibilities

Section 2a: Safety/Risk Manager

The Safety/Risk Manager is responsible for the following items and reports directly to the President.

1. Develop and maintain the Safety Policy.
2. Provide guidance and direction to ensure effective implementation of the Safety Policy. This includes, but is not limited to:
    i. Formal and informal orientation and training to ensure understanding and compliance with safety and health rules and safe work practices outlined in the Policy.
    ii. Conduct periodic, random jobsite surveys to ensure compliance with the Safety Policy. These surveys will be documented and the results will be reviewed with the Project Manager.
    iii. Coordination with facility owner and/or general contractors to ensure all additional safety requirements are understood and complied with.
    iv. Coordinate with subcontractors and suppliers to ensure understanding of Policy.
    v. Provide safety and health assistance and/or information as requested.
3. Provide periodic reports showing the effectiveness of the Policy.
4. Coordinate the determination of eligibility for and dispersion of safety awards.
5. Interact with our insurance carriers as needed to ensure satisfactory remediation of all claims made against the company.
6. Contact all injured employees to ensure that they are receiving appropriate medical treatment and coordinate their return to work.

Section 2b: Project Manager

The Project Manager has the responsibility to assure, at all times, that the project and its personnel are in compliance with the Company Policy, as well as, Federal, State and Local regulations.

1. The Project Manager shall be responsible for the overall safety on the project. The Project Manager shall be responsible for insuring that subcontractors and suppliers comply with the Company Policy.
2. Consider safety factors in all of your operational planning, provide for personal protective equipment, barricades, machine guards, warning signs, fire extinguishers, etc., ahead of need. **Plan to minimize hazards.**
3. Never allow workers to short-cut safety for expediency. Safe working conditions will always provide better costs in the long run.
4. Enforce all safety rules and lead by example. When necessary, take disciplinary action against employees observed violating safety rules.
5. Ensure that weekly tool box talks, weekly jobsite inspections and monthly ladder inspections are completed.

6. Obtain customer safety program for review by Safety/Risk Manager for determination of safety practices to be followed on the job.

Section 2c: Supervisor

The Supervisor's knowledge of and attention to the variety of safe job applications is of great importance to the success of the company Policy. Your responsibilities include:

1. The safety of your crew. You are expected to hold weekly tool box talks, complete weekly jobsite inspections and inspect all ladders on the jobsite monthly. Records of weekly tool box talks, weekly jobsite inspections and monthly ladder inspections must be returned to the Safety Department.
2. Training your crew in safe working practices. The employee should be shown where to work, what to do, and how to do it safely. The employee should be instructed with regard to their responsibility for their own safety and the safety of fellow workers.
3. Seeing that materials, tools and equipment are used properly and protected from loss or damage. Ensure damaged equipment is taken out of service, tagged and removed from job to prevent re-use.
4. Stopping your crew to correct hazards which present an immediate danger to themselves or the equipment.
5. Preparing accident reports on the proper forms and reporting equipment damage/loss.

Section 2d: Employees

It is the duty of all employees to know the safety rules and to conduct their work in compliance with the policies which have been established for their safety. Furthermore, it is the duty of all employees to make full use of the safeguards provided for their protection. It is the employee's responsibility to abide by and perform in accordance with the safety requirements outlined in this Policy.

Employees shall report all injuries, accidents and near-misses (including property damage) to their Supervisor or Safety/Risk Manager immediately.

Employees shall also report unsafe conditions or unsafe acts to their Supervisor.

The failure of any employee to abide by these requirements will be subject to disciplinary action, as outlined in Section 4 – Disciplinary Policy.

3. Section 3 – Site Safety Rules

It is the policy of General Control Systems, Inc. to provide a safe work environment for all employees. We also feel that accidents can be prevented. Therefore, employees have the responsibility to work safely and report any unsafe conditions to the Supervisor.

1. Immediately report all work related injuries to the job Supervisor or Safety/Risk Manager.
2. Familiarize yourself with emergency telephone numbers and emergency exits.
3. Use personal protective equipment (PPE) as required.
4. Hard hats shall be worn on new construction, crane and helicopter lifts, when overhead hazards are present and as required.
5. Safety glasses with side shield protection shall be worn on all jobs. Full face shields shall be worn when grinding, chipping and cutting. Welding helmets with proper filter shall be worn when welding.
6. Maintain good housekeeping.
7. Safety Data Sheets (or SDS) are maintained on all products or chemicals used by General Control Systems, Inc. as part of Hazard Communication. Ensure you know the location of the SDS book, or talk to your supervisor.
8. Smoke only in designated areas.
9. Lift properly and ask for help as necessary.
10. Loose jewelry or clothing is not permitted around rotating tools or machinery.
11. Use or possession of alcohol or controlled substances on a job is strictly prohibited.
12. Weapons or firearms are prohibited on company property, jobsites or company vehicles.
13. Horseplay is prohibited.
14. Obey all posted signs and notices.
15. Compressed air must be reduced to 30 psi for cleaning and shall not be directed at the body.
16. Follow designated walkways.
17. Do not stand or walk under suspended loads.
18. Seat belts shall be used in all Company vehicles and mobile equipment, so equipped.
19. Power tools or shop equipment shall not be operated without guards in place.
20. All energy sources shall be locked out on equipment and lines prior to servicing or performing work.
21. Power tools must be grounded or double insulated. All cords and tools must be protected by a GFCI.
22. Flammable liquids must be stored in safety containers and labeled as to contents.
23. Compressed gas cylinders must be secured at all times. Replace caps when not in use.
24. Inspect ladders prior to use. Metal ladders shall not be used around electrical equipment. Secure all ladders on a solid foundation. Correct pitch is one-fourth the length of the ladder.
25. Do not carry loads while climbing a ladder, rather use hand lines.
26. A body harness and lanyard must be used whenever working at heights over 6 feet without fixed fall protection and whenever operating a boom lift.
27. Fall protection systems must be used if working within 15 feet of a roof edge.
28. Do not climb scaffold “X” braces.

29. Wheels on rolling scaffolds must be locked while occupied.
30. All trenches over 4 feet deep must be guarded by a shoring system if it is not sloped or benched.
31. No employee shall enter a confined space unless properly trained and/or supervised.
32. No employee shall operate a lift truck unless certified by General Control Systems, Inc.
33. No employee shall operate an aerial lift unless instructed in their use.
34. Inspect all rigging prior to crane lifts. Loads must be controlled using a tagline.

Section 3a: Pre – Planning

The following guidelines shall be followed when bidding a new project to ensure that necessary safety precautions have been factored into the work to be performed onsite.

1. Before Work Starts
    - Who will have responsibility for safety on the project/job?
    - Designate closest Medical Provider
    - Does the customer have any safety practices which we must comply with?
    - If we will be using subcontractors, are they aware of the requirements of our safety policy?
    - Does the customer require drug and alcohol testing for pre-employment?
    - Does the customer require employee background / security checks?
    - Have Certificates of Insurance been obtained from subcontractors?
    - Do the Certificates of Insurance satisfy our requirements?
    - Has a utility location service been contacted to locate underground utilities?
    - Have all necessary permits been obtained from the borough or township where work is to be completed?
    - Are there any special Personal Protective Equipment requirements?
    - Will employees need to go through a customer safety orientation prior to the start of work?
    - Does the customer provide temporary power service and lighting?
    - Will the job require excavations or trenching and has the Construction Manager or Safety/Risk Manager been notified for evaluation?
    - Does the job require scaffolds? If so, can we use our systems or do we need a scaffold builder?
    - Will traffic need to be altered in any way to complete work? If so, have local police been notified?
    - Are there any confined spaces that need to be evaluated to determine if they are permit required?
    - Are there airborne contaminants present or caused by our work that will necessitate respiratory protection? Examples of this include but are not limited to: Asbestos, lead, silica, hazardous chemicals, and waterborne diseases.
    - If a forklift is to be sent to the job, will a certified operator be available on the job to operate the lift?

- If a crane is involved, has the lift been reviewed with the crane rental company and the customer? Has responsibility for safety precautions been clearly established?
- Will there be any unusual fall hazards that will necessitate special fall protection?
- Are there any environmental or waste disposal requirements?

2. Once Work Begins

- Are fire extinguishers readily available?
- Is there at least one person on the job trained in First Aid/CPR?
- Are ground fault outlets being used?
- Has necessary Personal Protective Equipment been obtained for use?
- Are signs posted and barricades placed where needed?
- Are good housekeeping practices being followed?
- Are customer safety requirements being followed?
- Are appropriate height ladders readily available on the job?
- Are employees following fall protection policy when working at heights over 6' and working in an aerial lift?
- Has 24 hour notice been given to the Construction Manager or Safety/Risk Manager for a confined space entry?
- Have employees wearing a respirator been properly qualified, trained and fit tested?
- Is there adequate lighting in the work area?
- Are weekly tool box talks and job inspections being completed?
- Are ladders being inspected monthly?
- Have as-built drawings been completed when necessary?
- Has the customer approved our work prior to pulling personnel off the job?

4. Section 4 – Disciplinary Policy

General Control Systems, Inc. strives to provide the safest possible work environment for our employees. Employees who fail to abide by the safety rules or whose actions place other employees at the risk of injury will be subject to the following disciplinary actions:

First Offense – Documented Verbal Warning. This warning will be given by Project Supervision or the Safety/Risk Manager. Copies of this document will be given to the employee, General Control Systems, Inc. Project Manager and the safety department. Employee will undergo documented safety training as deemed necessary by General Control Systems, Inc. management and Safety/Risk Manager.

Second Offense – Formal Written Warning. The written warning will be issued by the Safety/Risk Manager based on the supervisor's input.

Third Offense – Suspension without pay and or Termination. The severity of the safety infraction will dictate the length of the suspension or termination of employment.

All disciplinary action documentation will be maintained by Human Resources. This documentation will include the nature of the offense and the corrective action taken to correct the situation.

Depending on the severity of the infraction, suspension without pay or termination of employment may be appropriate action for a first time offense.

The determination of suspension or termination will be made by a mix of the following group of individuals: Safety/Risk Manager, Project Manager, Vice President, and when necessary the President.

5. Section 5 – Incident Reporting Procedure

1. Providing the proper care for an injured employee is first and foremost in priority. Therefore it is important to understand the roles of each individual as well as the steps to take based on the nature and severity of an injury.

2. The Employee shall report all work-related injuries to his/her Supervisor.

3. The Supervisor is responsible for assisting in determining the appropriate response to the injury based on the following scenarios:

    a. **Severe/Life-Threatening**
        1. **CALL 911** The Supervisor or his/her designee provides the emergency responders with basic information if the employee is unable to communicate.
        2. The Supervisor will then call the Company President (**Randall Powell (518) 470-2325 cell**) and communicate that an injury has occurred, along with the basic information.
        3. In the appropriate timeframe *after* the injured individual is in the care of emergency responders, the Supervisor will follow-up in writing of the basic information to Company President as an email, and will follow ***Outline of Basic Information of Injury (Appendix B)***.
        4. Within 24 hours, Supervisor shall complete the ***Accident Investigation Report (Appendix A)*** and send to HR Manager.

    b. **Medical Care, Non-Life Threatening**
        1. The Supervisor will call the Company President (**Randall Powell (518) 470-2325 cell)** and communicate that an injury has occurred.
        2. The President and the Supervisor will determine the appropriate recommended care provider approach (i.e. Urgent Care, employee's Primary Care Provider, etc.) that the Employee should follow.
        3. Prior to the Employee seeking care, the Supervisor shall provide the employee with two (2) forms:
            i. ***Modified Duty Job Description Form (Appendix C)***
            ii. ***Consent Form for Assistance by Company Representative (Appendix E)***
        4. If the injured employee requires assistance in driving to medical care, Supervisor will assist in arranging this including possibly being driven by a fellow employee.
        5. In the appropriate timeframe *after* the injured individual has plans for medical care, the Supervisor will follow-up in writing of the basic information to Company President as an email, and will follow ***Outline of Basic Information of Injury (Appendix B)***.

6. Within 24 hours, Supervisor shall complete the ***Accident Investigation Report (Appendix A)*** and send to HR Manager.

c. **First Aid**

1. The Supervisor will call the Company President (**Randall Powell (518) 470-2325 cell)** and communicate that an injury has occurred.
2. The Supervisor will contact an employee who is trained in providing First Aid medical care or, if appropriate, assist with providing First Aid care directly.
3. Supervisor shall instruct the employee to notify him/her of medical condition changes or thoughts on seeking further medical attention.
4. The Supervisor will follow-up in writing of the basic information to Company President as an email, and will follow ***Outline of Basic Information of injury (Appendix B.)***
5. Within 24 hours, Supervisor shall complete the ***Accident Investigation Report (Appendix A)*** and send to HR Manager.

4. Company President will then communicate with one or more of the Company Officers and staff: Vice President, Human Resources, Safety Officer, etc.

5. Based on the nature of the injury, the Company President or a designed Company Officer shall make this decision to notify the injured person's family. The Company President is responsible for determining who is best-suited to do this notification.

6. When an accident or near-miss accident occurs that **does not result** in an injury, it is important that these incidents also be addressed adequately so that the likelihood of it happening again is minimized.

   a. Employee(s) shall report the incident (that do not result in injury) to his/her Supervisor.
   b. Supervisor shall investigate the nature of the incident, and shall discuss the incident with the Safety/Risk Manager.
   c. The Supervisor and the Safety/Risk Manager will determine the root cause of the incident.
   d. Based on the nature of the root cause, recommendations should be made as appropriate, which can include inputs from other stakeholders and management.
   e. Safety/Risk Manager shall review incident and Recommendations with management for follow-up.

6. Section 6 – First Aid/Medical Attention

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1926.23 and 1926.50.

B. Purpose

This is designed to ensure that first and services and provisions for medical care shall be made available to all General Control Systems, Inc. employees.

C. Responsibilities

1. Site Supervisor or Safety/Risk Manager shall check to ensure the First Aid kit on the job is properly stocked and readily accessible in the event of an emergency.
2. Employees shall contact their Supervisor immediately in the case of an employee injury.

D. Guidelines

1. First Aid supplies shall be available on every jobsite, with location of all first aid kits communicated to employees. (All company vehicles are to have First Aid Kit.)
2. First Aid kits are inspected as part of the periodic safety inspections to assure that first aid supplies are adequately stocked and available for use.
3. When appropriate and/or identified from the hazard assessment, availability of emergency eyewash stations are made available for use by employees.
4. Emergency phone numbers shall be posted inside the gangbox lid or near the job trailer. (Numbers should also be in all First Aid Kits along with ***Accident Investigation Report*** form.)

E. Training

1. Designated employees shall receive training per the following:
   - First aid, CPR and AED training will be conducted as necessary, as per affiliation protocols.

2. Training will be conducted though a recognized training affiliation.

3. Training is strictly voluntary; however, responders should be physically and emotionally qualified to perform First Aid / CPR duties.

4. Supervisors are informed of the Designated Employee list from the Safety/Risk Manager.

5. As part of the Designated Employee participation, those trained in first aid shall be readily available to assist injured workers.

F. Review

1. After all incidents involving activation of the first responder or EMS system, an **After-Action Review** will be conducted with the Safety/Risk Manager, and all personnel involved.

2. Any deficiencies or improvements shall be reviewed by management.

7. Section 7 – Emergency Evacuation

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1926.34 and 1910.35 to .38.

B. Purpose

This establishes requirements and guidelines to be followed to ensure that employees will have unobstructed egress from a structure in the event of an emergency.

C. Responsibilities

1. Supervisor is responsible for ensuring that all employees (including on the job site) are aware of the means of egress from the work area and the designated assembly area.
2. Supervisor is responsible for instructing all General Control Systems, Inc. employees on a job of any special emergency evacuation procedures to be followed.
3. Supervisor shall perform a head count to ensure that all General Control Systems, Inc. employees have safely evacuated the structure and shall notify the authorities, customer or general contractor of any missing employees.
4. Employees shall determine the location of emergency exits and appropriate travel path whenever assigned to a new job or new work area.
5. General Control Systems, Inc. shall include the emergency procedures in the new hire orientation when the orientation is done on site or the employee will be working in the shop.
6. Safety/Risk Manager shall conduct an annual emergency evacuation drill for the shop and office.

D. Emergency Evacuation Guidelines

1. Exits in a building shall be arranged so that they provide unobstructed egress from all parts of the structure.
2. There may be no more than one locking mechanism on an emergency exit and it shall not require a key.
3. Emergency exits shall be unlocked during business hours, unless the door has panic hardware.
4. Emergency exits shall be conspicuously marked to facilitate locating an exit in an emergency.
5. Emergency exits shall be free of obstructions at all times.
6. Employees shall not re-enter the structure until told it is safe to re-enter by either the responding emergency unit (fire department) or a representative of Management Team.

E. Field Emergency Evacuation Procedures

1. When an emergency evacuation is necessary at a customer site, customer guidelines shall be followed. General Control Systems, Inc. employees shall follow prescribed exit paths and assemble in designated meeting areas.
2. Employees shall be informed of the emergency evacuation alarm that will be used at a customer site. This review shall include differentiation between different alarms that may be used.
3. Supervisor shall ensure that employees meet in the designated assembly area, which is away from the structure and is not in the path of emergency operations.
4. If an employee is unaccounted for, the Supervisor shall notify the authorities that an employee is missing. **UNDER NO CIRCUMSTANCES SHALL AN EMPLOYEE ENTER THE BUILDING TO LOOK FOR A MISSING EMPLOYEE.**
5. Employees shall turn off any equipment in use prior to evacuating the structure.
6. Employees may attempt to extinguish a small fire with a fire extinguisher; however if an employee is unfamiliar with fire extinguisher operation, then the employee shall evacuate the structure.
7. General Control Systems, Inc. employees shall not re-enter the structure until told it is safe to re-enter by either the responding emergency unit (fire department) or plant emergency response personnel.

F. Training

All employees shall receive annual training on the elements and procedures of this Policy. Fire drills shall be performed annually for the shop and office. Fire drills may be performed at jobsites at the discretion of the customer or general contractor.

Questions from the News Media or Public — Please do not answer questions from the news media or the public during an emergency. Refer all questions to a member of the Management Team.

Communicating with others in the Company — Employees from other departments can provide specialized assistance. They will need to know your situation. Provide telephone communications and consider appointing a member of the Management Team as the information contact for internal inquiries. In addition, workplace status will be communicated to employees who work in the affected facility.

Security of your Facility — Ensure that there is no unauthorized access to your facility during the emergency. Do not admit members of the news media.

Coordinate with Emergency Responders — Provide floor plans, chemical lists and information on any unique hazards to emergency responders as needed. Consider keeping these documents in an accessible place in the event that an evacuation is necessary.

Cleanup — Coordinate with Facilities Management to secure resources from throughout General Control Systems, Inc. or from contractors to clean up or perform other tasks as necessary after the immediate emergency is passed.

Prepare List - The Management Team at this location shall have the responsibility to prepare a list of site specific Emergency Coordinators for this location.

Training – Responsible to train supervisors and Emergency Coordinators in their respective areas.

