



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Solicitation

NUMBER
COR61697

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
TARA LYLE 304-558-2544

RFQ COPY
TYPE NAME/ADDRESS HERE

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DIVISION OF CORRECTIONS

1409 GREENBRIER ST

CHARLESTON, WV
25311

304-558-8045

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DATE PRINTED
03/26/2014

BID OPENING DATE: 05/08/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
***** PLEASE NOTE: A MANDATORY PRE-BID MEETING HAS BEEN SCHEDULED FOR 04/30/2014 AT 10:00 AM AT THE LAKIN CORRECTIONAL FACILITY LOCATED AT 11264 OHIO RIVER ROAD WEST COLUMBIA, WV 25287. *****						
0001	1	EA		906-00-00-001		
ARCHITECT/ENGINEERING SERVICES, PROFESSIONAL						
EXPRESSION OF INTEREST (EOI)						
THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, WV DIVISION OF CORRECTIONS, IS SOLICITING EXPRESSIONS OF INTEREST TO PROVIDE ARCHITECTURAL AND ENGINEERING SERVICES FOR THE LAKIN CORRECTIONAL FACILITY LOCATED IN WEST COLUMBIA, WV, PER THE ATTACHED SPECIFICATIONS.						
ATTACHMENTS INCLUDE:						
COR61697 EXPRESSION OF INTEREST INSTRUCTIONS TO VENDORS SUBMITTING BIDS GENERAL TERMS AND CONDITIONS CERTIFICATION AND SIGNATURE PAGE PURCHASING AFFIDAVIT						
SIGNATURE						
TITLE			FEIN		ADDRESS CHANGES TO BE NOTED ABOVE	

TELEPHONE

DATE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

EXPRESSION OF INTEREST

COR61697 – Lightning Protection Issues at Lakin Correctional Center

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SECTION ONE: GENERAL INFORMATION

1. **PURPOSE:** The Acquisition and Contract Administration Section of the Purchasing Division (“Purchasing Division”) is soliciting Expression(s) of Interest (“EOI” or “Bids”) for the West Virginia Division of Corrections (“Agency”), from qualified firms to provide Architectural or Engineering services (“Vendors”) as defined herein.
2. **PROJECT:** The mission or purpose of the project for which bids are being solicited is to provide Architectural or Engineering design because the Division of Corrections (DOC) is reacting to an issue with the grounding system and damages that have been done in the past from lightning strikes. There are a number of items that must be done to protect the Facility from future lightning strikes. For this system, the DOC will require Architectural or Engineering Design (“Project”).
3. **SCHEDULE OF EVENTS:**

Release of the EOI.....	03/28/2014
Mandatory Pre-Bid Meeting.	04/30/2014
Firm’s Written Questions Submission Deadline.	05/01/2014
Addendum Issued	TBD
Expressions of Interest Opening Date.....	05/08/2014
Estimated Date for Interviews	TBD

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SECTION TWO: INSTRUCTIONS TO VENDORS SUBMITTING BIDS

Instructions begin on the next page.

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. **REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.
2. **MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.
3. **PREBID MEETING:** The item identified below shall apply to this Solicitation.

- ☐ A pre-bid meeting will not be held prior to bid opening.
- ☐ A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:

- ☒ A **MANDATORY PRE-BID** meeting will be held at the following place and time:
April 30, 2014 at 10:00 a.m.

Lakin Correctional Facility
11264 Ohio River Road
West Columbia, WV 25287

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. **VENDOR QUESTION DEADLINE:** Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are non-binding.

Question Submission Deadline: 05/01/2014 at 5:00 pm

Submit Questions to: Tara Lyle, File 32
2019 Washington Street, East
Charleston, WV 25305
Fax: 304-558-4115
Email: Tara.L.Lyle@wv.gov

5. **VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including that made at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.
6. **BID SUBMISSION:** All bids must be signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include hand delivery, delivery by courier, or facsimile. The bid delivery address is:

Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

000006

The bid should contain the information listed below on the face of the envelope or the bid may not be considered:

SEALED BID

BUYER: _____

SOLICITATION NO.: _____

BID OPENING DATE: _____

BID OPENING TIME: _____

FAX NUMBER: _____

In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus n/a convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: ☐ Technical
☐ Cost

7. **BID OPENING:** Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when time stamped by the official Purchasing Division time clock.

Bid Opening Date and Time: May 8, 2014 at 1:30 pm

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. **ADDENDUM ACKNOWLEDGEMENT:** Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.
9. **BID FORMATTING:** Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

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SECTION THREE: PROJECT SPECIFICATIONS

1. **Location:** Agency is located at 11264 Ohio River Road, West Columbia, WV 25287 and the Project will be completed at Lakin Correctional Center.

2. **Background:**

Lakin Correctional Center is a medium security prison for women opened in 2003. Since 2006, the Lakin Correctional Center has been hit by numerous lightning strikes. There has been over \$300,000.00 in damages just from lightning strikes. The site soil makeup is sand and the poor ability to provide a low resistant ground system that is need for the electronic equipment and to dissipate the electrical surges. The existing grounding system at the Facility does not address the existing soil conditions and does not provide a low resistance ground for the electronic equipment. Thus, most likely the existing grounding system does not provide adequate grounding for the other installed equipment. For this reason, a lightning protection system ground study will have to be done to determine the best means of improving the overall ability of grounding system to carry and dissipate lightning induced surges. A UL780 air terminal (lightning rods) system for protection of Facility structure, roof mounted equipment, and adjacent structures such as pole mounted lighting will need to be installed.

There is no surge suppression system on the electronic equipment. This is a contributing factor to pre-mature equipment failure. Thus, provides an easy path for any external voltage surges. Another big factor in the electronic equipment is the lack of bonding. There is no bonding of equipment, which is a requirement in article 250 of the National Electric Code. For this reason, there must be an engineering study of deficiencies found in the facility distribution system including power quality, power factor, and noise susceptibility. There will have to a building-wide Transient Voltage Surge Suppressor (TVSS) installed as part of ground system enhancement. To protect the electronic systems, an active lightning protection system to place the critical systems in safe modes during storms or strike events will need to be installed.

Without the adequate surge suppression systems, grounding systems, and lightning protection systems, the existing electrical power system is in a dangerously stressed and low operational efficiency. There is dangerous harmonics, which is creating elevated temperatures in the electrical conductors, which could potentially cause a fire hazard. There are several code violations. This is causing additional power consumption and energy cost for the Facility.

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On November 10 through 12, 2008, there was a site assessment report done per an on-site inspection and testing by ILD Technologies, LLC. There were a number of items and issues discovered. Please see attached Exhibit #1.

3. **Qualifications and Experience:** Vendors will provide information regarding its employees, such as staff qualifications and experience in completing similar projects; references; copies of any staff certifications or degrees applicable to this project; proposed staffing plan; descriptions of past projects completed entailing the location of the project, project manager name and contact information, type of project, and what the project goals and objectives where and how they were met.
4. **Project and Goals:** The project goals and objectives are to provide a complete, 100%, package that includes all required studies, assessments, reports, drawings, and specifications ready for construction bidding by the West Virginia Purchasing Division. The Architectural or Engineering firm must assist with the bidding process. The Architectural or Engineering firm must provide contract administration during the construction portion of the project.
 - 4.1. Goal/Objective 1:
 - A. Installation of a UL780 air terminal (lightning rods) system for protection of facility structure, roof mounted equipment, adjacent structures such as pole mounted lighting, and perimeter security fencing.
 - 4.2. Goal/Objective 2:
 - A. Engineering study of deficiencies found in the facility distribution system including power quality, power factor, and noise susceptibility.
 - 4.3. Goal/Objective 3:
 - A. Performance of an LP system ground study to determine means of improving overall ability of grounding system to carry and dissipate lightning induced surges.
 - 4.4. Goal/Objective 4:
 - A. Installation of a building-wide Transient Voltage Surge Suppressor (TVSS) as part of ground system enhancement.