Section 7a: EMERGENCY COORDINATORS (ECs) AND THEIR RESPONSIBILITIES

EC Responsibilities:

- The EC is the person for your facility, designated by the Management Team, to implement the emergency plan if necessary.
- The EC assists during an evacuation, making sure that all employees have evacuated. They also check all rest rooms and conference rooms to ensure this is accomplished.
- If the EC or alternate is not available, someone else needs to take charge and perform these tasks until help arrives.
- The EC should be someone who normally is at the facility during normal working hours.
- The EC must be familiar with the contents and location of this emergency plan.
- The EC must ensure that provisions are made to deal with the special needs of any physically disabled employees during implementation of the emergency plan.
- The EC should work with the Management Team as needed, and should yield responsibility for the emergency when the Management Team takes charge.

- The EC shall report accountability to a Management Team member during emergencies and/or drills. Names can be preprinted on a list or accountability can be reported verbally.

Section 7b: SUPERVISORS AND THEIR RESPONSIBILITIES

Supervisor Responsibilities:

Knowledgeable about the plan for their specific work location.

Bomb Threat:

UNDER NO CIRCUMSTANCES SHALL A FIRE ALARM SYSTEM BE USED TO INITIATE BUILDING EVACUATION AS A RESULT OF A BOMB THREAT. THE ACTIVATION OF THE ALARM SYSTEM COULD TRIGGER THE BOMB. ALSO, CELL PHONES, PAGERS, AND TWO-WAY RADIOS SHALL NOT BE USED.

Any employee who receives a bomb threat should get as much information from the caller as possible.

When the caller hangs up, the employee should immediately contact their EC (Emergency Coordinator), MT (Management Team), or Supervisor and advise them of the situation.

If employees are instructed to evacuate the building, the evacuation routes are posted in each conference room and at all identified emergency exits to the building.

MT members may be required to direct first responder emergency personnel to the location of the bomb if known.

Fire:

Any employee who suspects a fire shall have the right to operate a fire alarm pull box. This action will sound the alarm and initiate the evacuation procedure.

Facility Management employees, if present, will respond to the area where the fire or emergency is suspected. However, if for any reason they feel their health is in jeopardy, they should evacuate the building and report to their assigned accountability area. The employee who initiated the alarm shall notify the Management Team of the location of the emergency. Management Team members may be required to direct first responder emergency personnel to the location of the emergency.

Fire Alarms:

In the event of an alarm, all employees should proceed to the North parking lot muster point near the road no matter which exit they utilize. EC's will account for all employees in their evacuation accountability sheet. The EC should bring the sign-out book to the parking lot with them.

Threat:

Any employee who suspects any threat that could cause harm to them or any other employee's wellbeing shall contact their EC and/or Management Team member. Evacuation should occur when:

1. Danger is obvious.

2. Directed to do so by any EC or member of the Management Team.

3. Directed by local authorities (fire department, police).

Suspicious Materials or Substances:

Any employee who comes in contact with any suspicious material should follow these key first steps:

1. DO NOT clean up the powder. If possible, cover the powder with typing paper, binder, etc., so it cannot become airborne. Keep others away from the powder.

2. DO NOT brush off clothes. If there is powder on the clothes, leave the clothes in the area where the powder is located.

3. CALL your supervisor or his/her backup immediately.

4. Make a list of all people who had contact with the powder.

5. Leave the room, close the door (if possible), and prevent others from entering. Please remain at that work location.

8. Section 8 – New Hire Orientation

A. Scope

This applies to all employees who have either never worked for General Control Systems, Inc. or have not worked for General Control Systems, Inc. in the past 12 months.

B. Purpose

This orientation is designed to ensure that employees are apprised of their duties and responsibilities under the General Control Systems, Inc. Safety Policy.

D. Safety Literature

1. Emergency Telephone Numbers & Contacts.
2. This Safety Manual (230-ADMIN-01)
3. Employee Handbook (180-ADMIN-05)

F. Safety Policy Element Review

1. Lockout/Tagout (see Section 21)

a. Only "AUTHORIZED" Employees are permitted to lockout energy sources.

b. All affected employees will be made aware of tasks requiring Lock Out / Tag Out.

c. All energy sources shall be locked out prior to performing any work on machinery, equipment, piping, etc.

d. If unsure, contact the Supervisor prior to performing any work to ensure the energy source is locked out.

2. Ground Fault (see Section 22)

a. Ground fault circuit interrupters shall be used at every job when using electric tools and equipment.

b. All electric power and extension cords shall be inspected before use to ensure the ground plug is not damaged, the insulation is free of damage and there are no exposed wires.

c. Where deemed necessary, electrical cords shall have the proper color electric tape for the quarter per the following schedule:

January – March	White
April – June	Green
July – September	Red
October – December	Orange

3. Fall Protection (see Section 16)

a. Whenever you are working at a height over 6' and there is no fixed fall protection, you shall wear a full body harness and be tied off to a part of the building structure capable of supporting 5,000 pounds at the designated tie off spot.
b. The only exception to (a) is when the ladder is placed near the edge of an elevated surface and the potential fall distance is greater than the height of the ladder, then a full body harness and lanyard shall be used.
c. Full body harness and lanyard shall be worn when working in an articulating or extensible boom lift.
d. Wheels on rolling scaffolds shall be locked when in use and the scaffold shall not be moved while employees are on the scaffold.
e. All scaffolds are to be inspected and tagged prior to use by the designated employees.

4. Hazard Communication (see Section 14)

a. The Safety Data Sheets (SDS) for the chemicals General Control Systems, Inc. uses most frequently are located in a 3 ring binder either in a gang box, job trailer or in the Supervisor's office of every job. For main office/shop facility the 3-ring binder is in the shipping/receiving office as well as online.
b. Safety Data Sheets (SDS) provide the following information:

1. Product Identification	9. Physical and Chemical Properties
2. Hazardous Ingredients	10. Stability and Reactivity
3. Composition/Information on Ingredients	11. Toxicological Information
4. Emergency and First Aid Procedures	12. Ecological Information
5. Fire Fighting Measures	13. Disposal Considerations

6. Accidental Release Measures	14. Transport Information
7. Handling and Storage	15. Regulatory Information
8. Exposure Controls/Personal Protection	16. Other Information

c. If you are unsure of the hazards of a chemical or the personal protective equipment (PPE) necessary, please refer to the SDS. If the applicable SDS is not in the binder, then contact the Safety/Risk Manager and a copy will be provided to you within 24 hours.

5. Hearing Conservation (see Section 29)

a. Hearing protection is available on all jobs and is recommended for use when grinding, chipping, operating a powder actuated tool or performing other high noise operations.
b. Hearing protection may be mandatory at certain customer sites and you are to obey the customers safety policies at all times.

6. Personal Protective Equipment (PPE) (see Section 12)

a. Hard Hats

i. Hard hats shall be worn on all construction sites, when working in an area near overhead work, when working with a crane or helicopter for lifting a load, and when required by the customer or general contractor.
ii. Hard hats shall comply with ANSI Z89.7 - 1969 and Z89.2 - 1971.
iii. Hard hats shall not be worn backwards, unless approved for such use by the manufacturer. Regardless of how the hard hat is worn the adjustment device must always be at the rear of the head.
iv. Employees shall have their hard hat readily available to them for use at any time, especially when going to a different job.

b. Eye and Face Protection

i. Safety glasses with full side shields shall be worn at all times.
ii. Safety goggles or full face shield shall be worn when performing chipping, grinding or performing any other operation that creates airborne particles.
iii. Employees performing welding shall wear a welding helmet with an appropriate shade filter.
iv. Employees are responsible for providing their own prescription safety glasses.

c. Hand Protection

i. Gloves shall be at all times worn when performing job tasks. Multiple types of gloves are available depending upon the task being performed:
   - Work/Leather type gloves are provided as standard.

- Cut resistant type gloves shall be worn when working with sharp objects and materials.
- Chemical resistant gloves shall be utilized when working with chemicals.
- Plumbers shall wear disposable latex or nitrile gloves when working on drain pipes.

d. Arm Protection

When long sleeves are not worn (for example during summer months), Cut Resistant sleeves shall be utilized when working with sharp objects.

e. Foot Protection

i. All shop and field employees shall wear a sturdy work shoe with solid leather upper.
ii. Protective toed shoes may be mandatory on certain jobsites.
iii. c. Over boots shall be provided when employees are working with chemicals or in water.

9. Section 9 – Office Safety (see also Section 12)

Although we may not think of the office as a hazardous work environment, each year more and more workplace injuries occur in office environments. Therefore, this Policy shall offer guidelines to be followed to ensure the safety of all employees working in the office.

A. File Cabinets

1. Always close a file cabinet drawer when finished or leaving the area.
2. Never open more than one drawer of the same file cabinet at one time.
3. Always look for lower drawers that may have been left open as they create a tripping hazard.
4. Be sure that filing cabinets are level so that the drawers do not accidentally roll open.
5. Do not overfill drawers as excess files could cause the drawer to jam resulting in an injury from trying to force the drawer open.

B. Computer Workstations

1. Adjust your seat so that your thighs are parallel to the floor.
2. If possible, adjust the keyboard so that you can reach the home row of the keyboard with your forearms parallel to the floor and your elbows at your sides.
3. Adjust the monitor so that the top of the screen is at eye level when the preceding two adjustments have been made.
4. Position the monitor so as to minimize glare from windows or overhead lights.
5. Do not rest your wrists on the sharp edge of a desk or workstation.
6. Contact the Safety/Risk Manager should you have any questions regarding the setup of your workstation.

C. General Safety

1. All office employees should report unsafe conditions / actions to the Safety/Risk Manager or Office Manager immediately.
2. Be sure to return paper cutter arms to the fully down and locked position.
3. In the event of a fire, follow all General Control Systems, Inc. Crisis Management Procedures for your work area.
4. When entering the fabrication shop, safety glasses are mandatory.
5. All office personnel visiting job site will undergo any required site specific training and will wear prescribed PPE for these areas.

10. Section 10 – Vehicle Safety

A. Scope

This applies to all General Control Systems, Inc. employees driving a company car, van or pickup truck.

B. Purpose

This is designed to prevent vehicle accidents and ensure necessary procedures are followed should a General Control Systems, Inc. employee be involved in a vehicle accident.

C. Responsibilities

Adherence to this Policy is the responsibility of all General Control Systems, Inc. employees. This Policy will be administered by the Safety/Risk Manager and Shop Manager.

Any employee who is assigned a company vehicle for regular use, or has signed out a company vehicle for daily use, is responsible for adhering to the following rules:

1. Operating the vehicle in a safe and economical manner.
2. Maintaining the vehicle in good operating condition.
3. Fulfilling all reporting requirements and observing all restrictions specified in this Policy.
4. Attending and successfully completing all prescribed safety training.
5. Promptly completing accident reports and submitting to the Safety/Risk Manager.
6. Immediately notify your Manager, Supervisor or the Safety/Risk Manager if driver's license has been suspended, revoked or if a request for a license has been denied.
7. Use of radar detectors is prohibited in company vehicles.
8. Firearms, weapons or explosives are prohibited in any company vehicle.
9. Seat belts must be worn at all times while the company vehicle is in motion.
10. Limit driving to 10 hours in any 18 hour period, whenever possible, to provide time for rest and overcome fatigue.
11. All drivers of company vehicles shall complete the Company Vehicle Inspection on a monthly basis.
12. Do not pick up hitchhikers or accept compensation from any individual for carrying passengers or materials.
13. All drivers must receive authorization for personal use of a company vehicle from: Vice President, Controller or President.

14. Vans and pickup trucks may be used only for General Control Systems, Inc. business and driving to and from job sites during work hours, unless authorization for personal use has been received in advance. **Any damages occurring to a company vehicle or damages to persons or property caused by the company vehicle or the driver thereof while the company vehicle is driven on non-company business shall cause the driver to be financially responsible for any deductibles the company has to pay as a result of the accident.**
15. All drivers shall comply with all traffic laws when driving.
16. Employees shall report ALL accidents involving a company vehicle and shall contact police if there is extensive damage to either vehicle or any person needs to be removed from the accident scene in an ambulance.
17. No employee shall operate a company vehicle while under the influence of a controlled substance or alcohol, consistent with Corporate Policy 130 – Substance Abuse Safety Policy.
18. All drivers of a company vehicle must have a valid driver's license.
19. Employees driving personal vehicles on company business shall have the following limits of insurance on their personal vehicle:
    - Limits of Liability - Bodily Injury
    - $100,000 each person, $300,000 each accident
    - Limits of Liability - Property Damage
    - $50,000 each accident
    - or Combined Single Limit of $300,000

D. Driver Selection

The following shall be followed for all employees that may drive an automobile on company business:

1. Completion of a job application, a standard interview and a reference check.
2. Possession of a valid driver's license.
3. Satisfactory driving record based on an annual MVR check.
    a. As a condition of employment, applicants shall authorize General Control Systems, Inc. to obtain the information necessary to obtain their Motor Vehicle Record (MVR).
    b. The Human Resources Manager shall obtain an MVR on all drivers of company vehicles on an annual basis.
    c. The Safety/Risk Manager shall inform the employee's immediate Supervisor of any of the following:
        1. Driving a company vehicle while under the influence of a controlled substance or alcohol.
        2. Demonstrating willful and reckless disregard for people or property while driving a company vehicle.
        3. Demonstrating flagrant or repeat violations of traffic laws.
        4. Causing one preventable accident.

E. Driver Training

All drivers of company vehicles shall receive driver training on an as needed basis after a preventable accident or review of MVR indicates that such training is necessary.

F. Accident Reporting and Investigation

1. All accidents involving company vehicles must be reported to the President and/or the Vice President immediately.
2. The driver of the company vehicle is responsible for accurately completing the ***Accident Investigation Report form (Appendix A)*** where a hardcopy is located in all company vehicles.
3. The Safety/Risk Manager shall review the accident with the employee to determine if the accident was avoidable or unavoidable.
4. The Safety/Risk Manager shall ensure that any corrective action necessary to prevent a similar accident in the future is taken.
5. Contact the local police and request that they complete an accident report, even for minor accidents.
6. Do not discuss the accident with anyone other than the police officer or a company representative.
7. Obtain as much information about the other driver(s) involved in the accident and all witnesses and record on the accident report form.
8. If you are seriously injured in the vehicle accident, seek medical treatment from the nearest medical provider.

G. Vehicle Operation and Maintenance

The appearance and condition of your vehicle is a direct reflection of the General Control Systems, Inc. Company image. It is the responsibility of the driver to be sure that the company vehicle is in presentable condition and in good mechanical condition at all times.

1. Updated Maintenance is the responsibility of the driver of the assigned vehicle. No vehicle is to be operated in an unsafe mechanical condition. Driver must identify and communicate to Shop Supervisor any maintenance issues that need addressing (i.e. squeaky belts, grinding brakes, engine check light, etc.)
2. To ensure vehicles are in good condition and safety/warning features are operating properly, drivers shall complete the company vehicle inspection report on a monthly basis.

An unsafe vehicle shall be taken out of service until properly repaired.

11. Section 11 – Housekeeping

A. Scope

This Policy applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1926.25.

B. Purpose

This Policy is designed to ensure that employees maintain a safe work environment.

C. Responsibilities

1. The Safety/Risk Manager is responsible for conducting random jobsite surveys to evaluate housekeeping.
2. The Supervisor is responsible for housekeeping on the job on a daily basis.
3. Employees are responsible for maintaining a clean work area and returning tools and equipment to the appropriate storage area or gang box.

D. Good Housekeeping Guidelines

1. Workspaces including offices, conference rooms and shop locations shall be kept in good order with all paths free of debris, boxes, furniture or other obstructions. Storage of unused boxes should be removed for disposal in a timely fashion.
2. Shop operations regularly clean and sweep working areas and dispose of or otherwise remove excess materials, equipment or containers. Working areas are left clean after every work day.
3. During the course of construction, all debris shall be kept clear from work areas, passageways, and stairs in and around buildings or other structures.
4. Combustible scrap and debris shall be removed at regular intervals.
5. Containers shall be provided for the collection and separation of waste.
6. Separate containers used for oily, flammable or hazardous wastes shall be equipped with covers.
7. Garbage and other waste shall be disposed of at frequent regular intervals.
8. Exits, aisles, fire extinguishers, fire doors, electric panels, etc. must be kept clear at all times.
9. Tools and equipment should not be left unattended on the floor as they might cause others to fall.
10. Tools and equipment shall be placed in gang boxes or in assigned tool boxes in an orderly manner.
11. Cardboard or similar material shall be placed under pipe threaders while in use.

12. At the completion of work, the work area should be as clean as it was before you started working.
13. Smoking will only take place in designated areas. All cigarette / cigar butts will be disposed of properly

12. Section 12 – Personal Protective Equipment

A. Scope

This Policy applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1910 Subpart 1.

B. Purpose

This Policy is designed to ensure that employees maintain a safe work environment through proper use of various personal protective equipment (or PPE) to protect against hazards.

C. Responsibilities

The Safety/Risk Manager is responsible for a hazard assessment to be completed for work areas and conditions experienced by employees that have or may have exposure to hazards. Each hazard assessment is to be made available for affected employees to review, and will be kept on file.

The Safety/Risk Manager is responsible for maintaining an appropriate level of inventory of PPE for employees, including individual items such as safety glasses, work gloves, hearing protection, hard hats, and safety vests as well as shared PPE items such as arc flash suit, fall arrests and harnesses, confined space lifting winches and air circulation blowers, etc.

The employee is responsible for securing each PPE item necessary for safe performance of the work, for wearing the appropriate and designated PPE when performing the work, and for inspecting each item of PPE for proper function, wear or damage and replace any item that shows excessive wear or damage so that damaged / worn PPE can be removed from service. All PPE is to be maintained in a clean and sanitary condition at all times and be ready to be utilized by the employee when required.

D. Head Protection

a) Hard hats shall be worn:
    1. On all construction jobs.
    2. When participating in a crane or helicopter lift.
    3. Where overhead falling or bumping hazards exist
    4. Where required by the customer or general contractor.

b) A hard hat will be issued to all employees as required.

c) The hard hat must bear a legible label indicating it meets the requirements of both ANSI Z89.7 - 1969 and ANSI Z89.2 - 1971.

d) It will be the employee's responsibility to replace a lost hard hat.

e) A damaged hard hat will be replaced by the company at no cost to the employee.

f) Hard hats adjustment devices must always be at the rear of the head for proper fit

g) Employees shall have a hard hat readily available when reporting to a jobsite. They shall wear the hard hat until told by the Supervisor or Project Manager that it is not a mandatory hard hat job.

E. Eye and Face Protection

a) All safety glasses will meet the requirements set forth in ANSI Z87.1 - 1968. Side shields will be provided to employees wearing prescription glasses that meet the requirements of ANSI Z87.1 - 1968. Employees to confirm proper fit.
b) All employees and visitors entering the shop must wear safety glasses with full side shields.
c) Visitors and employees going from the front office to the sheet metal office that do not cross the yellow line do not need to wear safety glasses.
d) Field employees must wear safety glasses with side shields at all times while on the job site.
e) Safety goggles shall be worn when performing work overhead and during helicopter lifts.
f) A full-face shield shall be worn over safety glasses whenever performing grinding, chipping or cutting.
g) Welding helmets are required during all welding operations to protect against splatter, sparks, infrared, and ultraviolet rays. Welding helmets that mount to hard hats are available from the Safety/Risk Manager upon request.
h) Employees shall ensure they are using a welding helmet with a lens of appropriate tint to protect the eyes from welding flash. Lens tint guidelines can be found in the Welding and Cutting Section.
i) It will be the employee's responsibility to replace any lost safety glasses.
j) The company will replace any damaged non - prescription safety glasses at no cost to the employee.
k) Employees shall provide prescription safety glasses meeting the above requirements at their own expense.
l) Employees shall have safety glasses readily available for use immediately upon reporting to a jobsite.
m) Plastic wafer side shields are prohibited at all locations.

F. Hearing Protection

a) The shop is the only mandatory hearing protection area within General Control Systems, Inc. Shop employees shall abide by the requirements outlined in the Hearing Conservation.
b) Hearing protectors are available at each job and employees are encouraged to wear ear plugs or muffs when operating power tools or working in noisy environments. (A good indication that hearing protection should be used, is when you must raise your voice to carry on a conversation.)
c) Ear plugs provided for use in the field are the foam type and are to be disposed of at the end of each work day and a new pair used every day. This will prevent contamination of the ear canal.

G. Hand Protection

Gloves shall be worn at all times when performing work tasks.

Multiple types of gloves are available depending upon the task being performed.

a) Work/Leather type gloves are provided for general work tasks.
b) Cut resistant type gloves shall be worn when working with sharp objects and materials.
c) Chemical resistant gloves shall be utilized when working with chemicals.

d) Those trained to work with electrical circuits shall wear the appropriate glove systems for protection from shock and from arc flash (in combination with appropriate other arc flash PPE.)

e) Gloves shall be available from the jobsite Supervisor, gang box or safety storage closet. Several sizes are provided so that each employee can confirm proper fit of gloves for their hand size.

f) Gloves with defects such as holes or tears should be replaced immediately.

H. Foot Protection

a) All shop and field employees shall wear a sturdy work shoe with solid leather upper which goes over and supports the ankle.
b) Where protective toed shoes are required by the owner or general contractor, the employee shall purchase the shoes and will not be allowed on the job until they comply with this requirement.
c) Over boots will be provided when employees must work in water or with a chemical which requires additional foot protection.

I. Protective Clothing

a) Protective clothing may be issued in the presence of chemical, physical, flammable or biological environments.
b) Examples of protective clothing includes:
    a. Tyvek Coveralls.
    b. Lab coats.
    c. Nomex clothing.

J. Training

The Safety/Risk Manager is responsible to provide annual training on the role of PPE use in relation to an overall approach to minimize worker exposure to workplace hazards, the responsibilities of the company and the employee in securing PPE items, and the proper selection, use and care of all PPE.

13. Section 13 – Hazard Communication Plan

A. Scope:

This applies to all General Control Systems, Inc. employees, whether they are in the office, shop or the field. This also applies to visitors and contractors/subcontractors that will be working for General Control Systems, Inc. This is designed to meet or exceed the requirements set forth in OSHA 29 CFR 1910.1200.

B. Purpose:

The purpose of the Hazard Communication is to ensure employees are aware of the hazards of chemicals used at General Control Systems, Inc.

C. Hazard Determination:

1. Purchased Chemicals

General Control Systems, Inc. will rely upon the Safety Data Sheet (SDS) provided by the manufacturer or supplier for determining the hazardous properties of chemicals purchased. This will include vendor product samples.

2. Mixtures

Unless a mixture has been tested as a whole, any hazardous ingredients of 1% or greater in the mixture will determine the hazards present in the mixture based on the individual ingredients' SDS.

If any chemical in the mixture is shown as a carcinogen on the OSHA carcinogen, Threshold Limit Value (TLV), National Toxicology Program (NTP), or International

Agency for Research on Cancer (IARC) list and the concentration is greater than 0.1% by weight or volume, the mixture shall be considered carcinogenic.

D. Safety Data Sheets (SDS)

Risk/Safety Officer shall review annually the list of hazardous chemicals used in operations, and shall update (add and/or subtract) to that list based on the review of operations and any new chemicals added since last review. Purchasing is responsible for forwarding updated SDS to the Risk/Safety officer for inclusion into the SDS binder.

All SDS must be the most recent revision. This is to ensure the validity of the information on the SDS and ensure employees have access to current information in the event of an emergency.

A binder containing the list of hazardous chemicals and SDS for chemicals used in operations will be maintained in the following locations:

- General Control Systems, Inc. Shipping/Receiving office
- Online (GCS1 Integration I: Drive, Safety & Safety Training folder, Hazcom subfolder, SDS Sheets subfolder.)
- Jobsite gang box (if applicable)

Each SDS is broken down into the following sections:

Section I Product Identification

1. Product - identifies product by common name and chemical name.

2. Manufacturer - lists manufacturer's name, address and telephone number.

3. Emergency Assistance - gives 24 hour emergency number and the numerical hazard rating.

Section II Hazards(s) Identification

- The hazard classification of the chemical (e.g., flammable liquid, category[1]).
- Signal word.
- Hazard statement(s).
- Pictograms (the pictograms or hazard symbols may be presented as graphical reproductions of the symbols in black and white or be a description of the name of the symbol (e.g., skull and crossbones, flame).
- Precautionary statement(s).
- Description of any hazards not otherwise classified.

- For a mixture that contains an ingredient(s) with unknown toxicity, a statement describing how much (percentage) of the mixture consists of ingredient(s) with unknown acute toxicity. Please note that this is a total percentage of the mixture and not tied to the individual ingredient(s).

Section III Composition/Information on Ingredients

This section identifies the ingredient(s) contained in the product indicated on the SDS, including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed. The required information consists of:

Substances – Mixtures – Chemicals where a trade secret is claimed

Section IV First Aid Procedures

This section describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical.

Section V Fire-Fighting Measures

This section provides recommendations for fighting a fire caused by the chemical.

Section VI Accidental Release Measures

This section provides recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices to prevent or minimize exposure to people, properties, or the environment. It may also include recommendations distinguishing between responses for large and small spills where the spill volume has a significant impact on the hazard.

Section VII Handling and storage

This section provides guidance on the safe handling practices and conditions for safe storage of chemicals..

Section VIII Exposure Controls/Personal Protection

This section indicates the exposure limits, engineering controls, and personal protective measures (including PPE) that can be used to minimize worker exposure.

Section IX Physical and Chemical Properties

This section identifies physical and chemical properties associated with the substance or mixture.

Section X Stability and Reactivity

This section describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other.

Section XI Toxicological Information

This section identifies toxicological and health effects information or indicates that such data are not available.

Section XII Ecological Information (non-mandatory)

This section provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment

Section XIII Disposal Considerations (non-mandatory)

This section provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices. To minimize exposure, this section should also refer the reader to Section 8 (Exposure Controls/Personal Protection) of the SDS

Section XIV Transport Information (non-mandatory)

This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea.

Section XV Regulatory Information (non-mandatory)

This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS

Section XVI Other Information

This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes. Other useful information also may be included here.

E. Labeling

Containers of hazardous chemicals shall be labeled as follows:

1. Incoming Shipments

   Receiving will ensure that all incoming shipments of chemicals have proper manufacturer's label and that the chemical label on the name corresponds with the name on the SDS. While there is no required format for the label, it must contain at least the following:

   a. The chemical name or commonly used name of the contents.

   b. Appropriate hazard warning.

   c. Name and address of the manufacturer.

   A manufacturer's label may not be defaced or covered in any manner.

   If a container is received with the manufacturer's label defaced, the manufacturer will be contacted by Receiving, requesting a replacement label.

2. Stationary Storage Containers

   Stationary storage containers of hazardous chemicals shall have clear, legible labels affixed to them at conspicuous locations.

   This label must list the chemical name, appropriate hazard warning, and the name and address of the manufacturer.

3. Portable Storage Containers

   Buckets, cans, bottles and other small portable containers used for temporary storage/transfer of hazardous chemicals shall be labeled as to chemical contents, personal protective equipment required and hazard ratings.

5. Labeling System

   The hazard warning for a chemical in a container will be conveyed to employees through the use of a rating system for each of the following: HEALTH, FLAMMABILITY and PERSONAL PROTECTION.

The following numbering system will be used to convey the HEALTH HAZARD to employees:

0 Minimal

1 Slight

2 Moderate

3 Serious

4 Severe

The following lettering system will be used to convey the required PERSONAL PROTECTIVE EQUIPMENT to employees:

A Safety glasses

B Safety glasses and gloves

C Safety glasses, gloves and apron

D Face shield, gloves and apron

E Safety glasses, gloves and dust respirator

F Safety glasses, gloves, apron and dust respirator

G Safety glasses, gloves and vapor respirator

H Chemical goggles, gloves, apron and vapor respirator

I Safety glasses, gloves and combination dust & vapor respirator

J Chemical goggles, gloves, apron and combination dust & vapor respirator

K Airline hood or mask, gloves, full protective suit and boots

X Ask your Supervisor or Project Manager for specialized handling instructions

F. Training

Specific training is provided by the Supervisor or Project Manager for the chemical hazards associated with a particular jobsite. This training will consist of reviewing the SDS for the hazardous chemicals to notify employees of the following:

1. Identification properties.
2. Physical and health effects of exposure.
3. How to protect against exposure, including use of personal protective equipment.
4. Immediate first aid measures to take in case of exposure.
5. How to identify and handle incidental spills.

Specific training will be done through several toolbox talks.

Employees will receive refresher training in hazard communications annually.

All employee training will be documented.

G. Non-Routine Tasks

When requested to perform a non-routine task, the Project Manager will obtain relevant chemical hazard information from the owner or general contractor for the work to be performed. This information will be reviewed with the Project Manager to ensure that adequate personal protective equipment is available and employees will then be trained in hazards associated with the work to be performed.

H. Contractors

General Control Systems, Inc. will provide to contractors copies of SDS relating to hazardous chemicals in the shop or on the job that they may encounter. This information will be provided to contractor management, who is expected to review it with their employees.

14. Section 14 – Power Operated Hand Tools

A. Scope

This applies to all General Control Systems, Inc. employees using or working near power operated hand tools and is designed to meet or exceed the requirements of OSHA 29 CFR 1926.302.

B. Purpose

This is designed to ensure the safety of employees during the use of power operated hand tools.

C. Electric Power Tools

1. Electric power operated tools shall either be double insulated or have a functional ground plug.
2. Electric cords shall not be used for hoisting or lowering tools.
3. All power and extension cords shall be checked prior to each use and per the Assured Equipment Grounding section of the Safety Policy.

D. Pneumatic Power Tools

1. Pneumatic power tools shall be secured to the hose by a positive means to prevent the tool from becoming accidentally disconnected.
2. Safety clips or retainers shall be securely installed and maintained on pneumatic impact tools to prevent attachments from being accidentally expelled.
3. All pneumatic nail guns, staplers and similar equipment shall have a safety nozzle to prevent ejection of fasteners without the muzzle in contact with the work surface.
4. Compressed air shall not be used for cleaning unless reduced to less than 30 psi and then only with effective chip guarding and appropriate personal protective equipment.
5. The manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings shall not be exceeded.
6. The use of hoses for hoisting or lowering tools is not permitted.
7. All hoses exceeding 1/2 inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.

E. Fuel Powered Tools

1) All fuel powered tools shall be stopped while being refueled, serviced, or undergoing maintenance.
2) All fuel shall be transported in approved safety cans. Plastic fuel containers are prohibited.
3) Smoking is prohibited while refueling equipment.

F. Powder Actuated Tools

1. Only employees who have been trained in the operation of the tool in use shall be permitted to operate a powder actuated tool.
2. The tool shall be tested each day before loading to see that safety devices are in proper working condition. The method of testing shall be in accordance with the manufacturer's recommended procedure.
3. Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until properly repaired.
4. Employees shall wear safety glasses, hearing protection, and full face shield while operating powder actuated tools.
5. Tools shall not be loaded until just prior to the intended firing time. Neither loaded nor empty tools are to be pointed at any employee. Hands shall be kept clear of the open barrel end.
6. Loaded tools shall not be left unattended.
7. Prior to firing the device, the operator shall verbally inform workers in the immediate area.
8. Fasteners shall not be driven into very hard or brittle materials including, but not limited to, cast iron, glazed tile, surface hardened steel, glass block, live rock, face brick, or hollow tile.
9. Driving into materials easily penetrated shall be avoided unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side.
10. Tools shall not be used in explosive or flammable atmospheres.
11. All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer as well as wearing the appropriate PPE.
12. Powder actuated tools shall meet other applicable requirements of American National Standards Institute, A10.3 - 1970, Safety Requirements for Explosive Actuated Tools.

Defective Tools

Tools found to be defective shall be taken out of service and RED tagged for repair. The tool cannot be utilized until repaired or replaced.

15. Section 15 – Fall Protection

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1926.500 - .503.

B. Purpose

This sets forth guidelines and procedures to be followed to ensure the safety of employees working on elevated walking/working surfaces. Safety procedures to be followed while working on ladders and scaffolding are addressed separately in this Policy.

C. Responsibilities

1. Project Managers or Employees shall contact the Safety/Risk Manager for assistance when evaluating unusual fall hazards or fall protection systems.
2. Employee shall ensure that fixed fall protection is kept in good condition and that employees utilize personal fall arrest equipment as necessary.
3. Supervisor or Project Manager shall provide for prompt rescue of employees in the event of a fall or shall ensure that employees are able to rescue themselves.
4. Personal fall arrest systems shall be inspected prior to each use by the Project Manager and/or Employee(s) for wear, damage and other deterioration, and defective components shall be removed from service.
5. Employees shall not damage or reduce the effectiveness of any fixed fall protection system.
6. Employees shall utilize personal fall arrest equipment as instructed by any of the following: Project Manager, Safety/Risk Manager, Customer or General Contractor.
7. Safety/Risk Manager shall periodically inspect jobsites to ensure adequacy of fall protection and check for proper use of personal fall arrest systems.
8. Safety/Risk Manager shall ensure that all employees receive annual training on fall hazards and protection systems.

D. Duty to Have Fall Protection

1. Fall protection shall be required under the following conditions: (Exception - when employees are making an inspection, investigation, or assessment of workplace conditions prior to the start of the job or after the job has been completed.)

	Approved Fall Protection Systems *					
Fall Exposure	**Warning Line**	**Guardrail**	**Personal Fall Arrest**	**Cover**	**Fence**	**Barricade**
Unprotected Sides & Edges	**X (15')**	**X**	**X**			
Leading Edges		**X**	**X**			
Hoist Areas [a]		**X**	**X**			
Holes [b]		**X**	**X**	**X**		
Ramps, Runways & Other Walkways		**X**				
Excavations		**X**		**X(Wt.)**	**X**	**X**
Dangerous Equipment		**X**			**X**	**X**
Low Slope Roofs [c]	**X**	**X**	**X**			
Steep Roofs [d]		**X**	**X**			
Wall Openings [e]	**X (15')**	**X**	**X**			
Aerial Platforms		**X**	**X**			

All of the above fall protection systems are required when working six feet or more above the walking/working surface.

**Notes for fall exposures in above table:*

a. If a guardrail system is chosen and the guardrail must be removed and an employee must lean through the access opening or out over the edge of the opening, then a personal fall arrest system shall be used.

b. Employees shall be protected from tripping or stepping into holes by covers. Employees shall also be protected from objects falling through holes by covers.

c. A combination of warning line system with either a guardrail system, personal fall arrest system.

d. Guardrails shall have toe boards when a hazard is posed to personnel below.

e. Wall openings where the outside bottom edge is six feet or more above lower levels and the inside bottom edge is less than 39" above the walking/working surface, fall protection shall be provided per the above table.

2. Protection From Falling Objects

a. When employees are exposed to falling objects, they shall wear a hard hat.

b. Toeboards or screens shall be installed on guardrail systems.

c. Barricade the area where objects could fall and prohibit employees from entering the barricaded area.

d. Keep objects far enough away from the edge of higher levels so that they do not go over the edge if accidentally displaced.

E. Fall Protection System Requirements

Fall protection systems required above shall comply with the following requirements and be installed before the job necessitating the fall protection begins.

1. Personal Fall Arrest System

a. Use of body belts for personal fall protection is prohibited.
b. Connectors shall meet the following requirements:
    i. Made of drop forged, pressed or formed steel, or equivalent materials.
    ii. Shall have a corrosion resistant finish.
    iii. All surfaces and edges shall be smooth.
    iv. Dee-rings and snaphooks shall have a minimum tensile strength of 5,000 pounds and proof tested to a minimum tensile load of 3,600 pounds without cracking, breaking or permanent deformation.
    v. Only locking type snaphooks shall be used.
c. Horizontal lifelines shall be designed, installed and used under the supervision of a qualified person. The complete personal fall arrest system shall maintain a safety factor of at least two.
d. Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds.
e. Only one employee shall be attached to a vertical lifeline at any given time.
f. Lifelines shall be protected against being cut or abraded.
    i. Self-retracting lifelines and lanyards which automatically limit free fall distance to two feet or less, shall be capable of sustaining a minimum tensile load of 3,000 pounds with the lifelines or lanyards fully extended.

ii. Self-retracting lifelines and lanyards which do not limit free fall distance to two feet or less, ripstitch lanyards, and tearing and deforming lanyards shall be capable of sustaining a minimum tensile load of 5,000 pounds, applied to the device with the lifeline or lanyard in the fully extended position.

g. Ropes and straps (webbing) used in lanyards, lifelines and strength components of harnesses shall be made of synthetic fibers.
h. Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting 5,000 pounds per employee attached, or shall be designed, installed, and used as follows:
i. As part of a complete personal fall arrest system which maintains a safety factor of at least two, and
    i. Under the supervision of a qualified person.
j. Rigging Straps shall NOT be utilized for fall protection activities
k. Personal fall arrest systems when stopping a fall, shall:
    i. Limit maximum arresting force on an employee to 1,800 pounds when using a body harness.
    ii. Be rigged so that an employee can neither free fall more than six feet nor contact any lower level.
    iii. Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to three and a half feet,
l. Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of six feet or the free fall distance permitted by the system, whichever is less.
m. The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.
n. Harnesses and components shall be used only for employee fall protection and not to hoist materials.
o. Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall be sent to the Safety/Risk Manager to determine suitability for use.
p. Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.
q. When a personal fall arrest system is used at hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.
r. After any incident involving the use of a personal fall arrest system, Supervisor shall document using form in Appendix A, and follow-up shall happen with Safety/Risk Manager including investigation of incident.

2. Positioning Device Systems

a. Positioning devices shall be rigged so that an employee cannot free fall more than two feet.

b. Positioning devices shall be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds, whichever is greater.

c. Connectors shall meet the requirements set forth in personal fall arrest systems.

d. Connecting assemblies shall have a minimum tensile strength of 5,000 pounds.

e. Dee-rings and snaphooks shall be proof tested to a minimum tensile load of 3,600 pounds without cracking, breaking or permanent deformation.

f. All snaphooks shall be of the locking type.

g. Positioning device systems shall be inspected prior to each use for damage, wear and other deterioration. Defective components shall be removed from service.

h. Harnesses and components shall be used only for employee protection and not to hoist materials.