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4.5. Goal/Objective 5:

- A. Make all basic equipment bonding in compliance with National Electric Code article 250. Improvements to the grounding network itself, with multiple deficiencies and code violations. Install grounding on the perimeter fencing. Install equipment bonding.

4.6. Goal/Objective 6:

- A. Installation of an Active LP system to place critical systems in safe modes during storms or strike events. This will provide excellent coverage for telephone circuitry, PLC I/O, and ancillary systems that have repeatedly been damaged.

- 5. Oral Presentations (Agency Option):** The Agency has the option of requiring oral presentations of all Vendors participating in the EOI process. If this option is exercised, it would be listed in the Schedule of Events (Section 1.3) of this EOI. During oral presentations, Vendors may not alter or add to their submitted proposal, but only clarify information. A description of the materials and information to be presented is provided below:

5.1. Materials and Information Required at Oral Presentation:

- A. All Architectural or Engineering firms that are selected for the oral presentation and interview should bring six (6) hard copies of their presentation.
- B. If the Architectural or Engineering firm plans to do their presentation via an overhead projector, the DOC must be notified ahead of time to ensure that we have an overhead projector to setup.

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SECTION FOUR: VENDOR PROPOSAL, EVALUATION, & AWARD

1. **Economy of Preparation:** EOI's should be prepared simply and economically, providing a straightforward, concise description of firm's abilities to satisfy the requirements and goals and objectives of the EOI. Emphasis should be placed on completeness and clarity of content. The response sections should be labeled for ease of evaluation.
2. **BIDS MUST NOT CONTAIN PRICE QUOTATIONS:** The State shall select the best value solution according to §5G-1-3 of the West Virginia State Code. In accordance with the Code requirements, no "price" or "fee" information is requested or permitted in the bid response.
3. **Evaluation and Award Process:** Expressions of Interest for projects estimated to cost \$250,000 or more will be evaluated and awarded in accordance with West Virginia Code §5G-1-3. That Code section requires the following:
 - 3.1. **Required Elements of EOI Response:** The director of purchasing shall encourage such firms engaged in the lawful practice of the profession to submit an expression of interest, which shall include a statement of qualifications, and performance data and may include anticipated concepts and proposed methods of approach to the project.
 - 3.2. **Public Advertisement:** All EOI requests shall be announced by public notice published as a Class II legal advertisement in compliance with the provisions of West Virginia Code §59-3-1 et seq.
 - 3.3. **Selection Committee Evaluation & Negotiation:** A committee comprised of three to five representatives of the agency initiating the request shall:
 - 3.3.1. Evaluate the statements of qualifications and performance data and other material submitted by the interested firms and select three firms which in their opinion are the best qualified to perform the desired service.
 - 3.3.2. Conduct interviews with each firm selected and the conduct discussions regarding anticipated concepts and the proposed methods of approach to the assignment.

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- 3.3.3. Rank in order of preference no less than three professional firms deemed to be the most highly qualified to provide the services required, and shall commence scope of service and price negotiations with the highest qualified professional firm.
- 3.3.4. Should the agency be unable to negotiate a satisfactory contract with the professional firm considered to be the most qualified, at a fee determined to be fair and reasonable, price negotiations with the firm of second choice shall commence. Failing accord with the second most qualified professional firm, the committee shall undertake price negotiations with the third most qualified professional firm.
- 3.3.5. Should the agency be unable to negotiate a satisfactory contract with any of the selected professional firms, it shall select additional professional firms in order of their competence, and qualifications, and it shall continue negotiations in accordance with this section until an agreement is reached.
- 3.4. **Vendor Ranking:** All evaluation criteria is defined in the Procurement Specifications section and based on a 100-point total score. Points shall be assigned based upon the Vendor's response to the evaluation criteria as follows:
- | | |
|---|-----------------------------|
| • Qualifications and experience | (30) Points Possible |
| • Approach and methodology for meeting Goals and Objectives | (30) Points Possible |
| • Construction Management | (20) Points Possible |
| • <u>Oral Interview</u> | <u>(20) Points Possible</u> |
| Total | 100 |

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SECTION FIVE: TERMS AND CONDITIONS

Terms and conditions begin on the next page.

GENERAL TERMS AND CONDITIONS:

1. **CONTRACTUAL AGREEMENT:** Issuance of a Purchase Order signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.
2. **DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.
 - 2.1 **"Agency" or "Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.
 - 2.2 **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods and services requested in the Solicitation.
 - 2.3 **"Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.
 - 2.4 **"Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.
 - 2.5 **"Purchase Order"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the successful bidder and Contract holder.
 - 2.6 **"Solicitation"** means the official solicitation published by the Purchasing Division and identified by number on the first page thereof.
 - 2.7 **"State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.
 - 2.8 **"Vendor" or "Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. **CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☐

Term Contract

Initial Contract Term: This Contract becomes effective on _____
and extends for a period of _____ year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal must be submitted to the Purchasing Division Director thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to _____ successive one (1) year periods. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

Reasonable Time Extension: At the sole discretion of the Purchasing Division Director, and with approval from the Attorney General's office (Attorney General approval is as to form only), this Contract may be extended for a reasonable time after the initial Contract term or after any renewal term as may be necessary to obtain a new contract or renew this Contract. Any reasonable time extension shall not exceed twelve (12) months. Vendor may avoid a reasonable time extension by providing the Purchasing Division Director with written notice of Vendor's desire to terminate this Contract 30 days prior to the expiration of the then current term. During any reasonable time extension period, the Vendor may terminate this Contract for any reason upon giving the Purchasing Division Director 30 days written notice. Automatic extension of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases, but Attorney General approval may be required.

Release Order Limitations: In the event that this contract permits release orders, a release order may only be issued during the time this Contract is in effect. Any release order issued within one year of the expiration of this Contract shall be effective for one year from the date the release order is issued. No release order may be extended beyond one year after this Contract has expired.

☐

Fixed Period Contract: This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

☐ **One Time Purchase:** The term of this Contract shall run from the issuance of the Purchase Order until all of the goods contracted for have been delivered, but in no event shall this Contract extend for more than one fiscal year.

☒ **Other:** See attached.

4. **NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Purchase Order will be considered notice to proceed

5. **QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

☐ **Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

☒ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

☐ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

☐ **One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. **PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.

7. **EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute a breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

8. **REQUIRED DOCUMENTS:** All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

- ☐ **BID BOND:** All Vendors shall furnish a bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.
- ☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of . The performance bond must be issued and received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.
- ☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be issued and delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable.

- ☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.
- ☒ **WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall have appropriate workers' compensation insurance and shall provide proof thereof upon request.
- ☒ **INSURANCE:** The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:
- ☒ **Commercial General Liability Insurance:**
\$1,000,000.00 or more.
 - ☐ **Builders Risk Insurance:** builders risk – all risk insurance in an amount equal to 100% of the amount of the Contract.
 - ☒ \$1,000,000.00 Automobile Liability
 - ☒ \$1,000,000.00 Professional Liability
 - ☒ WV Statutory requirements including WV Code §23-4-2 (Mandolidis)
 - ☐
 - ☐

The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed above.

- ☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section entitled Licensing, of the General Terms and Conditions, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

☐
☐
☐
☐

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

- 9. LITIGATION BOND:** The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or \$5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.

- 10. ALTERNATES:** Any model, brand, or specification listed herein establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

- 11. EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or

other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. LIQUIDATED DAMAGES: Vendor shall pay liquidated damages in the amount
for

This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy.

13. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part. Vendor's signature on its bid signifies acceptance of the terms and conditions contained in the Solicitation and Vendor agrees to be bound by the terms of the Contract, as reflected in the Purchase Order, upon receipt.

14. REGISTRATION: Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee if applicable.

15. COMMUNICATION LIMITATIONS: In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

16. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

17. PAYMENT: Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To."

18. UNIT PRICE: Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

19. DELIVERY: All quotations are considered freight on board destination ("F.O.B. destination") unless alternate shipping terms are clearly identified in the bid. Vendor's listing of shipping terms that contradict the shipping terms expressly required by this Solicitation may result in bid disqualification.

20. INTEREST: Interest attributable to late payment will only be permitted if authorized by the West Virginia Code. Presently, there is no provision in the law for interest on late payments.

21. PREFERENCE: Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Resident Vendor Certification form has been attached hereto to allow Vendor to apply for the preference. Vendor's

failure to submit the Resident Vendor Certification form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.

- 22. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid on or after July 1, 2012, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to submission of its bid to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority-owned business shall be applied in accordance with W. Va. CSR § 148-22-9.
- 23. TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
- 24. CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.
- 25. WAIVER OF MINOR IRREGULARITIES:** The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.
- 26. TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.
- 27. APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.
- 28. COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendors acknowledge that they have reviewed, understand, and will comply with all applicable law.
- 29. PREVAILING WAGE:** On any contract for the construction of a public improvement, Vendor and any subcontractors utilized by Vendor shall pay a rate or rates of wages which shall not be less than the fair minimum rate or rates of wages (prevailing wage), as established by the West Virginia Division of Labor under West Virginia Code §§ 21-5A-1 et seq. and available at <http://www.sos.wv.gov/administrative-law/wagerates/Pages/default.aspx>. Vendor shall be responsible for ensuring compliance with prevailing wage requirements and determining when prevailing wage

requirements are applicable. The required contract provisions contained in West Virginia Code of State Rules § 42-7-3 are specifically incorporated herein by reference.

- 30. ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.
- 31. MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary, no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). **No Change shall be implemented by the Vendor until such time as the Vendor receives an approved written change order from the Purchasing Division.**
- 32. WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.
- 33. SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.
- 34. ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.
- 35. WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.
- 36. STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.
- 37. BANKRUPTCY:** In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

38. [RESERVED]

39. CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.

40. DISCLOSURE: Vendor's response to the Solicitation and the resulting Contract are considered public documents and will be disclosed to the public in accordance with the laws, rules, and policies governing the West Virginia Purchasing Division. Those laws include, but are not limited to, the Freedom of Information Act found in West Virginia Code § 29B-1-1 et seq.

If a Vendor considers any part of its bid to be exempt from public disclosure, Vendor must so indicate by specifically identifying the exempt information, identifying the exemption that applies, providing a detailed justification for the exemption, segregating the exempt information from the general bid information, and submitting the exempt information as part of its bid but in a segregated and clearly identifiable format. Failure to comply with the foregoing requirements will result in public disclosure of the Vendor's bid without further notice. A Vendor's act of marking all or nearly all of its bid as exempt is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor's act of marking a bid or any part thereof as "confidential" or "proprietary" is not sufficient to avoid disclosure and WILL NOT BE HONORED. In addition, a legend or other statement indicating that all or substantially all of the bid is exempt from disclosure is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor will be required to defend any claimed exemption for nondisclosure in the event of an administrative or judicial challenge to the State's nondisclosure. Vendor must indemnify the State for any costs incurred related to any exemptions claimed by Vendor. Any questions regarding the applicability of the various public records laws should be addressed to your own legal counsel prior to bid submission.

41. LICENSING: In accordance with West Virginia Code of State Rules §148-1-6.1.7, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

42. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Purchase Order from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired

by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

- 43. VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid for the same material, supplies, equipment or services; (2) that its bid is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this RFQ in its entirety, understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency.

The individual signing this bid on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

- 44. PURCHASING CARD ACCEPTANCE:** The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, to process payment for goods and services. The Vendor must accept the State of West Virginia's Purchasing Card for payment of all orders under this Contract unless the box below is checked.

☐ Vendor is not required to accept the State of West Virginia's Purchasing Card as payment for all goods and services.

- 45. VENDOR RELATIONSHIP:** The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, *etc.* and the filing of all necessary documents, forms and returns pertinent to all of the foregoing. Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

- 46. INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered

by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

- 47. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.
- 48. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by and extends to other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"). This Contract shall be extended to the aforementioned Other Government Entities on the same prices, terms, and conditions as those offered and agreed to in this Contract. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.
- 49. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire any interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.
- 50. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:
- ☒ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.
 - ☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.
- 51. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information

to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision.

The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304)558-9911 for more information.

52. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open hearth, basic oxygen, electric furnace, Bessemer or other steel making process.

The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:

- a. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project; or
- b. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

53. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a “substantial labor surplus area”, as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products.

This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

ADDITIONAL TERMS AND CONDITIONS (Architectural and Engineering Contracts Only)

1. **PLAN AND DRAWING DISTRIBUTION:** All plans and drawings must be completed and available for distribution at least five business days prior to a scheduled pre-bid meeting for the construction or other work related to the plans and drawings.
2. **PROJECT ADDENDA REQUIREMENTS:** The Architect/Engineer and/or Agency shall be required to abide by the following schedule in issuing construction project addenda:
 - a. The Architect/Engineer shall prepare any addendum materials for which it is responsible, and a list of all vendors that have obtained drawings and specifications for the project. The Architect/Engineer shall then send a copy of the addendum materials and the list of vendors to the State Agency for which the contract is issued to allow the Agency to make any necessary modifications. The addendum and list shall then be forwarded to the Purchasing Division buyer by the Agency. The Purchasing Division buyer shall send the addendum to all interested vendors and, if necessary, extend the bid opening date. Any addendum should be received by the Purchasing Division at least fourteen (14) days prior to the bid opening date.
3. **PRE-BID MEETING RESPONSIBILITIES:** The Architect/Engineer shall be available to attend any pre-bid meeting for the construction or other work resulting from the plans, drawings, or specifications prepared by the Architect/Engineer.
4. **AIA DOCUMENTS:** Contracts for architectural and engineering services will be governed by the AIA document B101-2007, as amended by the Supplementary Conditions for the State of West Virginia, in addition to the terms and conditions contained herein when procured under Chapter 5G of the West Virginia Code.
5. **GREEN BUILDINGS MINIMUM ENERGY STANDARDS:** In accordance with West Virginia Code § 22-29-4, all new building construction projects of public agencies that have not entered the schematic design phase prior to July 1, 2012, or any building construction project receiving state grant funds and appropriations, including public schools, that have not entered the schematic design phase prior to July 1, 2012, shall be designed and constructed complying with the ICC International Energy Conservation Code, adopted by the State Fire Commission, and the ANSI/ASHRAE/IESNA Standard 90.1-2007: *Provided*, That if any construction project has a commitment of federal funds to pay for a portion of such project, this provision shall only apply to the extent such standards are consistent with the federal standards.