3. **Warning Line Systems**
   a. The warning line shall be erected around all sides of the work area.
      1. When mechanical equipment is not being used, the warning line shall be erected not less than fifteen feet from the roof edge.
      2. When mechanical equipment is being used, the warning line shall be erected not less than fifteen feet from the roof edge which is parallel to the direction of equipment operation, and not less than ten feet from the roof edge which is perpendicular to the direction of mechanical equipment operation.
   b. Points of access, material handling areas, storage areas and hoisting areas shall be connected to the work area by an access path formed by two warning lines.
   c. When the path to a point of access is not in use, a rope, wire, chain, or other barricade, equivalent in strength and height to the warning line shall be placed across the path at the point where the path intersects the warning line.
   d. Warning lines shall consist of ropes, wires or chains and supporting stanchions erected as follows:
      1. The rope, wire or chain shall be flagged at not more than six foot intervals with high visibility materials.
      2. The rope, wire, or chain shall be rigged and supported in such a way that its lowest point (including snag) is no less than 34" from the walking/working surface and its highest point is no more than 39" from the walking/working surface.
      3. After being erected, the warning line system shall be capable of withstanding a force of at least 16 pounds applied horizontally

against the stanchion, 30” above the walking/working surface without tipping over.

e. The rope, wire or chain shall have a minimum tensile strength of 500 pounds and the line shall be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.

f. No employee shall be allowed in the work area between the roof edge and the warning line unless properly protected as explained above (personal fall arrest).

g. Mechanical equipment on roofs shall be used or stored only in areas where employees are protected by a warning line system, guardrail system or personal fall arrest system.

4. Covers

a. Covers located in roadways or vehicular traffic areas shall be capable of supporting, without failure, at least twice the maximum load of the largest vehicle expected to cross over the cover.

b. All other covers shall be capable of supporting, without failure, at least twice the weight of employees, equipment and materials that may be imposed on the cover at any one time.

c. All covers shall be secured when installed so as to prevent accidental displacement by wind, equipment or employees.

d. All covers shall be marked with either “HOLE” or “COVER” to provide warning of the hazard.

e. All floor penetrations greater than 2 inches in diameter shall be covered as described in this section.

5. Protection From Falling Objects

a. Toeboards shall be erected along the walking/working surface for a distance sufficient to protect employees below.

b. Toeboards shall be capable of withstanding, without failure, a force of at least 50 pounds applied in any downward or outward direction at any point along its length.

c. Toeboards shall be at least 3.5” high and no more than 1/4” clearance above the walking/working surface.

d. Where tools, equipment or materials are piled higher than the top edge of the toeboard, paneling or screening shall be erected from the walking/working surface to either the top rail or midrail for a distance sufficient to protect employees below.

e. Canopies, when used as falling object protection, shall be strong enough to prevent collapse and to prevent penetration by any objects which may fall onto the canopy.

6. Training

a. All employees shall receive training on an annual basis in the form of tool box talks that cover the following topics:

1. Nature of fall hazards on the jobsite.

2. Correct procedure for inspecting and maintaining a fall protection system.

3. The use and operation of guardrail systems, personal fall arrest systems, warning line systems and safety monitoring systems.

4. The role of each employee in the safety monitoring system when used.

5. The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection.

b. Refresher training shall be provided annually, when an employee does not comply with the requirements set forth in this Policy, when changes occur on the job or in fall protection system used, or after a fall related injury on the job.

16. Section 16 – Holes / Covers

1. The intent of this is to ensure ALL persons are aware of their responsibilities when pertaining to holes that we encounter and /or create.
2. OSHA Definition: *Hole* means a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.
3. All covers need to be able to withstand 2 times the maximum intended load.
4. All covers shall be secured in a manner as to not allow them to be accidentally displaced or removed via wind, equipment or employees.
5. All covers shall be marked with the word “HOLE” or “COVER”.
6. If the open area (hole, pit, trench) is not going to be covered due to work being performed in the space (trench work, confined space work) barricading and signage shall be posted around ALL sides (360 degrees) of the opening indicating a hazard. All barricading and/or flagging shall be no closer than 6 feet to the nearest edge of the opening.
7. If the hole/penetration is 6 feet or greater in depth (distance to lower level) and configured in a manner in which a worker could potentially fall 6 feet or more, Fall Protection is Required to protect the exposed worker(s).
8. If the hole or penetration was not created by General Control Systems, Inc. Or one of our subcontractors and we have to work in the area the following steps shall be taken.
9. Address the concern with the GC or the Owner.
10. Install proper cover to protect all of our workers and subcontractors.

11. If we create the hole or penetration the following shall be followed
12. Prior to creating the hole or penetration establish a safe perimeter via barricading and/or flagging.
13. All persons in the area shall be made aware of the hole or penetration being made. This can be done via verbal communication and/or signage posted at the entrance to the area and at the work area.
14. Be sure to have the appropriate cover or equipment at the work area as to cover it or fill it immediately after creating it.
15. AT NO TIME is it OK to leave a hole or penetration unprotected or unsupervised.
16. Holes and penetrations will continue to be a part of our scope of work. It is our responsibility as a company and as the employees of this company to follow this procedure.

17. Section 17 – Ladders

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements set forth in OSHA 29 CFR 1926.1050, .1051, .1053 and .1060.

B. Purpose

This is designed to ensure safe ladders are provided for use on jobsites and that they are used safely.

C. Responsibilities

1. Project Manager shall ensure that the proper height ladder is ordered for a job when requesting tools and equipment.
2. Site Supervisor shall complete an inspection of each ladder on the jobsite on a monthly basis.
3. Site Supervisor shall ensure that employees are using the proper ladder for the job and that they are using it safely.
4. Site Supervisor shall ensure that damaged ladders are removed from service and either sent back to the shop for repair or disposed of.
5. Safety/Risk Manager will periodically inspect the condition and use of ladders on the jobsite.

D. Ladder Requirements

1. Ladders shall be capable of supporting the following loads without failure:

    a. Self-Supporting Ladders - at least four times the maximum intended load, except that each extra heavy duty type 1A metal or plastic ladder shall sustain at least 3.3 times the maximum intended load.

b. Non - Self Supporting Portable Ladder - at least four times the maximum intended load, except that each heavy duty type 1A metal or plastic ladder shall sustain at least 3.3 times the maximum intended load.

c. Fixed Ladder - at least two loads of 250 pounds each plus anticipated loads caused by ice buildup, winds, rigging and impact loading resulting from the use of ladders as safety devices. Each step or rung shall be capable of supporting a single concentrated load of 250 pounds applied in the middle of the step or rung.

2. Ladder rungs, cleats and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use.

3. Rungs, cleats and steps of portable ladders shall be spaced not less than 10 inches apart, nor more than 14 inches apart, as measured between the center lines of the rungs, cleats and steps.

4. Rungs, cleats and steps of portable step stools shall not be less than 8 inches apart, nor more than 12 inches apart, as measured between the center lines of rungs, cleats and steps.

5. Rungs, cleats and steps of the base section of extension ladder shall not be less than 8 inches nor more than 18 inches apart, as measured between center lines of rungs, cleats and steps. The rung spacing on the extension section of the extension ladder shall not be less than 6 inches nor more than 12 inches, as measured between the center lines of rungs, cleats and steps.

6. The side rails of step ladders shall not be placed within 16 inches of the side rails of a fixed ladder.

7. Portable ladders shall not be placed closer than 11.5 inches measured from side rail to side rail.

8. The rungs of step ladders shall be shaped such that employee’s feet cannot slide off the end of the rungs.

9. The rungs and steps of fixed metal ladders manufactured after March 15, 1981, shall be corrugated, knurled, dimpled, coated with skid resistant material or otherwise treated to minimize slipping.

10. The rungs and steps of portable metal ladders shall be corrugated, knurled, dimpled, coated with skid resistant material or otherwise treated to minimize slipping.

11. Ladder shall not be tied or fastened together to provide longer sections.

12. A metal spreader or locking device shall be provided on each step ladder to hold the front and back sections in an open position when the ladder is being used.

13. Except when portable ladders are used to gain access to fixed ladders, the ladders shall be offset with a platform or landing between the ladders.

14. Ladder components shall be surfaced so as to prevent injury to an employee from punctures or lacerations and to prevent snagging of clothing.

15. Wood ladder shall not be coated with any opaque covering, except for identification or warning labels, which may be placed on only one face of a side rail.

16. The minimum perpendicular clearance between fixed ladder rungs, cleats, steps and any obstruction behind the ladder shall be 7 inches.

17. The minimum perpendicular clearance between the center line of fixed ladder rungs, cleats and steps and any obstruction on the climbing side of the ladder shall be 30 inches.

18. Fixed ladders at their point of access/egress shall have a step across distance of not less than 7 inches as measured from the center line of the steps or rungs to the nearest edge of the landing area. If the normal step across distance exceeds 12 inches, a landing platform shall be provided to reduce the distance to less than 12 inches.

19. Fixed ladders without cages or wells shall have a clear width to the nearest permanent object of at least 15 inches on each side of the center line of the ladder.

20. Fixed ladder shall be provided with cages, wells, ladder safety devices or self-retracting lifelines where the climb height is less than 24 feet, but the top of the ladder is more than 24 feet above the lower levels.

21. Where the total length of climb equals or exceeds 24 feet, fixed ladders shall be equipped with one of the following:

    a. Ladder safety devices

    b. Self-retracting lifelines and rest platforms at intervals not to exceed 150 feet

    c. A cage or well and multiple ladder sections, each ladder section not to exceed 50 feet in length. Ladder sections shall be offset from adjacent sections and landing platforms shall be provided at maximum intervals of 50 feet.

22. Cages for fixed ladders shall conform to all of the following:

    a. Horizontal bands shall be fastened to the side rails of rail ladders or directly to the structure, building or equipment for individual rung ladders.

    b. Vertical bars shall be on the inside of the horizontal bands and shall be fastened to them.

c. Cages shall not extend less than 27 inches or more than 30 inches from the center line of the step or rung and shall not be less than 27 inches in width.

d. The inside of the cage shall be clear of projections.

e. Horizontal bands shall not be spaced more than 4 feet on center vertically.

f. Vertical bars shall be spaced at intervals not more than 9.5 inches on center horizontally.

g. The bottom of the cage shall be at a level not less than 7 feet nor more than 8 feet above the point of access to the bottom of the ladder. The bottom of the cage shall be flared not less than 4 inches all around within the distance between the bottom horizontal band and the next higher band.

h. The top of the cage shall be a minimum of 42 inches above the top of the platform, or the point of access at the top of the ladder, with provision for access to the platform or other point of access.

23. Wells for fixed ladders shall conform to all of the following:

a. They shall completely encircle the ladder.

b. They shall be free of projections.

c. Their inside face on the climbing side of the ladder shall extend not less than 27 inches nor more than 30 inches from the center line of the step or rung.

d. The inside clear width shall be at least 30 inches.

e. The bottom of the wall on the access side shall start at a level not less than 7 feet nor more than 8 feet above the point of access to the bottom of the ladder.

24. Ladder safety devices and related support systems for fixed ladders shall conform to all of the following:

a. Shall be capable of withstanding without failure a drop test consisting of an 18 inch drop of a 500 pound weight.

b. They shall permit the employee using the device to ascend or descend without continually having to hold, push or pull any part of the device, leaving both hands free for climbing.

c. They shall be activated within 2 feet after a fall occurs and limit the descending velocity of an employee to 7 feet/second or less.

d. The connection between the carrier or lifeline and the point of attachment to the body harness shall not exceed 9 inches in length.

25. The mounting of ladder safety devices for fixed ladders shall conform to the following:

a. Mountings for rigid carriers shall be attached at each end of the carrier, with intermediate mountings, as necessary, spaced along the entire length of the carrier to provide the strength necessary to stop employee's falls.

b. Mountings for flexible carriers shall be attached at each end of the carrier. When the system is exposed to wind, cable guides for flexible carriers shall be installed at a minimum spacing of 25 feet and maximum spacing of 40 feet along the entire length of the carrier to prevent wind damage.

c. The design and installation of mountings and cable guides shall not reduce the design strength of the ladder.

26. The side rails of through or side step fixed ladders shall extend 42 inches above the top access level or landing platform served by the ladder.

27. For through fixed ladder extensions, the steps or rungs shall be omitted from the extension and the extension of the side rails shall be flared to provide not less than 24 inches nor more than 30 inches clearance between the side rails.

28. Individual rung/step ladders, except those used where the access openings are covered with manhole covers or hatches, shall extend 42 inches above an access level or landing platform either by the continuation of the rung spacing as horizontal grab bars or by providing vertical grab bars that have the same spacing as the vertical legs of the rungs.

E. Use

1. Portable ladders used for access to an upper landing surface shall have the side rails extend at least 3 feet above the upper landing surface and be secured against movement.

2. Ladders shall be maintained free of oil, grease, and other slipping hazards.

3. Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond their manufacturer's rated capacity.

4. Ladders shall be used only for the purpose for which they were designed.

5. Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement.

6. Ladders shall not be placed on slippery surfaces unless secured or provided with slip resistant feet to prevent accidental displacement.

7. Ladders placed in any location where they can be displaced by workplace activities shall either be secured or protected by a barricade to keep traffic away from the ladder and prevent accidental displacement.

8. The area around the top and bottom of ladder shall be kept clear.

9. The top of a non - self-supporting ladder shall be placed with the two rails supported equally unless it is equipped with a single support attachment.

10. Ladders shall not be moved, shifted or extended while occupied.

11. Ladders used near energized electrical equipment shall have nonconductive side rails.

12. The top or top step of a step ladder shall not be used as a step.

13. Cross bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both sides.

14. Ladders shall be inspected by the Supervisor on a monthly basis using the monthly Ladder Inspection Checklist found in Appendix H.

15. Portable ladders with structural defects shall either be returned to the shop for repair or disposed of.

16. Fixed ladders with structural defects shall be tagged with “Do Not Use” or blocked in such a manner as to prevent employee access.

17. When ascending or descending a ladder, the user shall face the ladder.

18. Each employee shall use at least one hand to grasp the ladder when ascending/descending the ladder.

19. An employee shall not carry any load or object that could cause the employee to lose their balance and fall.

20. Non - self-supporting ladders shall be sued at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately 1/4 of the working length of the ladder.

21. Wood job made ladders with spliced side rails shall be used at an angle such that the horizontal distance is 1/8 the working length of the ladder.

22. Fixed ladders shall be used at a pitch no greater than 90 degrees from the horizontal, as measured to the backside of the ladder.

F. Training

Employees shall receive training on the following items on an annual basis through the weekly toolbox talks:

1. The nature of fall hazards in the work area.
2. The correct procedures for erecting, maintaining and disassembling the fall protection systems to be used.
3. The proper construction, use, placement and care of all ladders.
4. The maximum intended load carrying capacities of ladders used.

Refresher training shall be provided on an annual basis or after a fall from ladder related injury on a jobsite.

18. Section 18 – Confined Space Entry

A. Scope:

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1910.146.

B. Purpose

This is designed to protect employees from the hazards of entry into confined spaces. Typical hazards are: oxygen deficiency or enrichment, concentrations of flammable gases or vapors, release of liquids or gases into the vessels, accidental activation of agitating equipment, and entry and exit restrictions requiring special procedures.

C. Responsibility:

The customer or owner of the confined space is responsible for the following: (per OSHA 29 CFR 1910.146 (c)(8))

1. Inform General Control Systems, Inc. that confined spaces exist and review the elements of their confined space entry.
2. Apprise General Control Systems, Inc. of the identified hazards and their experience in the confined space.
3. Apprise General Control Systems, Inc. of any precautions or procedures that they have implemented for the protection of employees in or near the confined space(s).
4. Debrief General Control Systems, Inc. entry supervisor at the conclusion of the entry regarding the procedures followed and any hazards confronted or created in the confined spaces during entry operations.

- The Project Manager and/or entry supervisor are responsible for the safety of employees at the time of entry and during the entire operation. The Project Manager and/or entry supervisor must ensure that adequate steps have been taken to eliminate or control hazards in the confined space. The Project Manager and/or entry supervisor will make sure that all entrants understand the nature of hazards that remain and the necessary precautions to be observed.
- The entry supervisor is responsible for accurately completing the following :
  1. Review Confined Space Entry Checklist
  2. Confirm Confined Space Entrant Training
  3. ***Confined Space Entry Permit*** completion ***(Appendix G)***
- The Safety/Risk Manager and/or Project Manager are responsible for ensuring the confined space entry checklist is completed and reviewed prior to entry into the confined space.
- The Project Manager must notify either the Safety/Risk Manager or GCS management at least 24 hours prior to the need for entry into a confined space so that it can be properly evaluated.
- The Safety/Risk Manager is responsible for performing the Confined Space Box Checklist after each use.

D. Annual Review and Permit Audit:

This procedure and all confined space entry permits will be reviewed annually by the Safety Department to identify problems arising during confined space entries and to evaluate the confined space for possible revisions.

E. Training:

Job-Specific training will be conducted by Safety/Risk Manager for all projects with Permit-Required or Non-Permit Required Confined Space work. All confined space team members shall receive the following training:

1. Review of the General Control Systems, Inc. Confined Space.
2. Training on all new equipment obtained for use in confined space entries.
3. Periodic documented training throughout the course of the year to refresh skill and address skill deficiencies. (A confined space entry which is observed by the Safety/Risk Manager or GCS Senior Manager would count as refresher training)

F. Duties of Authorized Entrants:

1. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure.
2. Properly use equipment provided.
3. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and enable the attendant to alert entrants of the need to evacuate the confined space.

G. Duties of Attendants:

1. Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure.
2. Is aware of possible behavioral effects of hazard exposure in authorized entrants.
3. Continuously maintains an accurate count of authorized entrants in the confined space.
4. Remains outside the permit required confined space during entry operations until relieved by another attendant.
5. Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the confined space.
6. Monitor activities inside and outside the confined space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit required confined space immediately under any of the following conditions:

    a. If the attendant detects a prohibited condition,

    b. If the attendant detects the behavioral effects of hazard exposure in an authorized entrant,

c. If the attendant detects a situation outside the space that could endanger the authorized entrants,

d. If the attendant cannot effectively and safely perform all of their required duties.

7. Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit required confined space hazards.

8. Take the following actions when an unauthorized person(s) approach or enter a permit required confined space:

   a. Warn the unauthorized person(s) that they must stay away from the permit required confined space,

   b. Advise the unauthorized person(s) that they must exit immediately if they have entered the permit required confined space,

   c. Inform the authorized entrants and entry supervisor if unauthorized person(s) have entered the permit required confined space,

9. Perform non - entry rescue as specified in the Rescue & Emergency section of this Policy.

10. Perform no duties that might interfere with their primary duty to monitor and protect the authorized entrants.

H. Duties of Entry Supervisors:

1. Know the hazards that may be faced during entry, including information on the mode, signs and symptoms, and consequences of exposure.
2. Verify, by checking for appropriate entries on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin. ***(Appendix G)***
3. Terminates the entry and cancels the permit when operations covered by the permit have been completed or a condition that is not allowed under the entry permit arises in or near the permit required confined space.
4. Verifies that rescue services are available and that the means for summoning them are operable.
5. Removes unauthorized individuals who enter or attempt to enter the permit required confined space during entry operations.
6. Determines that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

I. Types of Confined Spaces:

A confined space is a space that meets one or more of the following conditions:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work,

2. Has limited or restricted means for entry or exit,

3. Is not designed for continuous employee occupancy.

There are two types of confined spaces: permit required and non-permit required.

Non-Permit Required Confined Space: A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Permit Required Confined Space: A confined space that has one or more of the following characteristics:

1. Contains or has a potential to contain a hazardous atmosphere,
2. Contains a material that has the potential for engulfing an entrant,
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross section,
4. Contains any other recognized serious safety or health hazard.