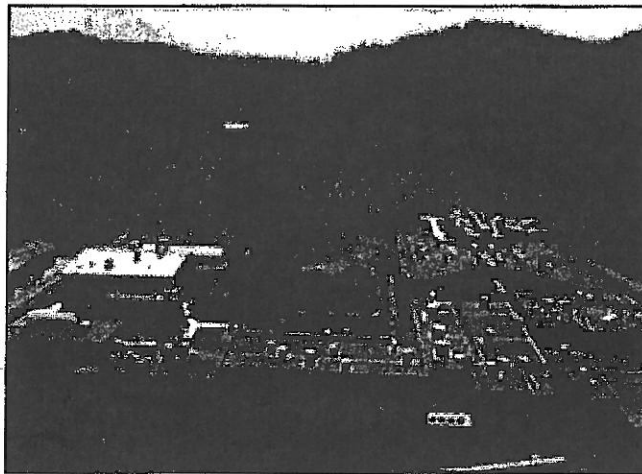


ILD Technologies, LLC

ACTIVE AND INTELLIGENT LIGHTNING PROTECTION TECHNOLOGY,
SURGE SUPPRESSION AND FACILITY GROUNDING SYSTEM DESIGN

Site Assessment Report: Lightning and Surge Susceptibility

**Lakin Correctional Center
West Columbia, WV**



Prepared For:



West Virginia Division of Corrections
Office of Construction Management
617 Leon Sullivan Way
Charleston, WV 25301



ILD Technologies, LLC

ACTIVE AND INTELLIGENT LIGHTNING PROTECTION TECHNOLOGY,
SURGE SUPPRESSION AND FACILITY GROUNDING SYSTEM DESIGN

12/12/2008

To:

Manager of Construction
West Virginia Division of Corrections
617 Leon Sullivan Way
Charleston, WV 25301

From:

Re: Lakin Correctional Center Site Assessment

Dear :

ILD Technologies, LLC is pleased to submit to you this Site Assessment Report per the on-site inspection and testing performed November 10 through 12, 2008 at Lakin Correctional Center. It is our opinion that the data obtained from the tests and the resulting analysis performed in our San Antonio, TX offices has been extremely valuable in preparing a carefully considered set of recommendations for your facilities. Per our previous conversations, every effort has been made to include detailed operational and cost aspects of your operation as part of this study. We trust that you will find the report informative and useful.

As you review the documents, please keep it in mind that a lightning strike remains one of the most capricious and difficult-to-understand events of nature. Despite considerable research, there is still no definitive scientific method for predicting the behavior of any given strike. As such, any proposed solution should be considered an exercise in risk management as opposed to an absolute answer to the problem. It is our sincere belief that the recommendations contained in this report represent application of both best available technology and construction practices for effectively minimizing the projected risks associated with the protection of sensitive electronic systems at the subject facility. We hope that you will agree.

After you have reviewed this documentation, please feel free to contact us at your convenience in order to discuss options for proceeding. Be assured that we are very much looking forward to working closely with you and your associates to achieve the best possible protection for your facility investment.

Sincerely,

Executive VP of Technical Services

ILD Technologies, LLC
121 Interpark Blvd. Suite 406
San Antonio, Texas 78216

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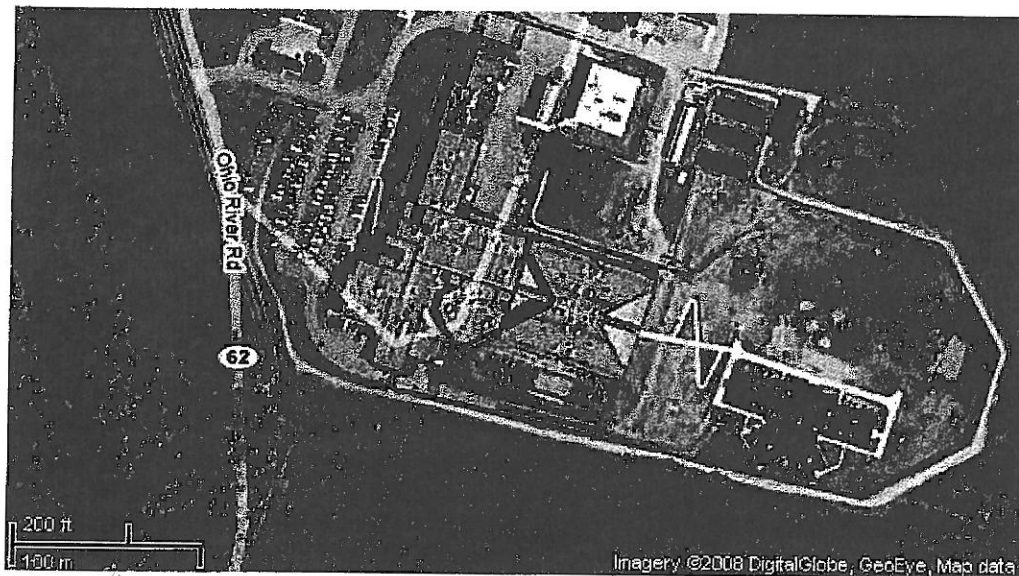
Section I – Site Evaluation

A. Site Description

Lakin Correctional Center is located in Mason County, West Virginia approximately 6 miles north of the village of Point Pleasant. Approximate coordinates are:

Latitude 38.951669° North

Longitude 82.085206° West



This slab mounted multi-office correctional facility consists of a >100,000 square foot single story building surrounded on three sides by continuous single 12' chain link fence with a concrete/asphalt road/parking lot on the west side of the complex. Outbuildings consist of a new permanent housing unit (Bldg. J), maintenance shop, and 4 modular housing units. The entire facility is constructed on a stabilized/compacted sand matrix estimated at 35' depth or greater. The primary power, transformer and secondary power distribution point is located in an equipment room located on the east side of the main building adjacent to an outbuilding containing emergency (standby) generator equipment. A state police office and hospital complex are located immediately adjacent to the property on the northern battery limit.

The west building/yard perimeter is immediately adjacent to state highway 62 with native vegetation primarily consisting of 15-50' hardwood trees and brush understory in near proximity. The subject property itself is completely clear of trees/brush and occupies level land in a narrow river valley at approximately 623' elevation (ASL) the notable exception being Bldg. J at elevation 621' (ASL). The predominant near topographical features include the Ohio River 4000' to the west at an elevation of 545' (ASL) and a range of large hills ascending to a ridge at 882' elevation (ASL) on the east. 50' steel light poles located in the parking lot area represent the tallest structural features of the complex itself.

Site power distribution is a multiphase system served by pad-mounted transformer located near the main equipment room on the east side of the building. A standby diesel generator and ancillary equipment is installed on this site. The main ground bus (MGB) is connected at the distribution panel

with a stranded copper cable run of unknown gauge and running to a single buried vertical electrode located at the pad-mounted transformer. Depth of electrode was assumed to be 8 – 10 feet and confirmed by test.

Additional Information

Administrative oversight of the inspection process conducted November 10 through 12, 2008 was provided by Deputy Warden Marvin Plumley with assistance from the facility staff. Close coordination and valuable on-site assistance was provided by Facility Maintenance Electrician Jerry Keyes.

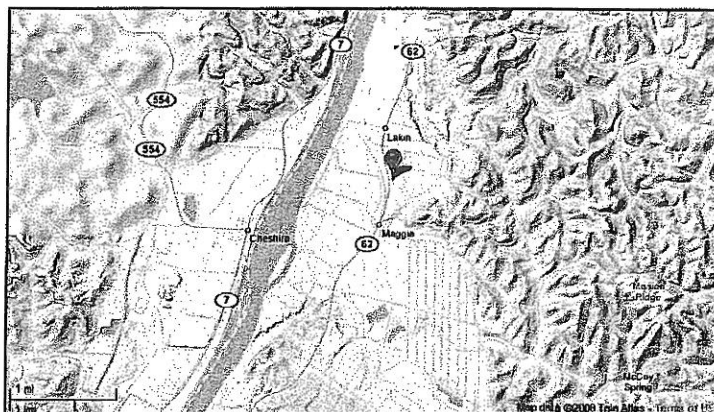
Described problems include susceptibility of critical Security Electronic Systems and electrical equipment to power surges and/or lightning strikes. Past incidents have directly affected the following systems:

- Telephone Equipment
- Stentophone (IC) Amplifiers
- Comtec Distributed Control Processor Modules
- Exterior Cameras (PTZ)
- HVAC Compressors
- Lighting Poles
- Network problems had previously been partially addressed in the facility control/data network through installation of fiber optic cable on critical nodes.

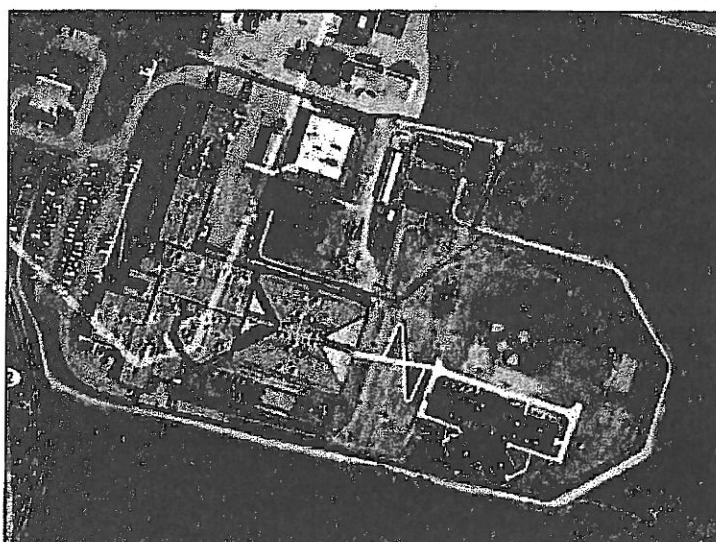
During the course of the site assessment, ILD had complete and unrestricted access to all operational areas including Central Control, equipment rooms, internal and external fence perimeters, etc. In addition to full facility access, there was also excellent access to critical facility personnel including the Supervisor of Maintenance, IT Director and numerous other staff members. These interviews afforded great various opportunity to gather detailed accounts of past strike events as well as critical information on damage and effects associated with these events.

The facility is served by a single 800KW Cummins standby generator located in a modular building adjacent to the main Electrical Equipment Room and the Main Distribution Transformer. This equipment utilizes an automatic transfer switch (ATS) actuated only upon power interruption or manual initiation.

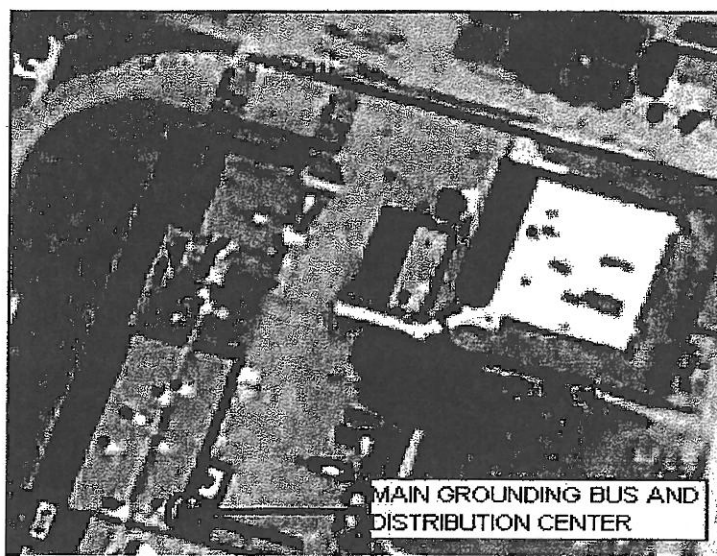
Facility distribution system is a W/Delta configuration utilizing a 3 Phase 4 Wire (Grounded Neutral) 480/277V secondary. In addition to the Main Distribution Center, there are numerous auxiliary equipment rooms serving facility distribution and control assemblies.



Site Topographical Map



Site Fence Plan



Main Electrical Distribution

B. Test and Inspection Procedures Performed 11/11/2008

The following instrument tests were performed:

1. Fluke 1625 Digital Ground System Tester
 - 3 Point Fall Of Potential Test (Refer To Section IV)
 - 2 Point DC Earth Resistance Test
 - 3 Point AC Impedance Test
 - High Frequency Noise Test
 - Ground System Voltage Test
2. Powertronics PQR Power Quality Analyzer
 - Voltage (Hot and Neutral) Sag and Surge Datalog (40 Hours +) (Refer to Section III)
 - High Frequency Noise Test
 - Total Harmonic Distortion
 - Temperature/Humidity Correlation (Summer Only)
3. Powertronics Ground Quality Analyzer
 - Ground Surge Datalog (24 Hour) (Refer to Section III)
 - High Frequency Noise Test
4. Leader Recording Oscilloscope
 - Ground Noise Waveform and Frequency Measurement

The following system inspections were performed:

1. Electrical Installation/Power Distribution
2. Ground System Inspection
3. Surge Suppression Sizing and Capacity
4. NFPA Lightning Assessment Worksheet

Data collected from these on-site tests and inspections were used by ILD Technologies, LLC to perform a detailed analysis of the existing system in order to achieve the following:

- Determine system susceptibility to near lightning strike effects including Ground Potential Rise, Low Side Surge and Near-Field Coupling.
- Determine need for additional passive and/or active lightning protection equipment or systems including Automatic Isolation Technology.
- Document construction deficiencies that would increase risk of damage or susceptibility to lightning effects.
- Produce a report of recommendations.

Measured data and the results of this comprehensive analysis are included as part of this report in Sections II through VI. Final recommendations are represented in Section VII.