J. Preplanning:

Confined spa is responsible for all aspects of the confined space entry and no employee shall enter a confined space until authorized by the entry supervisor. The entry supervisor/attendant will be present at all times while employees are in the confined space.

The following steps must be completed for <u>every</u> confined space that a General Control Systems, Inc. employee may enter:

1. Determine the hazardous properties of materials in the confined space,
2. Determine isolation points and procedures to be used to ensure no materials or gases enter the confined space during employee entry,
3. Determine location of lockout points which guarantee against electrical energization and mechanical activation,
4. Cleaning, purging and ventilation procedures necessary for preparing the confined space for entry,
5. Emergency rescue planning.

K. Confined Space Entry Procedure:

1. It is the responsibility of the Project Manager/Entry Supervisor and Entrant to identify potential confined spaces. If a confined space is suspected, then:
    a. At least 24 hours prior to performing work in the space, contact the Safety/Risk Manager or GCS Senior Manager.

b. Assist the team member in their evaluation by providing detailed answers to all questions.

2. If it is determined that the space is non-permit required, then
   a. The entry checklist will be completed and reviewed with the Project Manager or the designated assignee.

   b. The Project Manager/Entry Supervisor will be placed in charge of the entry.

3. If it is determined that the space is permit required, then
   a. A Confined Space Supervisor will be placed in charge of the confined space entry.

   b. The Safety/Risk Manager or Project Manager will arrange delivery of the confined space equipment.

   c. Complete all confined space forms and checklist applicable to the confined space to be entered.

   d. Complete all confined space forms and checklists in the following order:

      1. Review Confined Space Entry Checklist

      2. Confined Space Entrant Training

      3. ***Confined Space Entry Permit (Appendix G)***

      4. Confined Space Box Checklist, after entry completed

   e. Ensure all equipment is cleaned daily and placed in proper place in boxes.

   f. Return all forms and checklists pertaining to the confined space entry to the Safety Department.

4. This procedure and all confined space entry permits shall be reviewed annually by the Safety/Risk Manager.

L. Confined Space Guidelines:

The following guidelines must be followed to ensure a safe Permit Confined Space entry when:

1. At a minimum, a permit required confined space operations require a two member team. This team will consist of the entrant and entry supervisor/attendant.
2. The attendant shall be stationed outside the confined space while employees are in the space.
   a. The attendant shall not enter the confined space or leave the area unless relieved by a similarly trained and authorized person.

b. The attendant shall allow only authorized persons to enter the space, know who is in the space at all times, and maintain communications with the worker(s) inside the confined space via visual contact, voice, line contact or two way communication system.

c. The attendant shall maintain safe conditions outside the confined space to ensure that nearby operations do not expose confined space entrant(s) to unsafe conditions.

d. The attendant shall be knowledgeable in established emergency response and rescue procedures and be able to quickly summon assistance in the event of an emergency.

e. The attendant shall monitor continuous air sampling instrumentation and forced air ventilation equipment and tend lifelines and other safety equipment.

M. Confined Space Preparation:

Preparation of a confined space for entry consists of three steps: isolation, cleaning and testing. Pre - entry atmospheric testing must be completed before isolation and cleaning, only if it is necessary to enter the confined space to perform these steps.

1. Isolation
    a. Pipes, hoses, and ducts shall be disconnected, blanked, or valves closed and locked.

    b. Drive shafts or belts shall be disconnected.

    c. Electrical power switches and/or breakers must be locked/tagged out according to the General Control Systems, Inc. Lockout/Tagout.

    d. Special attention shall be given to jacketed tanks. Water jackets shall be drained and Ammonia jackets must be evacuated of all ammonia and valved off. The facility Maintenance Supervisor must verify ammonia evacuation.

2. Cleaning

    Cleaning will most likely be performed by plant personnel. If cleaning is required, contact the entry supervisor for instructions.

3. Pre - entry atmospheric testing

    a. All pre - entry testing shall be completed from outside the confined space. This will require the use of instrumentation with remote sampling capabilities.

    b. All air sampling shall be done by a member of the confined space entry team knowledgeable in air sampling techniques. This knowledge shall

include the use, calibration and limitations of instrumentation, as well as, the ability to reliably interpret the results.

c. Air sampling readings shall be taken at the top, middle and bottom of the confined space to detect any stratification of the atmosphere in the confined space.

d. If the confined space is over 8 feet deep, then air sampling readings shall be taken every 4 feet until the bottom is reached.

e. If the concentration of airborne dust obscures visibility to 5 feet or less, then a flammable dust level may be present.

f. The air testing being performed shall be appropriate to the hazards of the confined space being entered. Sufficient tests shall be performed to obtain a true representation of all areas in the confined space. These tests may include:

1. Oxygen - this will be the first test performed. Test results below 19.5% are considered oxygen deficient. Concentrations above 23.5% are considered oxygen enriched. Results between 19.5% and 23.5% are acceptable for confined space entry.

NOTE: An oxygen measurement less than ambient (approximately 21%) may indicate a potential problem. This situation should be approached with caution and further testing performed to identify the cause of the reduced oxygen content before proceeding. **Note: O2 sensors normally read 20.9%**

2. Flammability - This test shall be performed second, whenever there is a possibility for the presence of flammable or combustible gases or vapors. Test results below 10% of the lower flammable limit are acceptable for confined space entry.

3. Toxic Substances - tests for toxic substances shall be performed last, whenever the presence of a toxic substance within the confined space is possible. The specific toxic substance to be tested for must be determined during pre-planning.

g. Whenever atmospheric testing indicates that the confined space is not safe to enter, remedial action shall be taken to render the confined space safe. This may include ventilation, purging, additional cooling/warming or other techniques.

h. The atmosphere of the confined space shall be monitored by the attendant before and during work in the confined space to ensure sufficient oxygen and ensure that there is not a buildup of flammable or toxic vapors.

N. Ventilation:

Ventilation is essential to confined space entry. Respiratory devices should never be used as a substitute for proper ventilation. Ventilation rates depend on the size and shape of the confined space, the work being performed and the materials in the confined space.

1. The air used shall be from an electric blower or fan. The air intake for this device should be located where no contaminants may enter the air stream.

2. Air used for ventilation should not be from a shop compressed air line, air compressor, or bottled compressed air, as these may not be pure. However, these sources may be used when no others are available, if they are tested for the presence of oxygen and absence of carbon monoxide.

3. Air may either be exhausted or blown into the confined space. The best results are usually obtained by pulling air out if there are sufficient fresh air inlet openings. This will pull fumes and gases off the bottom and away from the workers.

4. Continuous mechanical ventilation shall be used during confined space operations involving hot work, painting, and cleaning with toxic or hazardous substances.

5. If gas welding is conducted inside the confined space, the torch shall be removed at the end of each operation. Gas cylinders shall never be placed inside a confined space. Leaky valves can contribute to a build - up of flammable gases inside the confined space.

O. Isolation and Lockout:

1. All mechanical, electrical, pneumatic or hydraulic equipment associated with the confined space shall be physically locked out or otherwise de-energized according to the General Control Systems, Inc. Lockout/Tagout.

2. All pipes, hoses, ducts, and other supply and discharge lines shall be disconnected, blanked off, or double blocked and bled to ensure that no gases, liquids, materials, or substances can enter the confined space.

   a. All isolation and lockout points shall be recorded on the pre - entry checklist and checked off as isolation and lockout is completed prior to entry.

P. Electrical Precautions:

1. Electrical shock or ignition hazards must be eliminated where hazardous conditions exist. Hazardous locations encountered within a confined space may mandate the use of electrical equipment rated for work in hazardous locations.
2. Portable electrical equipment used for work in confined spaces shall meet:
   a. The National Electrical Code, Article 250-45, which mandates grounding or plug connected equipment in hazardous and conductive locations, or

   b. equivalent government standards.

3. Examples of suitable equipment include: low voltage supply lighting, double insulated power tools, air driven power tools, and ground fault circuit interrupters.

Q. Hot Work:

1. All welding, cutting or brazing work requires a Hot Work Permit.
2. All hot work requires the use of continuous mechanical ventilation. Refer to section "N" of this document.
3. Whenever continuous mechanical ventilation is not adequate in the control of employee exposure to air contaminants, appropriate respiratory protection shall be provided.
4. Compressed gas cylinders shall never be taken into the confined space. Hoses carrying compressed gases for use in Hot Work shall only be present during actual use and shall be removed whenever not in use.

R. Respiratory Protection:

1. The use of respiratory protection equipment is not required if the confined space has been determined to have acceptable air quality and the precautions taken preclude the development of an unsafe environment during the confined space entry.
2. If respirators are deemed necessary for the task all persons must be prequalified through medical evaluation and deemed fit to use a respirator.
3. The use of SCBA's is prohibited by General Control Systems, Inc. personnel.
4. The use of canister type masks which operate on the principle of chemical absorption or mechanical filtration will not provide adequate protection if an oxygen deficient environment exists.

S. Miscellaneous Safety Equipment:

1. Instruments for atmospheric testing shall be calibrated and checked before use. The lower limit of sensitivity shall be well below harmful levels of concentration.
2. Hoisting equipment used in locations with the potential for an explosive concentration of flammable gases must be non - spark producing.
3. Lifelines and safety harnesses:

a. Workers entering confined spaces must be provided with safety harnesses or wrist harnesses attached to a lifeline.

b. The free end of the lifeline shall be affixed outside the confined space in a manner which will prevent it from being pulled into the space.

4. Personal protective equipment may range from complete coverage suits for protection against toxic chemicals harmful by absorption through the skin to chemical goggles, hard-hats, boots, gloves, safety glasses and safety shoes normally worn to protect against routine hazards.

5. Ladders used for confined space entry and exit shall be securely fastened at the top and bottom, and extend 3 feet past the top of the confined space.

T. Emergency and Rescue:

In case of an emergency, the attendant is to summon aid immediately. The attendant must never enter the confined space or leave their post until relieved by a qualified individual. It is the attendant's responsibility to attempt to remove the victim from the space if possible, and perform any other rescue functions from outside the confined space. Upon opportunity or when first help arrives, call 911 or emergency response number. NOTE: Be sure to document and make the team aware of emergency contact #.

Attendants shall be trained in basic first aid principles, such as breathing techniques. Rescuers entering the confined space must be protected with safety equipment appropriate for the situation. This equipment must be located outside and convenient to the confined space.

The following steps shall be followed for all entries:

1. Limit the number of workers entering the confined space to an absolute minimum.
2. The attendant shall be positioned so that they can see all activity in the confined space.
3. Devise a method by which the attendant can alert others of an emergency situation.
4. Have first aid equipment readily available.
5. Ensure the attendant or other readily available employee is trained in first aid.
6. Require entrants to wear a harness attached to a lifeline. A block and tackle may be necessary to pull an unconscious entrant out of the confined space.
7. Brief employees (prior to entry) on rescue procedures to be followed to minimize confusion if an emergency situation arises.

19. Section 19 – Electrical Arc Flash Safety

&

Hazard Assessment Documentation
(OSHA 1910 Subpart S and NFPA 70E)

A. FORWARD

1. General Control Systems, Inc. controls this Policy.
2. Questions related to the correct application or interpretation of this standard should be directed to the General Control Systems, Inc. Safety/Risk Manager.

B. PURPOSE

1. This standard was developed to ensure compliance with Federal, State, and Local regulations regarding electrical safety.

C. APPLICABILITY/SCOPE

1. This standard applies to General Control Systems, Inc. employees and others performing work at General Control Systems, Inc. locations and on customer properties (on electrical systems rated above 50 volts).
2. This standard shall cover the following items:
   - Change Control/Review Process
   - Definitions
   - Plant Specific Written Program
   - Roles and Responsibilities
   - General Rules
   - Electrical System Design
   - Electrical System Safety Work Practices
   - Permit
   - Test Instruments
   - Training

D. CHANGE CONTROL/REVIEW PROCESS

A. Requests for changes or deviations to this document shall be made in writing to the Safety/Risk Manager.

E. DEFINITIONS

1. *Arc blast* - A pressure wave containing gaseous forms of metal created from an electrical current fault. The arc blast may be of sufficient intensity to knock a standing person down or off a ladder. The arc blast may also be of sufficient intensity to produce human injury.
2. *Arc flash* - The arc flash may be composed of radiant and convective energy, arc blast vapors, molten metal droplets, sound pressure, shock waves, intense light, and projectiles.
3. *ATPV* - Arc Thermal Performance Exposure Value. The minimum incident arc energy in calories per centimeter squared capable of causing the onset of a second-degree burn. ATPV is defined in American Society for Testing of Materials standard F1959/F 1959/M as a test method for flame retardant clothing.
4. *Boundary, Flash Protection* - The linear distance in all directions from an exposed energized electrical component that is just far enough away from the source to prevent permanent injury from an arc flash due to a fault current.
5. *Boundary, Restricted Shock* - The linear distance in all directions from an exposed energized electrical component that establishes the boundary beyond which only qualified persons may be in closer proximity.
6. *Break-open threshold energy (EBT)* - Maximum incident energy values that do not cause Flame Resistant (FR) material to break-open, and do not cause second degree burns on skin covered by the FR material.
7. *Current limiting devices* - *C*ertain types of fuses or circuit breakers that, when interrupting current within its current-limiting range, will reduce the current in the faulted circuit to a substantially lower magnitude. Properly selected current limiting devices can limit the let-through energy to a level within the rating of downstream circuit components, even in the presence of high available system short-circuit current.
8. *Electrically Safe Work Condition* - De-energizing and securing energy sources to ensure employee safety. An electrically safe work condition is established by:
   - Identifying all sources of the electrical supply
   - Opening the disconnecting device for each supply
   - Visually inspecting where possible, the disconnecting device to ensure that the switch has opened
   - Locking out all disconnecting devices to prevent unexpected re-energization
   - Testing the circuit with an adequately rated test device (voltage tester or volt ohmmeter). The performance of the test instrument must be verified before and after each use
   - Grounding the phase conductors or components if induced voltage or stored electrical energy is present

9. *Electrical Systems* - Systems and associated equipment, which provides for the generation, transmission, conversion, distribution and use of electrical power.
10. *Fault current* - An electrical current that is following the path of least resistance, either from one phase to another, or to ground. This alternate path may be insufficient to contain the current, resulting in damage from extreme heat, fire, or flying components.
11. *High Voltage* - Voltage exceeding 600 Volts A.C. and D.C.
12. *Incident energy* - Energy from arc, both radiant and convective, that is actually received per unit area, in calories/cm2
13. *Low Voltage* - Voltage less than 600 Volts A.C. and D.C.
14. *Qualified Person* - A person with relevant education and experience to enable him or her to avoid dangers which electricity may create, and are authorized and competent to carry out specific work on the electrical distribution system.
15. *Unqualified Person* - Person adequately trained to enable him/her to avoid dangers which electricity may create but are not authorized to work on electrical systems.
16. *Voltage Tester* - A device capable of measuring the presence of voltage. These may be either solenoid operated or digital indicating. These units may also incorporate special features, such as the ability to indicate continuity. For the purposes of this procedure it does not include tick-tracers.
17. *Volt-Ohmmeter (VOM)* - A metering device capable of measuring continuity, voltage, and current. These units may also incorporate other special features, such as the ability to indicate capacitance and true Root Mean Square (RMS). These devices are also called multimeters.

F. FACILITY SPECIFIC WRITTEN PROGRAM

1. Each facility shall develop a specific Electrical Safety Program detailing how they will meet the requirements of this standard unless the Safety/Risk Manager deems the master program as applicable and appropriate for all company locations. If no plant specific modifications are necessary, this program shall be implemented verbatim. However, prior to deviating from this master version of the program, approval shall be obtained from the General Control Systems, Inc. Safety/Risk Manager.
2. General Control System will advise of any unique hazards presented as part of the work being performed, of any unanticipated hazards, or of any measures taken by others to correct hazards that were reported to General Control Systems. This will be accomplished via the normal project management process.
3. The program shall be accessible for review by employees and shall be updated as required or at least annually.

G. ROLES AND RESPONSIBILITIES

1. Safety/Risk Manager is responsible for:

- Overseeing the Electrical Safety.
- Supporting the implementation of the Electrical Safety.

- Providing the necessary resources to ensure the Policy serves and meets its purpose.
- Identifying Qualified Persons.
- Implementing and documenting deficiencies within the Policy.
- Coordinating Electrical Safety Training for all Qualified Persons, Unqualified Persons.
- Ensuring electrical enclosure labeling understood.
- Understanding and implementing the requirements of the Electrical Safety Policy.
- Providing clarification and guidance on electrical matters.
- Notifying the Qualified Persons of any substantial system changes/modifications.
- Perform an audit of field work performed by General Control Systems to establish compliance with company policy, safety performance, areas of improvement / training needed, etc.

2. Qualified Persons are responsible for:
- Understanding, abiding by and implementing the requirements of the Electrical Safety Policy.
- Notifying their Manager of any issues/problems requiring clarification and/or assistance.

3. Unqualified Persons are responsible for:
- Understanding the dangers associated with electricity and only performing permitted tasks.
- Notifying Qualified Persons of any issues or problems requiring clarification and/or assistance.

4. Safety Personnel are responsible for:
- Working with the Qualified Person to enforce the Electrical Safety Policy.
- Ensuring the personnel are equipped with the appropriate personal protective equipment required for Electrical Safety.
- Auditing work practices to ensure the requirements of this standard are implemented.
- Serving as an advisor on matters related to Health and Safety.

H. GENERAL RULES

The following work practices apply to all personnel working on or near equipment that poses an electrical hazard. These practices are not all-inclusive and do not replace national codes.

1. Only qualified persons are permitted to work on electrical systems or components where there is a potential for exposure to live, unprotected components.

2. Qualified persons shall place equipment into an electrically safe work condition before working on or near them unless de-energizing introduces additional or increased hazards or is infeasible.
3. Use extension cords for their intended purpose.
4. Use the proper power receptacle for each application.
5. Extension cords should not be used in place of permanent installations.
6. Unplug all portable electrical hand tools when not in use.
7. Only UL listed extension cords and/or components shall be used.
8. Ground fault circuit interrupters (GFCI) shall be used with all maintenance and construction use extension cords if the potential for contact with moisture exists.
9. Extension cords shall be inspected before each use for any damage. Damaged extensions cords shall be taken out of service and replaced.
10. Extension cord prongs shall not be bent or removed so it can fit a receptacle.
11. Tic-Tracers (or like devices) shall not be used to check/verify if a system is de-energized.
12. Do not endanger self or others by attempting to rescue shock victims unless trained and qualified.
13. All electrical shocks are medically serious regardless of the voltage. Even if the victim shows no apparent signs of injury, he/she shall be seen by a qualified health care professional.

I. ELECTRICAL SYSTEM DESIGN

1. Switchboards, disconnects, bus plugs, panel boards, industrial control panels and motor control centers shall be labeled to indicate the presence of an arc flash and shock hazard. The required labels shall also indicate the personal protective equipment necessary to prevent injuries resulting from these hazards.
    1. If this is not present treat all components as live and potentially hazardous components.
2. Electrical systems shall be designed to include disconnects capable of being locked out so that electrical energy can be isolated for anticipated maintenance actions.

J. ELECTRICAL SYSTEM SAFE WORK PRACTICES

1. General Control Systems, Inc. personnel shall not work on electrical distribution systems over 600 Volts.
2. For equipment operating over 600 volts (ex. lasers, equipment with capacitor banks, igniters, etc.) employees shall be allowed to work on them provided they have been controlled, locked out and verified “no voltage present” by a qualified and competent electrician.
3. Protective equipment must be stored and used in accordance with manufacturer’s recommendations. Regular tests and inspections will be required to ensure that any equipment is still fit for purpose and use. Equipment can include but is not limited to voltage-rated gloves and sleeves (where necessary), rubber mats, arc-rated hard hats and face shields, safety glasses, hearing protection, safety footwear and flame resistant (FR) clothing.

4. All Flame Resistant clothing shall be laundered and maintained in clean status. Employees are not permitted to repair or make alterations to any FR apparel. The PPE repair vendor will be required to show documentation that they are in compliance with the ASTM-1449 FR Garment Care and Maintenance Standards.

5. An Energized Electrical Work Permit must first be completed prior to starting any work energized equipment. Requirements for work permit are established as part of the Qualified Electrical Safety Training used to establish qualified persons to perform the work. This permit includes completion of arc flash assessment, areas identified with potential hazards to all workers, appropriate signage and area restrictions necessary for all works, and sign-offs from appropriate authorities prior to work performance starts.
6. Prior to any work commencing, a job briefing will be conducted with all participating employees and other persons involved in performing the work. Elements of the briefing will include job objective, risk and hazards identification, planned sequence of work performance, roles and responsibilities, safety and establishment of work boarders and restrictions, communications during work, anticipated timeframe to complete work, conditions for concluding work and closeout.
7. Any insulated tools, PPE or other equipment planned to be used is to be inspected prior to each day's use to perform the work. Worn or damaged items are to be removed from service and promptly replaced.
8. Any additional PPE shall be determined by a hazard assessment of the task.
9. The risk for arc flash/blast will establish the Arc Flash Boundary for the equipment and the hazard rating category (HRC 1 through 4.) These calculations and/or determinations can be made only by a person qualified to perform the hazard assessment for the equipment. Once completed, the Arc Flash Boundary and the appropriate HRC is established to determine appropriate PPE use.
10. Qualified persons only are allowed to enter past the Limited Approach Boundary. The Limited Approach Boundary for 50V-750V equipment is 42 inches. In terms of shock protection only, there are no special PPE requirements to work within the Limited Approach Boundary (but determining Arc Flash Boundary is necessary to establish actual PPE requirements.)
11. Prior to establishing an electrically safe work condition, all qualified persons within the Restricted Approach Boundary of a presumed live component must be suitably protected with personal protective equipment for that specific hazard category. The Restricted Approach Boundary for 50V-750V equipment is 12 inches. Once an electrically safe work condition has been established and verified, electrical personal protective equipment can be removed.
12. Conductive articles of clothing or jewelry (such as watchbands, bracelets, rings, key chains, pens, necklaces, metalized aprons cloth with conductive thread, metal headgear, metal frame glasses, etc.) shall not be worn where they present an electrical contact hazard with live parts, unless they are rendered non-conductive by covering or wrapping with insulated material.
13. All unqualified personnel shall be kept a safe distance from exposed energized components. Safe distance shall be the longer of the two boundaries (Limited Approach Boundary for shock protection and Arc Flash Boundary for arc protection.)

14. Electrically insulated tools shall be used whenever working within the shock boundary on energized equipment.
15. Blind reaching into electrical enclosures is prohibited. Employees must ensure they have enough illumination to perform a job safely.
16. Elevated work on live electrical systems or equipment should be performed in an approved personnel lift (if applicable).
17. Under no circumstances shall an electrical bus be used to support a ladder. Only wood or fiberglass ladders shall be considered non-conductive.
18. Over-current devices shall not be modified unless authorized by a qualified engineer. Replacement of over current devices with approved equivalent devices is permitted.
19. When an employee works in a confined or enclosed space that contains live parts, the employee shall use appropriate shields/barriers/tools or insulating materials as necessary to avoid inadvertent contact with these parts.
20. Conductive materials, tools, and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent accidental contact with live parts. (Note: Such materials and equipment include, but are not limited to; long conductive objects, such as ducts, pipes and tubes, conductive hose and rope, metal-lined rules and scales, steel tapes, pulling lines, metal scaffold parts, structural members and chains.)
21. Only a qualified person, following the requirements for working inside the restricted approach boundary, shall be permitted to defeat or bypass an electrical enclosure safety interlock over which the person has sole control, and then only temporarily while the qualified person is working on the equipment. The safety interlock system shall be returned to its operable condition when the work is completed
22. Prior to installation, a qualified person shall use standard industrial practices to verify operability of bus plugs. This verification shall at least include the following visual/operational checks:
    - Insulation between phase conductors to ensure in good condition
    - Protective barriers covering conductive parts are in place
    - Fuse holder and clips have proper compression, tightness and no signs of damage or overheating
    - Door interlocking and disconnect switch are functioning properly
    - Hardware and load side terminals to ensure they are clean, free from damage and tight
    - Line-side shield over the switch or breaker terminals
    - Line-side terminals are in good condition
    - Line-side stabs and ground stabs and ensure they are clean, aligned and undamaged
    - Contact alignment
    - Continuity Testing at Rx1 (R times 1 scale)
    - Place switch in off position prior to insertion/removal
23. Busplugs units rated above 100 amps shall not be installed with the busway energized due to the physical size and weight of the plug. Busplug units shall not be installed on welding bus with the busway energized.
24. If a busplug is deemed damaged, it shall be returned to the manufacturer for reconditioning before it can be installed.

K. TEST INSTRUMENTS

1. Approved proprietary test equipment must be available for proving a system is de-energized. Voltage test equipment shall be tested on a test voltage source before testing the apparatus.
2. The maximum exposed length of a probe shall not exceed ¾" (19mm).
3. Instruments shall safely withstand a surge of 6000 volts peak and at least 600 Volts RMS in all test modes per IEC 61010 Category III.
4. Instruments shall be Underwriters Laboratory (UL) 1244 & 3111 Listed or Canadian Standards Association (CSA) certified.
5. Instruments with fuses in probes are not acceptable.
6. Only qualified employees shall be issued and allowed to use these instruments and shall be trained and/or experienced in their use.
7. VOMs shall have overload protection by either of the following:
   - Internally fused or
   - Provided with PTC (Positive Thermal Coefficient) protection.

L. INCIDENTS

Any incident occurring during performing the work (including actual incidents and near-misses) shall follow all requirements with Sections 5 and 6 above. Additionally, all PPE, tools and other equipment utilized are to be inspected and repaired or replaced (if necessary) prior to being placed back into use.

M. TRAINING

1. The Qualified Persons shall be trained and knowledgeable on:
   - Recognition and avoidance of electrical hazards;
   - The application and use of the approach boundaries as defined in this standard;
   - The knowledge and decision-making ability to select appropriate personal protective equipment
   - Use and limitations of personal protective equipment;
   - Use and limitations of electrically insulated tools;
   - Use and limitations of electrical testing instruments;
   - General Control Systems, Inc. specific Electrical Safety Policy and work procedures.
2. All unqualified employees shall be trained and knowledgeable on:
   - How to recognize and avoid electrical hazards
   - General Electrical Safety Rules
   - Emergency procedures
3. All applicable contractors are met with and made fully aware of the electrical and arc flash hazard present in the facility, the safe work procedures required, and the minimum PPE required to work the job safely.
4. Retraining – any Qualified Person that demonstrates a failure to perform the required functions identified in 1. above shall be required to retrain in the full course for Electrical Safety – Qualified status. Sources for such failures can come from self-

reported, employee-observed, Safety/Risk Officer review, Incident Report (accident or near-miss) indicating deficiency in following proper procedures. Retraining of Qualified Person will occur as soon as practical but within one (1) year of when the need to retrain was identified.

5. CPR/First Aid training shall be made available for Qualified Persons, and any other applicable personnel as selected by the Safety/Risk Manager.

All training shall be recorded and kept on file for review

20. Section 20 – Lockout / Tagout

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements set forth in OSHA 29 CFR 1910.147.

B. Purpose

This establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before performing any service or maintenance, where the unexpected start-up of the machine or equipment or release of stored energy could cause injury.

C. Responsibilities

1. Safety/Risk Manager is responsible for obtaining and issuing lockout devices to authorized employees.
2. Safety/Risk Manager is responsible for coordinating the training of all authorized employees in accordance with this Policy.
3. Safety/Risk Manager is responsible for inspecting annually this procedure to ensure that the procedure and the OSHA requirements are being followed.
4. Authorized employees are required to perform lockout in accordance with the procedures outlined in this Policy.
5. Affected employees shall observe all lockout devices and receive approval from an authorized employee prior to working on any machinery or equipment.

D. Definitions

1. Authorized Employee - An employee who locks out or tags out machines or equipment in order to perform the servicing or maintenance on that machine or equipment.
2. Affected Employee - An employee whose job requires them to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires them to work in an area in which such servicing or maintenance is being performed.
3. Energy Source - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
4. Hot Tap - A procedure used in the repair, maintenance and service activities which involves welding on a piece of equipment under pressure, in order to install connections or appurtenances. It is commonly used to replace or add

sections of pipeline without the interruption of service for air, gas, water, steam and petrochemical distribution systems.

E. Lockout Procedure

The following procedure is to be used whenever locking out any energy source:

1. Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.
2. Prepare for lockout by locating and identifying all energy sources and the energy isolating devices to which lockout devices are to be attached. For some machines or equipment, more than one energy source may be involved. If the authorized employee cannot fully determine all isolation and lockout points, then the customer shall be contacted for assistance.
3. If the machine or equipment is operating, shut it down by the normal stopping procedure.
4. De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).
5. Lockout the energy isolating device(s) with either assigned individual lock(s) or lock(s) available from the customer lockout center. The padlock shall be placed through a hasp along with a Danger - Do Not Operate tag.
6. If a machine or equipment is locked out by customer maintenance or another contractor, the authorized employee shall place their lock, tag and hasp on the lockout point. This will prevent accidental re-energization prior to completion of work.
7. Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, steam or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
8. Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. (NOTE: Return operating control(s) to neutral or off position after verifying the isolation of the equipment.)
9. All affected personnel need to be made aware of the Lockout operations being performed and what work will be performed.
10. The machine or equipment is now locked out.

General rules for lockout:

1. All locks shall be removed by the authorized employee at the completion of the work.
2. If an authorized employee fails to remove their lock prior to leaving the jobsite, then the Safety/Risk Manager shall be contacted.
3. The Safety/Risk Manager will attempt to contact the employee and request they return to the jobsite and remove their lock. If necessary the customer will be

notified so the employee can be stopped prior to the beginning of the next work shift to ensure they are aware the lock was removed.
4. If a lock must be destroyed, it will be authorized by the Safety/Risk manager and the Project Manager.
5. Any destroyed locks or equipment will be documented. And an investigation will take place.

The following procedure is to be used to restore equipment to service:

1. Check the machine or equipment and immediate area around the machine or equipment to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from the area.
3. Verify that the controls are in neutral.
4. Remove the lockout devices and reenergize the machine or equipment.
5. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.
6. Follow prescribed restart procedures for the equipment involved

F. Training

1. All authorized employees shall receive initial and annual refresher training. The training will cover the requirements set forth in this Policy, types of hazardous energy sources, and methods of energy isolation and control.
2. All affected employees shall receive annual training on the basics of lockout during a weekly toolbox talk.
3. Any employee found in violation of the lockout/tagout policy will receive refresher training and be subject to disciplinary action.

G. Auditing

1. The Safety/Risk Manager will conduct periodic auditing of lockout procedure with field or service employees.
2. The Safety/Risk manager will document and correct deficiencies in Lockout procedure or equipment.

21. Section 21 – Assured Equipment Grounding Conductor

A. Scope

This defines the minimum requirements to assure the installation and maintenance of equipment grounding conductors with the applicable requirements of Sections 210-7 (c), 250-45, 250-59 and 305-2 (d) of the 1975 National Electrical Code and OSHA Regulation 1926.400.

When temporary power is connected to permanent power, one of the following must be implemented:

1. A module ground fault circuit interrupter must be plugged in between the extension cord and the outlet to provide the worker with protection from electrocution.

2. An assured equipment grounding conductor Policy must be established.

B. Purpose

The purpose of this is to ensure the proper installation, maintenance, inspection and testing of equipment grounding conductors on construction sites in order to minimize injuries due to electrical ground faults.

C. Responsibility

1. Each employee is responsible for using ground fault protectors on each jobsite.
2. The Supervisor or assigned designee is responsible for enforcing the use of ground fault protectors on the jobsite.

D. Installation

1. All 120 volt, single phase, 15 and 20 ampere receptacles shall be of a grounding type, and their grounding contacts shall be grounded by connection to the equipment grounding conductor of the circuit supplying the receptacles in accordance with the applicable requirements of Sections 210-7 (c) and 305-2 (d) of the National Electrical Code.

2. All 120 volt flexible cord sets (extension cords) shall have an equipment grounding conductor which shall be connected to the grounding contact of the connector(s) on each end of the cord.

3. The exposed noncurrent carrying metal parts of the 120 volt cord and plug connected tools and equipment that are likely to become energized shall be grounded in accordance with the applicable requirements of Sections 250-45 and 250-59 of the National Electrical Code.

E. Visual Inspection

The employees shall be instructed that each cord set, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, shall be visually inspected by the user before each days use for external defects, such as deformed or missing pins or insulation damage. Equipment found damaged or defective may not be used until repaired/replaced.

F. Testing

All 120 volt, single phase, 15 and 20 ampere receptacles, 120 volt flexible cord sets, and 120 volt equipment connected by cord and plug which are not a part of the permanent wiring of the building or structures shall be tested to assure that electrical continuity is maintained through all required equipment grounding conductors and their connectors. These tests shall be conducted as follows:

1. All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.

2. Receptacle of cord sets shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.

3. All equipment that does not pass continuity tests on all conductors (including grounding conductors) shall be tagged and removed from service immediately.

G. Testing Intervals

All required tests shall be performed:

1. Before the first use.

2. Before equipment is returned to service following any repairs.

3. Before equipment is used after any incident which can be reasonably suspected to have caused damage.

Do not make available or permit the use by employees any equipment which has not passed the required tests.

H. Test Equipment

All receptacles, attachment caps and plug and receptacle of cord sets shall be tested as in the following manner:

1. With a receptacle circuit tester while in service

2. With an electrical continuity tester when not in service.

This will meet the test requirements of sections F.1 and F.2 of this Section.

All equipment connected by cord and plug shall be tested for ground wire continuity with a continuity tester.

I. Documentation

Testing shall be documented as part of the work activity report completed each day by an employee performing work at a worksite. Notations for any failures or deficiencies found through the testing and use of equipment will be documented in these daily activity reports.

22. Section 22 – Fire Prevention & Protection

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1910.39, .157, 1926.24, Subpart F and .352.

B. Purpose

This provides guidelines that are designed to protect employees, work facilities and the jobsite from fire hazards.

D. Types of Fire

Class A - Wood, paper, or trash with glowing embers

Class B - Flammable liquids, gasoline, oil, paints, grease, etc.

Class C - Electrical equipment

Class D - Combustible metals

E. Fire Prevention

1. Smoking shall be prohibited in areas where combustible materials or flammable gases are stored.
2. Internal combustion engines shall be positioned such that the exhaust is well away from combustible materials.
3. All temporary and permanent electrical wiring shall be installed according to the National Electric Code and OSHA standards.
4. Clearance shall be maintained around lights and heating units to prevent ignition of combustible materials.

F. Fire Protection

1. Firefighting equipment shall be readily accessible at all times.
2. Safety/Risk Manager or Site Supervisor shall check the condition of fire extinguishers on a periodic basis.

3. A fire extinguisher shall be located within 75’ from any point in the protected area.
4. One or more fire extinguishers shall be provided on each floor of multi-story buildings and located adjacent to stairways.
5. A fire extinguisher, not rated less than 10B, shall be provided within 50’ of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the jobsite.
6. Portable fire extinguishers shall be inspected annually.
7. The phone number for the local fire department shall be posted by either a phone near the work area, inside the gang box lid or the job trailer.
8. *Employee Training for Use of Fire Extinguishers* – Fire extinguisher use training will be organized by the Safety/Risk Manager on an annual basis and make it available to all employees to participate in the training. Those employees completing this training will be designated as capable of using fire extinguishers as part of the emergency action plan outlined in Section 7.

G. Flammable and Combustible Liquids

1. Approved metal safety cans shall be used for the handling and use of flammable liquids in any quantity.
2. Flammable or combustible liquids shall not be stored in areas used for exits, stairways, or areas normally used for the safe passage of people.
3. No more than 25 gallons of flammable or combustible liquids shall be stored in a room outside an approved cabinet.
4. Quantities in excess of 25 gallons of flammable or combustible liquids shall be stored in an approved cabinet and labeled “Flammable - Keep Fire Away.”
5. Not more than 60 gallons of flammable or 120 gallons of combustible liquids shall be stored in any one cabinet. Not more than three such cabinets may be located in a single storage area.
6. Transfer of flammable liquids from one container to another shall be done only when containers are electrically interconnected (bonded).
7. Flammable liquids shall be kept in closed containers when not in use.
8. Flammable liquids may be used only where there are no open flames or other sources of ignition within 50’ of the operation, unless conditions warrant greater clearance.

H. Liquefied Petroleum (LP) Gas

1. All cylinders shall meet Department of Transportation specifications.
2. Welding is prohibited on LP Gas containers.
3. Every container and vaporizer shall have one or more approved safety relief devices.
4. LP Gas appliances shall be of an approved type.
5. Containers shall be stored outside in a low traffic area and secured against damage.

6. Portable heaters, including salamanders, shall be equipped with an approved automatic device to shut off the flow of gas to the main burner, and pilot if used, in the event of flame failure.
7. Heaters having outputs above 50,000 BTU per hour, shall be equipped with either a pilot or an electric ignition.
8. Storage locations shall be provided with at least one 20 B:C fire extinguisher.

I. Temporary Heating Devices

1. Adequate fresh air shall be available to ensure the health and safety of workers.
2. Temporary heating devices shall be placed such that the following clearances are maintained to combustibles:

	Minimum Clearance (inches)	
Heating Appliance	**Sides**	**Rear**
Room Heater, Circulating Type	12	12
Room Heater, Radiant Type	36	36

3. Heaters used in the vicinity of combustible tarpaulins, canvas, or other coverings shall be located at least 10’ from the coverings.

4. Heaters shall be set horizontally level.

5. Solid fuel salamanders are prohibited in buildings and on scaffolds.

J. Welding and Cutting

1. All movable fire hazards shall be removed from the vicinity of welding, cutting and heating operations.
2. If the object and fire hazards cannot be removed, then welding curtains shall be used to protect the immovable fire hazards.
3. No welding, cutting or heating shall be done where the application of flammable paints, or the presence of other flammable compounds, or heavy dust concentrations creates a hazard.
4. Suitable fire extinguishers shall be immediately available in the work area.
5. When normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire while welding, cutting or heating, and for

a sufficient period of time after completion of the work to ensure no possibility of fire exists.