Section II- Lightning Risk Assessment Summary Report**ILD Technologies, LLC**

121 Interpark Blvd., Suite 406
San Antonio, TX 78216

**LIGHTNING RISK ASSESSMENT
SUMMARY REPORT**

Client: WV Division of Corrections
Facility: Lakin Correctional Center
Site Location: West Columbia, WV

Performed By: K. Brashear
Date: 11/11/2008

Risk Index Component Summary

5	Risk Index A - Structural
3	Risk Index B - Construction Type
5	Risk Index C - Relative Building Height
1	Risk Index D - Site Elevation
9	Risk Index E - Occupancy and Contents
4	Risk Index F - Isoceraunic Rating

Overall Risk Rating

5.75 Moderately Severe

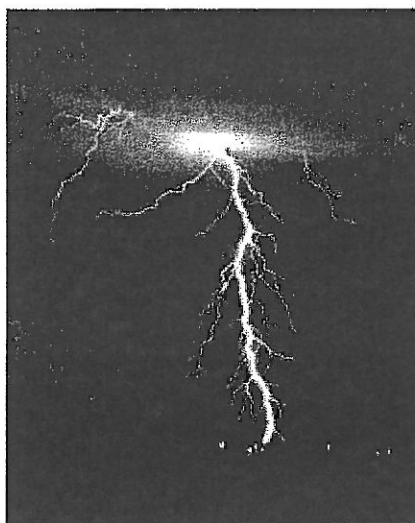
Overall Risk Rating	Risk Assessment
0-2	Light Risk
2-3	Light to Moderate Risk
3-4	Moderate Risk
4-7	Moderate to Severe Risk
Over 7	Severe Risk

Notes:

1. Methodology based on NFPA Guidelines for Lightning Risk Assessment

ILD TECHNOLOGIES,LLC

121 Interpark Blvd., Suite 406
San Antonio, TX 78216

Lightning Risk Assessment Worksheet

Site Name: Lakin Correctional Center
Site Location: West Columbia, WV
Client: WV Division of Corrections
Date: 11/11/2008
Prepared By:

Lakin Correctional Center
WV Division of Corrections

Risk Index A - Structural Type

Select structural type that best describes site under study.

<i>Index Structure</i>	<i>Value</i>
<input type="radio"/> Single family residence less than 5,000 sq. ft. (465 m ²)	1
<input type="radio"/> Single family residence over 5,000 sq. ft. (465 m ²)	2
Office or factory building less than 50 ft. (15 m) in height and:	
<input type="radio"/> a. Covering less than 25,000 sq. ft. (2323 m ²) of grounded area	3
<input type="radio"/> b. Covering over 25,000 sq. ft. (2323 m ²) of ground area	5
<input type="radio"/> Residential, office or factory building from 50 to 75 ft (15 to 23 m) high	4
<input type="radio"/> Residential, office or factory building from 75 to 150 ft (23 to 46 m) high	5
<input type="radio"/> Residential, office or factory building from 150 ft (46 m) or higher	8
<input type="radio"/> Municipal services buildings, fire, police, water, sewer, etc	7
<input type="radio"/> Hangars	7
<input type="radio"/> Power generating stations, central telephone exchanges	8
<input type="radio"/> Water towers and cooling towers	8
<input type="radio"/> Libraries, museums, historical structures	8
<input type="radio"/> Farm buildings	9
<input type="radio"/> Golf shelters and other recreational structures	9
<input type="radio"/> Places of public assembly such as schools, churches, theaters, stadiums	9
<input type="radio"/> Slender structures such as smokestacks, church steeples including spires, control towers, lighthouses, or antenna	10
<input type="radio"/> Hospitals, nursing homes, housing for the elderly or handicapped	10
<input type="radio"/> Buildings housing the manufacture, handling or storage of hazardous materials or explosives	10

Rating: 5

Site: Lakin Correctional Center
 Client: WV Division of Corrections

Risk Index B - Construction Type

Select structural framework and then roof type for site under study.

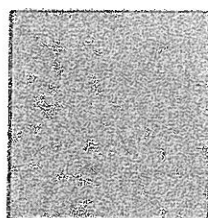
Index Structure

Value

Structural Framework

Roof Type

Index



Nonmetallic
(Other than wood)



Wood

5



Composition

3



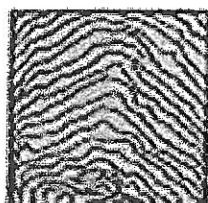
Metal - not continuous

4



Metal - electrically continuous

1



Wood



Wood

5



Composition

3



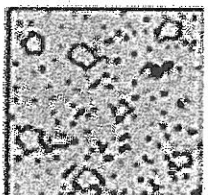
Metal - not continuous

4



Metal - electrically continuous

2



Reinforced Concrete



Wood

5



Composition/Tar

3



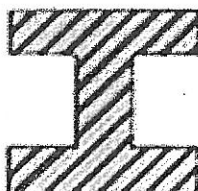
Metal - not continuous

4



Metal - electrically continuous

1



Structural Steel



Wood

4



Composition

3



Metal - not continuous

3



Metal - electrically continuous

1

Rating: 3

Site:
ClientLakin Correctional Center
WV Division of Corrections

Risk Index C - Relative Height/Location

Select location that best describes site under study

	Structures located in near proximity to higher structures:	Value
<input type="checkbox"/>	Small structures - covering ground area of less than 10,000sq. ft. (929m ²)	1
<input type="checkbox"/>	Large structures - covering ground area of more than 10,000sq. ft. (929m ²)	2
	Structures located in near proximity to lower structures:	
<input type="checkbox"/>	Small structures - covering ground area of less than 10,000sq. ft. (929m ²)	4
<input type="checkbox"/>	Large structures - covering ground area of more than 10,000sq. ft. (929m ²)	5
<input type="checkbox"/>	Structures extending up to 50 ft. (15.2 m) above adjacent structures or terrain	7
<input type="checkbox"/>	Structures extending more than 50 ft. (15.2 m) above adjacent structures or terrain	10

Rating: 5

Site: Lakin Correctional Center
Client: WV Division of Corrections

Risk Index D - Site Elevation

Select location that best describes site under study

- | | |
|---|---|
| <input checked="" type="radio"/> Flat land location | 1 |
| <input type="radio"/> Hillside location | 2 |
| <input type="radio"/> Hilltop location | 4 |
| <input type="radio"/> Mountaintop location | 5 |

Rating: 1

Site:
Client:

Lakin Correctional Center iter
WV Division of Corrections 0115

Risk Index E - Occupancy and Contents

Select structural type that best describes site under study.

<i>Location</i>	<i>Index Value</i>
<input type="radio"/> Noncombustible materials - unoccupied	1
<input type="radio"/> Residential furnishings	2
<input type="radio"/> Ordinary furnishings or equipment	2
<input type="radio"/> Cattle and livestock	3
<input type="radio"/> Small assembly of people - less than 50	4
<input type="radio"/> Combustible materials	5
<input type="radio"/> Large assembly of people - 50 or more	6
<input type="radio"/> High value materials or equipment	7
<input type="radio"/> Essential services - police fire etc	8
<input type="radio"/> Immobile or bedfast persons	8
<input type="radio"/> Flammable liquids or gases - gasoline, hydrogen, etc.	8
<input type="radio"/> Critical operating equipment	9
<input type="radio"/> Historic or unreplacable contents	10
<input type="radio"/> Explosives and explosive ingredients	10
<input type="radio"/> Golf shelters and other recreational structures	9
<input type="radio"/> Places of public assembly i.e. schools, churches, etc.	9
<input type="radio"/> Slender structures such as smokestacks, church steeples including spires, control towers, lighthouses, or antenna	10
<input type="radio"/> Hospitals, nursing homes, housing for the handicapped	10
<input type="radio"/> Buildings housing the manufacture, handling or storage of hazardous materials or explosives.	10

Rating: 9










Site: Lakin Correctional Center

Client: WV Division of Corrections

Risk Index F - Isoceraunic Rating

Select isoceraunic rating for site under study from map below



ISOCERAUNIC		
LEVEL		
	0-5	9
	5-10	8
	10-20	7
	21-30	6
	31-40	5
	41-50	4
	51-60	3
	61-70	2
	Over 70	1

Section III- Power/Ground Quality

A. Power Quality Data Histogram

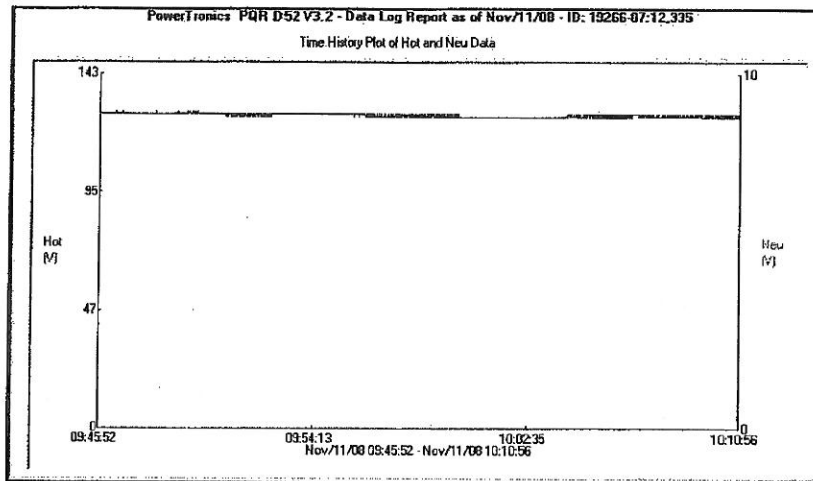


Chart 3A-1
25 Min. Power
Fluctuation Plot

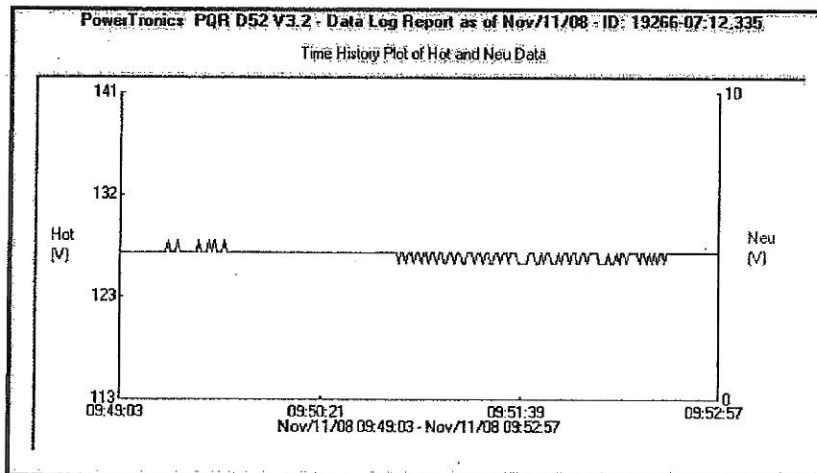


Chart 3A-2
4 Min. Power
Excursion Plot
Avg. Deviation = 1.1Vp-p

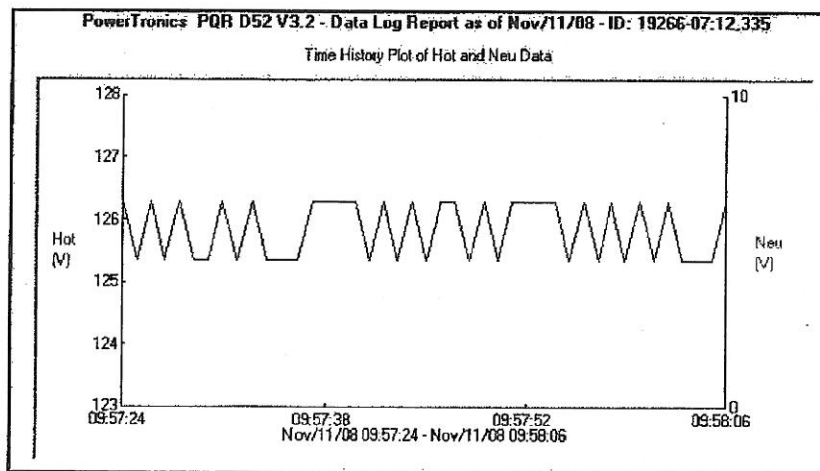


Chart 3A-3
44 Sec. Power
Excursion Plot
Avg. Deviation = 1.1Vp-p

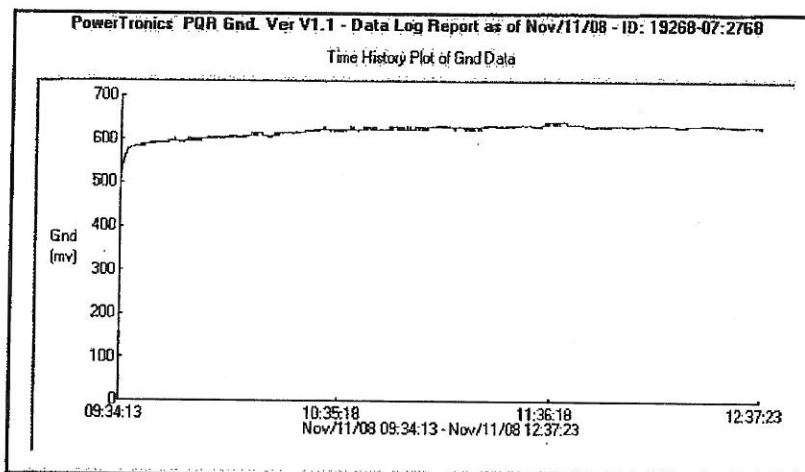
B. Ground System Data Histogram

Chart 3B-1
3 Hour Ground Potential
Fluctuation Histogram
Max. Pulse = 0.640V

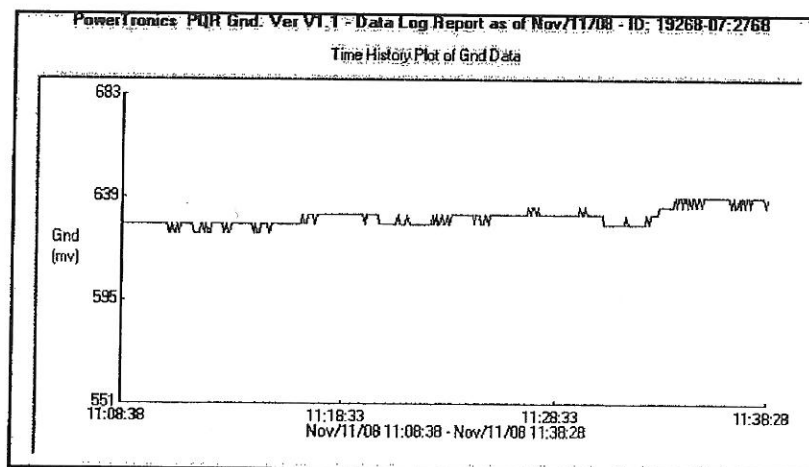


Chart 3B-2
30 Min. Ground Potential
Fluctuation Histogram

C. Oscilloscope Trace Photographs

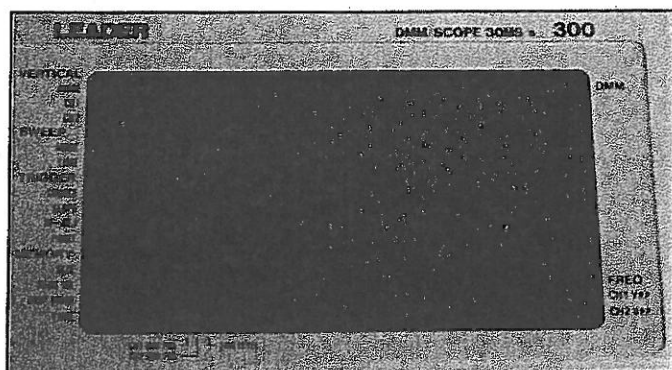


Photo 3C- 1

Main Equipment Room Ground Bus waveform presenting consistent 15MHz noise propagation at 25.6mV p-p.