6. For welding, cutting and heating on steel pipelines containing natural gas, the pertinent portions of regulations issued by the Department of Transportation, Office of Pipeline Safety, 49 CFR Part 192, Minimum Federal Safety Standard for Gas Pipelines, shall apply.
7. Before heat is applied to a drum, container, or hollow structures, a vent or opening shall be provided for the release of any built-up pressure during the application of heat.

K. Hot Work Permit

The following general steps shall be followed when working under either a customer's hot work permit or ensuring necessary precautions are taken when hot work permits are not required:

1. Examine the work area to ensure it is clear of all combustibles for a distance of 35 feet. Materials that cannot be moved must be protected from sparks, slag or hot metal using fire resistant covers or weld curtains.
2. Sweep the floor clean, wet any combustible floors and cover cracks, holes and pipe openings with a non-combustible material.
3. Before welding any item that passes through a wall or floor, check the other side of the wall or floor to ensure it is free of combustible materials that could be ignited by radiant heat.
4. Ensure a fire extinguisher of adequate size is immediately available to the welder.
5. Do not use cutting or welding equipment within 50 feet of any room containing flammable materials.
6. It may be necessary to stagger breaks when performing hot work so that someone is always present to protect against a potential fire situation.
7. When hot work is finished, check the area prior to releasing the welders.
8. Fire watch must remain in the area 30 minutes after completion of work to check the area to ensure no fire hazards remain. Customer requirements may vary.

23. Section 23 – Welding, Cutting and Brazing

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1926 Subpart J.

B. Purpose

This is designed to ensure the safety of General Control Systems, Inc. employees, customer employees and other contractor employees during welding, cutting and brazing operations.

C. Repairs

All welding related equipment shall either be repaired in the shop or with the approval of the shop. This shall ensure compliance with the requirements of this Policy and uniformity of repairs.

D. Gas Welding and Cutting

1. Transporting, moving and storing compressed gas cylinders

a. Valve protection caps shall be in place when compressed gas cylinders are transported, moved, or stored.

b. Cylinder valves shall be closed when work is finished and when cylinders are empty or are moved.

c. Compressed gas cylinders shall be secured in an upright position at all times, except if necessary for short periods of time when cylinders are hoisted or carried. Cylinder shall be secured in the upright position using either a chain or cylinder rack.

d. Cylinders shall be kept a safe distance or shielded from welding or cutting operations. Cylinders shall be placed where they cannot become part of an electric circuit.

e. Oxygen and fuel gas regulators shall be in proper working order while in use.

f. Oxygen and fuel gas cylinders shall be stored such that they are separated by a distance of at least 20’. This applies to both empty and full cylinders.

g. Oxygen and fuel gas cylinders shall never be allowed in a confined space.

h. When cylinders are hoisted, they shall be secured on a cradle, slingboard, pallet or a cart designed to be hoisted. They shall not be hoisted or transported by means of magnets or choker slings.

i. Cylinders shall be moved by tilting and rolling them on their bottom edges or by using a cylinder hand truck. They shall not be intentionally dropped, struck, or permitted to strike each other violently.

j. When cylinders are transported by powered vehicles, they shall be secured in a vertical position.

k. Valve protection caps shall not be used for lifting cylinders from one vertical position to another.

l. Bars shall not be used under valves or valve protection caps to pry cylinders loose when frozen. Warm, not boiling, water shall be used to thaw cylinders loose.

m. Unless cylinders are firmly secured on a special carrier intended for moving cylinders, regulators shall be removed and valve protection caps put in place before moving cylinders.

n. Cylinders stored inside buildings shall be stored in a well-protected, well ventilated, dry location at least 20’ from highly combustible materials.

o. Fuel gas cylinders shall be placed with valve end up whenever they are in use.

2. Use of Fuel Gas

a. Before a regulator is connected to a valve cylinder, the valve shall be opened slightly and closed immediately. The person cracking the valve shall stand to one side of the outlet, not in front of it. The valve of a fuel gas cylinder shall not be cracked where the gas could reach possible sources of ignition.

b. The cylinder valve shall always be opened slowly to prevent damage to the regulator. For quick closing, valves on fuel gas cylinders shall not be opened more than 1 1/2 turns. When a special wrench is required, it shall be left in position on the stem of the valve while the cylinder is in use so that the fuel gas flow can be shut off quickly in case of an emergency.

c. Fuel gas shall not be used from cylinders through torches or other devices which are equipped with shut off valves without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold.

d. Before a regulator is removed from a cylinder, the cylinder valve shall be closed and the gas released from the regulator.

e. If there is a leak around the valve stem, the valve shall be closed and the gland nut tightened. If this does not stop the leak, the cylinder shall be taken out of service and tagged for removal from the work area.

f. If a leak should develop at a fuse plug or other safety device, the cylinder shall be removed from the work area.

3. Fuel Gas and Oxygen Manifolds (When connecting 2 or more cylinders together.)

a. Fuel gas and oxygen manifolds shall bear the name of the substance they contain in letters at least 1" high.

b. Fuel gas and oxygen manifolds shall be placed in safe, well ventilated and accessible locations.

c. Manifold and hose connections, including both ends of the supply hose leading to the manifold, shall be such that the hose cannot be interchanged between fuel gas and oxygen manifolds and supply header connections. Hose connections shall be kept free of grease and oil.

d. When not in use, manifold and header hose connections shall be capped.

e. Nothing shall be placed on top of a manifold in use, which will damage the manifold or interfere with the quick closing of the valves.

4. Hose

a. Fuel gas and oxygen hose shall be easily distinguishable from each other. Oxygen and fuel gas hoses shall not be interchangeable.

b. When parallel sections of oxygen and fuel gas hose are taped together, not more than 4" out of every 12" shall be covered by tape.

c. All oxygen and fuel gas hose shall be inspected at the beginning of each shift. Defective hose shall be removed from service.

d. Hose which has been subject to flashback, or shows evidence of extreme wear or damage, shall be tested to twice the normal pressure to which it is subject, but in no case less than 300 psi. Defective hose, or hose in doubtful condition, shall be removed from service.

e. Hose couplings shall require a rotary motion for unlocking or disconnecting.

f. Boxes used for storage of gas hose shall be ventilated.

g. Hoses, cables and other equipment shall be kept clear of passageways, ladders and stairs.

5. Torches

a. Clogged torch tip openings shall be cleaned with suitable cleaning wires, drills, or other devices designed for such a purpose.

b. Torches shall be inspected at the beginning of each work shift for leaking shut off valves, hose couplings and tip connections.

c. Torches shall be lighted from friction lighters or other approved devices, not by matches or hot work.

6. Regulators and Gauges

a. Oxygen and fuel gas pressure regulators, including their related gauges, shall be in proper working order while in use.

7. Oil and Grease Hazards

a. Oxygen cylinders and fittings shall be kept away from oil and grease.

b. Cylinders, cylinder caps and valves, couplings, regulators and apparatus shall be kept free from oily or greasy substances and shall not be handled with oily or greasy hands or gloves.

E. Arc Welding and Cutting

1. Manual Electrode Holders

a. Only manual electrode holders which are designed for arc welding and cutting, and are of capacity capable of safely handling the maximum rated current required by the electrodes shall be used.

b. Any current carrying parts that the welder or cutter holds in their hand shall be fully insulated against the maximum voltage encountered to ground.

2. Welding Cables and Connectors

a. All arc welding and cutting cables shall be completely insulated, flexible, and capable of handling the maximum current requirements of the work in progress, taking into account the duty cycle under which the arc welder or cutter is working.

b. Only cable free from repair or splices for a minimum distance of ten feet from the cable end to which the electrode holder is connected shall be used, except that cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted.

c. When connecting or splicing lengths of cable together, substantial insulated connectors of a capacity at least equivalent to that of the cable shall be used. If connections are effected by means of cable legs, they shall be securely fastened together to give good electrical contact, and the exposed metal parts of the legs shall be completely insulated.

d. Cables in need of repair shall not be used. When a cable becomes worn to the extent of exposing bare conductors, the portion thus exposed shall be protected by means of rubber and friction tape or other equivalent insulation.

3. Ground Returns and Machine Grounding

a. A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding or cutting unit which it services. When a single ground return cable services more than one unit, the safe current carrying capacity shall equal or exceed the total specified maximum output capacities of all the units which it services.

b. Pipelines containing gases or flammable liquids, or conduit containing electrical circuits, shall not be used as a ground return.

c. When a structure or pipeline is employed as a ground return circuit, it shall be determined that the required electrical contact exists at all joints. The generation of an arc, sparks or heat at any point shall cause rejection of the structure as a ground circuit.

d. When a structure or pipeline is continuously employed as a ground return circuit, all joints shall be bonded, and periodic inspections shall be conducted to ensure that no condition of electrolysis or fire hazard exists from such use.

e. The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable containing the circuit conductor or through a separate wire which is grounded at the source of the current. Grounding circuits, other than by means of the structure, shall be checked to ensure that the circuit between the ground and the grounded power conductor has

resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

f. All ground connections shall be inspected to ensure that they are mechanically strong and electrically adequate for the required current.

4. Safety Guidelines

a. When electrode holders are to be left unattended, the electrodes shall be removed and the holders shall be so placed or protected that they cannot make electrical contact with employees or conducting objects.

b. Hot electrode holders shall not be dipped in water.

c. When the arc welder or cutter will stop work for any appreciable length of time or move the machine, the power supply switch to the equipment shall be opened.

d. Any faulty or defective equipment shall be reported to the Safety/Risk Manager.

5. Shielding

a. Whenever practical, all arc welding and cutting operations shall be shielded by noncombustible or flameproof screens which will protect employees and other persons in the vicinity from the direct rays of the arc.

F. Fire Prevention

1. All movable fire hazards shall be removed from the vicinity of welding, cutting and heating operations.
2. If the object and fire hazards cannot be removed, then welding curtains shall be used to protect the immovable fire hazards.
3. No welding, cutting or heating shall be done where the application of flammable paints, or the presence of other flammable compounds, or heavy dust concentrations creates a hazard.
4. Suitable fire extinguishers shall be immediately available in the work area.
5. When normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire while welding, cutting or heating, and for a sufficient period of time after completion of the work to ensure no possibility of fire exists.
6. For welding, cutting and heating on steel pipelines containing natural gas, the pertinent portions of regulations issued by the Department of Transportation, Office of Pipeline Safety, 49 CFR Part 192, Minimum Federal Safety Standard for Gas Pipelines, shall apply.

7. Before heat is applied to a drum, container, or hollow structures, a vent or opening shall be provided for the release of any built-up pressure during the application of heat.

G. Ventilation and Protection in Welding, Cutting and Heating

1. Mechanical Ventilation

a. When possible, local exhaust systems shall be used to remove fumes and smoke at the source.

b. General mechanical ventilation shall be of sufficient capacity and so arranged as to produce the necessary number of air changes to maintain welding fumes and smoke within safe limits.

2. Welding, Cutting and Heating in Confined Spaces

a. Mechanical exhaust shall be used when performing hot work in a confined space.

b. Hot Work Permit procedures shall be followed as outlined in the Fire Protection section of the Safety Policy.

3. Welding, Cutting or Heating of Metals of Toxic Significance

a. Welding or heating of any of the following metals shall require the use of either general mechanical or local exhaust ventilation:

1. Zinc bearing base or filler metals, or metals coated with zinc bearing materials.

2. Lead based metals.

3. Cadmium bearing filler materials.

4. Chromium bearing metals or metals coated with chromium bearing materials.

4. Inert Gas Metal Arc Welding

a. The use of chlorinated solvents shall be kept at least 200 feet from the exposed arc.

b. Employees in the weld area not protected from the arc by screens shall be protected by filter lenses meeting the requirements in ***Appendix D***.

c. Employees shall have full body clothing coverage to prevent burns and other damage by ultraviolet rays.

H. Welding, Cutting and Heating of Preservative Coatings

1. Before welding, cutting or heating any surface covered by a preservative coating whose flammability is not known, a test shall be made to determine its flammability. Preservative coatings shall be considered to be highly flammable when scrapings burn with extreme rapidity.

2. When coatings are determined to be highly flammable, they shall be stripped from the area to be heated to prevent ignition.

3. Protection against toxic preservative coatings

    a. Surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4” from the area of heat application.

    b. Employees shall be protected by a respirator.

24. Section 24 – Compressed Gas Cylinders

Compressed gas cylinders can injure employees if they are not properly secured or valves are not fully closed.

Therefore, the following rules apply to the handling, storage and use of compressed gas cylinders:

1. Valve protection caps shall be in place when compressed gas cylinders are transported, moved, or stored.
2. Cylinder valves shall be closed when work is finished and when cylinders are empty or are moved.
3. Compressed gas cylinders shall be secured in an upright position at all times, except if necessary for short periods of time when cylinders are hoisted or carried. Cylinders shall be secured in the upright position using either a chain or cylinder rack.
4. Cylinders shall be kept a safe distance or shielded from welding or cutting operations. Cylinders shall be placed where they cannot become part of an electric circuit.
5. Oxygen and fuel gas regulators shall be in proper working order while in use.
6. Oxygen and fuel gas cylinders shall be stored such that they are separated by a distance of at least 20’. This applies to both empty and full cylinders.
7. Oxygen and fuel gas cylinders shall never be allowed in a confined space.
8. When cylinders are hoisted, they shall be secured on a cradle, slingboard, pallet or a cart designed to be hoisted. They shall not be hoisted or transported by means of magnets or choker slings.
9. Cylinders shall be moved by tilting and rolling them on their bottom edges or by using a cylinder hand truck. They shall not be intentionally dropped, struck, or permitted to strike each other violently.
10. When cylinders are transported by powered vehicles, they shall be secured in a vertical position.
11. Valve protection caps shall not be used for lifting cylinders from one vertical position to another.
12. Bars shall not be used under valves or valve protection caps to pry cylinders loose when frozen. Warm, not boiling, water shall be used to thaw cylinders loose.
13. Unless cylinders are firmly secured on a special carrier intended for moving cylinders, regulators shall be removed and valve protection caps put in place before moving cylinders.
14. Cylinders stored inside buildings shall be stored in a well-protected, well ventilated, dry location at least 20’ from highly combustible materials.
15. Fuel gas cylinders shall be placed with valve end up whenever they are in use.

25. Section 25 – Compressed Air

The purpose of this policy is to prevent injury of employees while using compressed air. Compressed air presents two main hazards: the compressed air itself and the particles that become airborne when using compressed air for cleaning.

Therefore, in order to protect our employees, General Control Systems, Inc. requires:

1. All compressed air blow off devices be limited to 30 psi.
   a. The nozzle shall be defused to prevent injury.
2. Safety glasses and face shield be worn when using compressed air for cleaning.
3. Employees shall not use compressed air to clean themselves or their clothing.
4. Air lines shall be disconnected from air tools when not in use.
5. Air lines should be inspected before each use and a damaged hose should be removed from service.
6. Compressed air shall not be used for purposes involving life safety or confined space ventilation.
7. When using an air tool, it is generally recommended that hearing protection be worn due to the potential noise exposure.
8. Any air lines equipped with “Chicago” couplings shall have a safety pin attached when in use.

26. Section 26 – Mold & Water Damage Protocol

A. Introduction

As part of the pollution prevention insurance acquired by General Control Systems, Inc. all management and employees are required to take proactive measures and to work in a way to minimize risk of microbial (mold) amplification or dissemination and water incursion as a result of company business activities and services provided to customers. To meet this requirement, the company has developed this Mold & Water Damage Protocol.

Prevention of indoor fungal contamination and amplification requires proactive steps towards controlling moisture. Consideration must be given to the potential impact of services performed by the company and its subcontractors, and how those actions may contribute to water damage or water incursion before, during and after site work

B. Microbial Growth and Site Inspections

The purpose of a site inspection is to identify and assess pre-existing conditions in the case of new construction, restoration, repair and/or remodeling projects, to assess materials and equipment which have been or are to be installed, assure the implementation of proper construction methods, to assure that proper steps are taken to prevent moisture incursion during the project.

Inspections shall be performed on each project site, as needed, to identify conditions associated with the company customer projects and services that may contribute to, or be associated with, the potential for water damage and/or microbial growth.

C. Discovery of Mold Outside of our Scope of Work

1. If in the course of our work, we encounter a condition, which either has, or has the potential, to result in mold contamination, it should be reported to the controlling contractor. Although these conditions may not be our responsibility, good business practice dictates that we act in the best interest of our client.

2. If you believe the situation is serious and/or poses a health risk, you should notify the Safety/Risk Manager.

3. What to do in case of a moisture event: The first step following a moisture event is to determine when the water leak occurred. If porous materials have been wet for more than 48 hours, repairs should be

responded to as a mold remediation event, even if there is no apparent visible mold.

D. Moisture Incursion Events

1. If a moisture incursion event occurs, which may include flooding due to pipe breaks, storm damage, hurricane, tornado, and/or ice storms, urgent and immediate action is required to prevent moisture incursion from becoming a mold problem. Such procedures may be discussed and planned in advance with each applicable customer site. Treat the service request as a priority and respond within 24-hours.

2. The first action is to find the source of the moisture and prevent any further incursion of water, followed by pumping out, wet vacuuming, or squeegee the standing water from the premises as necessary. If the amount of water or affected space exceeds our capabilities to dry, a professional drying contractor should be contracted. The drying process should be started as soon as possible.

3. Evaluate the nature and extent of the moisture incursion. Photographs should be taken to record conditions. As soon as possible, contact the Project Manager or the next level of authority with the details of the incident. The Project Manager shall contact the Safety/Risk Manager.

4. Discovery

    4.1. Provide immediate response to all water intrusion incidents
    4.2. The incident will normally be discovered either during an inspection or reported by the occupant, customer or subcontractor. Immediately contact the designated Project Manager and Safety/Risk Manager regarding any instances of water incursion that may be attributed to the company or its subcontractor services.

5. Corrective Action

    5.1. Stop the flow of water if feasible.
    5.2. Implementation of corrective action within 24 to 48 hours to stop the intrusion at the source to prevent water damage, as well as removal or drying of all impacted materials

6. Documentation

    6.1. Document the event with photographic and written documentation of all communications and courses of action
    6.2. Complete an incident report
    6.3. Maintenance of complete incident reports and photographs in the contract file
    6.4. If visible mold is present or if materials have been wet for more than 48 hours, the following guidelines and regulatory requirements for mold remediation apply.

27. Section 27 – Blood Borne Pathogens

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of OSHA 29 CFR 1910.1030.

B. Purpose

This is designed to protect employees from exposure of blood borne pathogens either through the administration of:

1. First Aid/CPR.
2. While cleaning up bodily fluids.
3. Working on or around sanitary lines that may contain infectious agents.
4. Animal bites.

C. Responsibilities

1. Affected employees shall use universal precautions, engineering controls, work practices and personal protection specified in this plan while responding to injuries or illness and while cleaning and decontaminating surfaces or items.
2. Report all exposure incidents or situations to the Supervisor or Project Manager as soon as possible after the incident.
3. Supervisor shall investigate all exposure incidents and situations using the ***Accident Investigation Report (Attachment A)***.
4. Supervisor shall notify the Safety/Risk Manager of any employee exposure to blood or other potentially infectious materials so that arrangements can be made for post exposure examinations and treatment.
5. Supervisor shall arrange for disposal of all infectious waste generated as a result of injuries or illness.
6. Safety/Risk Manager shall ensure that employees receive training as needed.
7. Safety/Risk Manager shall maintain all training records and employee exposure information.

D. Exposure Determination

Exposure to blood borne pathogens may occur while performing the following tasks:

1. Rendering First Aid/CPR to an injured person.
2. Cleaning up and/or decontaminating surfaces or items in contact with blood or other potentially infectious materials.

E. Methods of Compliance

Universal Precautions

1. All blood, other potentially infectious materials (OPIM) and unknown body fluids shall be treated as if known to be infected with the Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV) or other blood borne pathogens regardless of the perceived risk of the source person.
2. Employees shall wash their hands and other exposed skin with soap and running water as soon as possible after removing gloves, other personal protective equipment or following exposure to blood or other potentially infectious material.
3. Eating, drinking, smoking, use of smokeless tobacco, applying cosmetics or lip balm and handling contact lenses are prohibited in areas where an injured person is being treated or the likelihood of exposure exists.
4. All procedures involving blood or other potentially infectious materials shall be performed so as to minimize splashing, spraying, splattering or generating of droplets.
5. Specimens of blood or OPIM shall be placed in leak proof containers during collection, handling, processing, storage, transport and shipping. Containers shall be labeled as infectious materials (Bio Hazard).
6. Equipment which may be contaminated with blood or OPIM shall be examined and decontaminated as necessary prior to moving or shipping.
7. Decontamination shall be accomplished by washing surfaces with commercially available U.S. Environmental Protection Agency approved solutions of disinfecting cleaners which are labeled, effective for use against HIV-1 and mycobacterium SPP (tubercle bacilli) or a mixture of 10% bleach and tap water. One of the highest concerns for spill clean-up is the Hepatitis B virus which can live outside the body for up to 1 week.
8. All disposable cleaning cloths, rags or supplies used to clean and decontaminate contaminated surfaces shall be disposed of as infectious waste. Reusable pails, rags or mops shall be ringed, cleaned and disinfected.
9. Contaminated broken glassware or other sharp objects shall not be picked up directly with hands. Brushes, dustpans, tongs or forceps shall be used. All contaminated sharp materials shall be placed in puncture resistant containers and properly decontaminated or disposed.

F. Infectious Regulated Waste

All disposable contaminated supplies, equipment or cleaning supplies shall be disposed of as regulated waste. Reusable clothing will be cleaned by a commercial laundry at the expense of General Control Systems, Inc.

G. Animal Bites

All animal bites shall be treated as an exposure incident.

H. Personal Protective Equipment

1. All persons performing First Aid, cleaning or decontaminating surfaces or items shall be provided with nitrile/latex gloves. When performing CPR, a CPR mask shall also be used.
2. Personal Protective Equipment (PPE) is located in the safety storage room at the Company's main facility. Safety glasses have been issued to all employees.
3. Employees shall wear appropriate personal protective equipment at all times when rendering first aid, CPR or cleaning and decontaminating surfaces or items.
4. Contaminated work clothing shall be removed immediately, properly bagged and transported to an offsite laundry. This cleaning expense will be covered by General Control Systems, Inc.

I. Post Exposure HBV Vaccination, Blood Testing, Medical Evaluation and Follow Up

1. Provision for the full Hepatitis B Vaccination series is to be made available as soon as possible, but in no event, later than 24 hours to all unvaccinated employees who have rendered assistance in any situation involving the presence of blood or OPIM. Any employee who declines accepting the HBV vaccination shall sign an affidavit of such declination. Any employee who initially declines the HBV vaccination and later decides to accept shall be provided the vaccination. The incident shall be reported to the Supervisor before the end of the work shift during which the incident occurred. The Supervisor shall conduct an investigation of the incident and shall make immediate arrangements for an HBV vaccination, blood testing and post-exposure medical evaluation and follow up. ***Attachment A*** shall be used to conduct this investigation and assist the Supervisor in arranging for and tracking vaccinations, blood testing, evaluations and follow up.
2. HBV vaccinations may be offered during post exposure evaluations. These evaluations may include antibody testing to reveal if the employee is immune to HBV. Vaccinations may be inadvisable for medical reasons under certain circumstances.
3. HIV and HBV blood testing shall be offered to every employee involved in a significant exposure incident. If the employee provides a blood sample, but declines testing, the blood sample shall be preserved for 90 days. If within 90 days of the exposure incident, the employee elects to have their blood tested; HIV and HBV tests shall be performed.
4. Upon exposure, employees will be sent for a confidential medical evaluation by a licensed physician. The Supervisor or Safety/Risk Manager shall provide the examining physician with the following:
    - A copy of this Blood Borne Pathogen Policy.
    - A description of the employee's duties as they related to the exposure incident.

- Circumstances related to the exposure.
- Results of the source individual's blood testing, if available.
- All medical records relating to the appropriate treatment of the employee including vaccination status.

After the results of the employee's blood test and the source individual's blood test (if available) are obtained, the employee will be notified of the results.

5. Follow up to medical evaluation shall be provided as deemed necessary by the examining physician. These may include:

    - Post exposure medical treatment.
    - Counseling.
    - Evaluation of reported illness.
6. The employee shall be provided with copies and explanations of the results of all medical tests and evaluations from the testing and examining physician.

7. The examining physician shall provide the Safety/Risk Manager with a written medical opinion. The written opinion shall include:

    - Whether the HBV vaccination is indicated and if the employee received the vaccination.
    - A statement that the employee has been informed of the results of the test and evaluation.
    - A statement that the employee has been told about any medical conditions resulting from the exposure incident which would require further evaluation or treatment.
    - All other information shall remain confidential between the physician and the employee.

J. Communication of Hazard

1. Warning labels shall be affixed to all containers of infectious waste containing blood or OPIM and containers used to store or transport these materials. Bio Hazard labels shall be fluorescent orange or red, with letters and symbols in a contrasting color.
2. The following training shall be provided to General Control Systems, Inc. employees:
    - Blood Borne Pathogen training will be provided to employees when recertified in First Aid/CPR.
    - Basic training will be conveyed to all employees through Tool Box Talks.
    - Information on the HBV vaccination, including its safety, methods of administration, benefits and that they are provided at no cost to the employee shall be included in the Tool Box talk.
    - An explanation of the appropriate actions to take and the person to contact if an emergency involving blood or OPIM occurs.

K. Record Keeping

1. All medical records shall remain confidential and be maintained by General Control Systems, Inc. Or its designee for the duration of employment plus 30 years. Any confidential medical information may not be disclosed or reported to any person within or outside the company without the employee's written consent.
2. All records of training shall be maintained for 10 years.

28. Section 28 – Waterborne Diseases

A. Scope

This applies to all General Control Systems, Inc. employees.

B. Purpose

This outlines the policies and procedures to be followed when there is a potential for exposure to waterborne diseases present in the work area.

C. Definitions

Legionellosis – is an infection of the respiratory system caused by a bacterium called Legionella pneumophilia there are two types:

1. Legionnaire's - Disease is most severe; causes an infection that includes pneumonia.
2. Pontiac fever - Is a milder form of the illness.

D. Responsibilities

1. Project Manager is responsible for identifying all presumed work areas containing waterborne disease on a jobsite prior to the start of any work.
2. The Project Manager shall notify the Safety/Risk Manager of any positive water tests encountered on a jobsite after a job has started.
3. The building owner is responsible for notifying the Project Manager of any water cooling equipment within their facility which contains waterborne diseases.

29. Section 29 – Hearing Conservation

A. Scope

This applies to all General Control Systems, Inc. employees and is designed to meet or exceed the requirements of 29 CFR 1910.95 and 1926.101.

B. Purpose

This is designed to protect employees from occupational noise exposure.

C. Responsibility

1. The Safety/Risk Manager is responsible for incorporating training on the hearing conservation program as part of the safety training meetings for all employees so that this program training is covered annually.
2. The Safety/Risk Manager is responsible for arranging periodic noise surveys of the shop to determine employee exposure to noise. Tests are to be conducted upon machine/equipment installation which may alter noise levels.
3. The Safety/Risk Manager is responsible for arranging annual audiometric tests for all shop employees.
4. The Safety/Risk Manager shall enforce the mandatory hearing protection policy for the shop.
5. Supervisor shall ensure employees wear hearing protection on job sites where mandatory.
6. Employees shall wear hearing protection in the shop, in designated customer locations and when operating tools producing a high noise level.
7. Employees shall care for their hearing protection and wear the hearing protection properly so that the maximum noise reduction is achieved.

D. Monitoring

1. When there are indications that an employee's exposure to noise may equal or exceed an 8-hour time weighted average (TWA) of 85 decibels, Hearing protection will be mandatory or the Safety/Risk Manger will arrange for noise sampling and require employees to wear appropriate hearing protection.
2. Monitoring shall be repeated whenever there is a change in production, equipment or controls that may increase noise exposure. If no such changes take place, then noise sampling of the area will be done every few years.
3. All continuous, intermittent and impulsive sound levels from 80 decibels to 130 decibels shall be integrated into the noise measurements. Instruments used to measure noise exposure shall be calibrated to ensure accuracy of measurements.
4. Noise levels may be measured by using any of the following: sound level meter, octave band analyzer or dosimeter.

E. Employee Notifications

General Control Systems, Inc. shall notify each employee exposed at or above an 8 hour time weighted average of 85 decibels of the results of the monitoring.

F. Observation of Monitoring

General Control Systems, Inc. shall provide affected employees or their representatives with an opportunity to observe any noise measurements taken pursuant to this Policy.

G. Audiometric Testing Program

1. General Control Systems, Inc. shall make audiometric testing available to all employees whose exposures equal or exceed an 8 hour time weighted average of 85 decibels.
2. Audiometric testing will be provided at no cost to the employee.
3. Audiometric tests shall be performed by a licensed or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing conservation. A technician who operates microprocessor audiometers does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist or physician.
4. Baseline Audiogram
   a. Within six (6) months of an employee's first exposure at or above 85 decibels, General Control Systems, Inc. shall establish a baseline audiogram.
   b. *Mobile test van exception*. If a mobile test van is used to meet the audiometric testing obligation, General Control Systems, Inc. shall obtain a valid baseline within 1 year of an employee's first exposure at or above 85 decibels. Employees shall wear hearing protection after their first exposure until the baseline audiogram is obtained.
   c. Testing to establish a baseline audiogram shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protectors may be used as a substitute for the requirement that baseline audiograms be preceded by 14 hours without exposure to workplace noise.

6. Annual Audiogram - At least annually after obtaining the baseline audiogram, General Control Systems, Inc. shall obtain a new audiogram for each employee exposed at or above an 8 hour time weighted average of 85 decibels.

7. Evaluation of Audiogram

   a. Each employee's annual audiogram shall be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift occurred.
   b. If the annual audiogram shows that an employee has suffered a standard threshold shift, General Control Systems, Inc. may obtain a retest within 30 days and consider the results of the retest as the annual audiogram.
   c. The audiologist, otolaryngologist or physician shall review problem audiograms and shall determine whether there is a need for further evaluation. General

Control Systems, Inc. shall provide to the person performing the evaluation the following:

1. A copy of the General Control Systems, Inc. Hearing Conservation Policy.

2. The baseline audiogram and most recent audiogram of the employees to be evaluated.

3. Records of audiometer calibration.

d. Follow-Up Procedures

1. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be informed of this fact in writing, within 21 days of the determination.

2. Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, General Control Systems, Inc. shall ensure that the following steps are taken when a threshold shift occurs:

a. Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.

b. Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.

c. The employee shall be referred for a clinical audiological evaluation or an ontological examination, as appropriate, if additional testing is necessary or if General Control Systems, Inc. suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

d. The employee is informed of the need for an audiological examination if medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.

e. If subsequent audiometric testing of an employee whose exposure to noise is less than an 8 hour time weighted average of 85 decibels indicates that a standard threshold shift is not persistent, General Control Systems, Inc.:

a. Shall inform the employee of the new audiometric interpretation, and

b. May discontinue the required use of hearing protectors for that employee.

8. Revised Baseline - An annual audiogram may be substituted for the baseline audiogram when, in the judgment of the audiologist, otolaryngologist or physician who is evaluating the audiogram:

a. The standard threshold shift revealed by the audiogram is persistent, or

b. The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

9. Standard Threshold Shift

a. A standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2,000, 3,000 and 4,000 Hz in either ear.

b. In determining whether a standard threshold shift has occurred, allowance may be made for the contribution of aging to the change in hearing level by correcting the annual audiogram.

I. Hearing Protectors.

1. General Control Systems, Inc. shall require hearing protectors be worn by all employees exposed to an 8 hour time weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced as necessary.
2. Employees working in the shop that have not yet had a baseline audiogram and any employee that has experienced a threshold shift will also be required to wear hearing protection.
3. General Control Systems, Inc. will make available to employees two different types of earplugs and one type of ear muff.
4. General Control Systems, Inc. shall train employees in the use and care of hearing protectors provided
5. General Control Systems, Inc. shall ensure proper initial fitting and supervise the correct use of all hearing protectors.
6. Employees not wearing hearing protection in designated areas shall be subject to disciplinary action.
7. Based on the noise dosimeter surveys, hearing protection for the shop must have a NRR of at least 21 dB. This will result in reducing employee noise exposure to 84 dB for an 8 hour work shift.
8. The Foam Ear Plugs must be disposed of at the end of each work shift to prevent possible ear infection. All other hearing protection can be cleaned and used until damaged.

J. Access to Information and Training Materials.

General Control Systems, Inc. shall make available a copy of this program to any employee or their representative upon request.

K. Recordkeeping.

1. General Control Systems, Inc. shall maintain an accurate record of all employee exposure measurements.

2. General Control Systems, Inc. shall retain all employee audiometric test records to include the following:

a. Name and job classification of employee.

b. Date of audiogram.

c. Examiner's name.

d. Date of last acoustic or exhaustive calibration of the audiometer.

e. Employee's most recent noise exposure assessment.

f. Accurate records of the measurements of background sound pressure levels in audiometric test rooms.

3. General Control Systems, Inc. shall retain noise exposure assessments for two years and audiometric test records for the duration of the employee's employment.

4. All records required by this program shall be provided upon request to employees, former employees, representatives designated by the individual employee and OSHA.

5. If General Control Systems, Inc. should cease to do business, all required records will be transferred to the successor employer.

30. Section 30 – OSHA Inspection Procedures

A. Scope

This procedure applies to all General Control Systems, Inc. employees and is designed to ensure compliance with the OSHA Field Operations Manual.

B. Purpose

This is designed to ensure that the company's and OSHA's rights are preserved during an OSHA inspection of a jobsite or the shop.

C. Responsibilities

1. Project Manager/Site Supervisor is responsible for immediately notifying the Safety/Risk Manager when an OSHA inspector is on a jobsite. The Project Manager shall also inform the Safety/Risk Manager of any anticipated OSHA activity.
2. Project Manager shall ask the OSHA inspector for their credentials prior to escorting the inspector around the jobsite.
3. If possible, the Project Manager shall ask the OSHA inspector to wait (No more than two hours) to tour the jobsite until the Safety/Risk Manager is present.
4. The Safety/Risk Manager shall verify the OSHA inspector's credentials.
5. The Safety/Risk Manager shall accompany the OSHA Inspector along with the Supervisor and any other employees or parties deemed necessary by the Safety/Risk Manager and/or OSHA Inspector.
6. The Safety/Risk Manager shall arrange all meetings and closing conferences with the OSHA Inspector.
7. The Safety/Risk Manager shall work with the Project Manager and any other parties to correct any deficiencies found during the inspection.

D. OSHA Inspection Procedures

Following are the steps to be followed should an OSHA Inspector arrive at a General Control Systems, Inc. jobsite:

1. Contact the Safety/Risk Manager immediately and notify that an OSHA Inspector is on the jobsite.
2. Ask to see the OSHA Inspectors credentials.
3. Escort the OSHA Inspector directly to the job trailer or job office.

4. Ask the OSHA Inspector to wait until the Safety/Risk Manager is present prior to inspecting the jobsite or shop.
5. The Safety/Risk Manager will determine the reason for the inspection during the opening conference, which will occur prior to the inspection.
6. The OSHA Inspector shall comply with company policies while performing the inspection of the jobsite.
7. The OSHA Inspector can videotape, take pictures, interview employees (both in general and in private), and suggest ways to correct a hazard or deficiency.
8. The Safety/Risk Manager will ask the OSHA inspector for copies of any videotape, pictures or voice recordings taken during the inspection.
9. The Safety/Risk Manager and Project Manager shall attend the closing conference to discuss the Inspector's findings.
10. The Safety/Risk Manager will ask the Inspector to fax or e-mail any citations as soon as they are ready so that they can be addressed immediately.
11. The Safety/Risk Manager shall ensure that any citations are posted near the area of violation, when possible, for either three (3) days or until corrected.
12. The Safety/Risk Manager shall coordinate efforts to ensure that any violations are abated to the satisfaction of OSHA.
13. The Safety/Risk Manager shall accompany the OSHA Inspector on any follow up inspections conducted to verify hazard abatement.

General Control Systems, Inc.
3520 Airport Rd
Lakeland, FL 33811
(863) 250-8069

Company Project Statement

To: City of Margate

Date: March 11, 2024

Project: 2024-005 SCADA Upgrades

Title: Training Statement

This is a statement that all employees that perform work for General Control Systems have completed the company safety training.

Upon request, GCS can provide appropriate certificates and documentation.

Gallagher
Insurance | Risk Management | Consulting

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August 9, 2023

General Control Systems, Inc
17 Corporate Circle
Albany, NY 12203

Re: Workers Compensation
Atlantic Specialty Insurance Company Policy # 4060480160000
Policy Effective: August 01, 2023 to August 01, 2024
Experience Modification History

Dear David:

As per your request, this letter is to advise your Workers' Compensation Experience Modification history. Your Experience Modification History is as follows:

Year	EMR Factor
2023	.86
2022	.80
2021	.82

Sincerely,

Lucy Prieto

Lucy Prieto, CPCU
Senior Client Service
Manager (518) 391-2251
Lucy_Prieto@ajg.com

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ELECTRICAL CONTRACTORS' LICENSING BOARD

THE ELECTRICAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

SULLIVAN, ERIC SHANE

GENERAL CONTROL SYSTEMS INC.
17 CORPORATE CIRCLE
ALBANY NY 12203

LICENSE NUMBER: EC13006838

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

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GENERAL CONTROL SYSTEMS

References

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Frank Tironi, Jr.
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Office: (518) 233-7489

Ed Huneau
Water Supply Foreman – Water Commissioners for the Town of Waterford
Office: (518) 776-0090

ACKNOWLEDGEMENT FORM

ADDENDUM NO. 1

RFQ NO. 2024-005

I acknowledge receipt of Addendum No. 1 for RFQ No. 2024-005. This addendum contains six (6) pages. Please include the original of this form in your qualifications submission.

Company Name: General Control Systems

Address: 3520 Airport Road Lakeland FL. 33811

Name of Signer (please print) Eric Sullivan

Signature: Eric Sullivan Date: 3/11/2024

Telephone: 863-250-8069 Facsimile: (618) 270-8042

Please fax your completed form to (954) 935-5258 or e-mail to purchase@margatefl.com.

Kelly McGilvray
Kelly McGilvray
Buyer II

Wednesday, March 6, 2024

NOTE: The original of this form must be included with your qualifications submission.