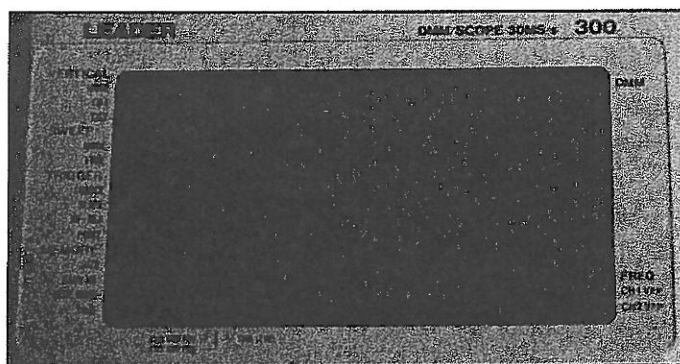


Photo 3C- 2

Main Equipment Room Ground Bus waveform presenting consistent 1.5MHz noise propagation at 103.0mV p-p. Note distortion resulting from combined effect of multiple harmonic influence.

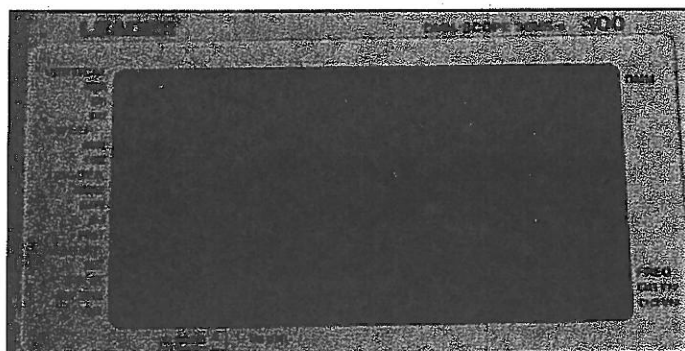


Photo 3C- 3

Auxiliary Equipment Room Ground Bus (farthest from MGB) waveform detail presenting consistent 34.0KHz noise propagation at 70.6mV p-p. Note distortion resulting from combined effect of multiple harmonic influence.

D. Power Quality/Grounding Test Report

Power Quality For Data Management Systems

L1 Avg. Variation (Baseline 125V) = 1.6V (0.8%)	Marginal
L1 Max. Variation (Baseline 125V) = 2.8V (2.24%)	Marginal
Surges (Over 2 Hour Test Period) = 12	Not Acceptable
High Frequency Noise = Moderately Severe	Not Acceptable
Total Harmonic Distortion (I) = 7.5%	Not Acceptable

Overall power quality is found to be very marginal considering that this is primarily a large building complex consisting of office space, housing units, classroom facilities and support areas without an excessively high inductive (motor) load factor. Primary concerns present themselves in two areas, as follows:

Power Stability:

Average Frequency of system excursions is well above normal at 6 excursions per hour with a measured average amplitude of more than .8%. This is illustrated through the preceding Charts 3A-1,2, and 3. It is anticipated that this figure would certainly increase significantly due to HVAC load in summer. These effects can be mainly attributed to load switching effects and grounding system influence. The amplitude and severity of measured surges do fall inside of the limits of what can be addressed with normal power filtering circuits and surge suppression equipment that can be commonly recommended, but anticipated performance of this equipment would be expected to degrade at a rapid pace over a short time period due to high frequency of events. It should also be noted that if recorded excursion rates have been sustained over the preceding years, existing electronic devices are undoubtedly already compromised owing to the fact that little or no surge suppression equipment is currently in place.

Harmonic Distortion:

Data analysis indicates that there is an excessive harmonic distortion observed in the distribution system ranging between 5 and 10% (THD-I). This is confirmed by measurement on the installed Square D PowerLogic monitor as shown below.



Photo 3D-1 Monitor Indicating THD(I) Reading of 7.9%

In addition, TDH(V) ranges from 0.75 – 2.0% were projected by analysis and confirmed at 1.7% by monitor. Analysis indicates that observed distortion of primarily 3rd and 5th harmonics and is most likely an issue of load matching. Note harmonic waveform distortion seen in Photo 3C-3 preceding.

One additional finding that causes some concern is the recorded power factor. It ranged consistently between 0.73 and 0.81. This is a very low range for a facility of this type.

It is often desirable to adjust the power factor of a system to near 1.0. This *power factor correction* is achieved by switching in or out banks of inductors or capacitors. For example the inductive effect of motor loads may be offset by locally connected capacitors. When reactive elements supply or absorb reactive power near the load, the apparent power is reduced. Power factor correction may be applied by an electrical power transmission utility to improve the stability and efficiency of the transmission network. Correction equipment may be installed by individual electrical customers to reduce the costs charged to them by their electricity supplier. A high power factor is generally desirable in a transmission system to reduce transmission losses and improve voltage regulation at the load.

Power factor correction brings the power factor of an AC power circuit closer to 1 by supplying reactive power of opposite sign, adding capacitors or inductors which act to cancel the inductive or capacitive effects of the load, respectively. For example, the inductive effect of motor loads may be offset by locally connected capacitors. If a load had a capacitive value, inductors (also known as *reactors* in this context) are connected to correct the power factor. In the electricity industry, inductors are said to consume reactive power and capacitors are said to supply it, even though the reactive power is actually just moving back and forth on each AC cycle.

The reactive elements can create voltage fluctuations and harmonic noise when switched on or off. They will supply or sink reactive power regardless of whether there is a corresponding load operating nearby, increasing the system's no-load losses. In a worst case, reactive elements can interact with the system and with each other to create resonant conditions, resulting in system instability and severe overvoltage fluctuations. As such, reactive elements cannot simply be applied at will, and power factor correction is normally subject to engineering analysis.

Grounding

G Potential (Average) = 605mV Instantaneous	Acceptable For Power, Unacceptable For Control
G Potential (Maximum) = 6404mV Instantaneous	Acceptable For Power, Unacceptable For Control
G pp (High Frequency) = 0.7 to 1.3V	Acceptable For Power, Unacceptable For Control
High Frequency Noise = Appreciable	Acceptable For Power, Unacceptable For Control
Anomalies (Over 2 Hour Test Period) = 6	Not Acceptable

High ground potential observed on datalog. Well below levels dangerous to personnel, observed levels are nominally acceptable for power application but definitely not for control or network reliability.

Probable cause is comprehensive and includes lack of a properly design equi-potential ground system, equipment bonding, switching noise related to ground impedance as discussed in Section IV – Ground Impedance Testing, power matching harmonic effects and induced noise from fluorescent lighting, computer monitors and HVAC motor switching. Recommendations in Section VII will outline possible solution.

Chart 3B-1 and 3B-2 present variability recorded during on-site evaluation. Even though no major storm activity occurred during the testing, at least 4 impulses were recorded with ground potential rising to a destructive level of over 10 Volts during a 2 hour period. This is a strong indication of the susceptibility of the site (and especially sensitive microprocessor based electronics) to lightning influence in the form of Ground Potential Rise and Near Field Coupling. These readings would certainly have been higher had a storm center been passing overhead and produced Cloud-Ground or overhead Cloud-Cloud strikes.

Temperature / Humidity

Temperature Range = 31 — 72.1 ° F

Relative Humidity Range = 31 - 65 %

No correlation of data between temperature or humidity and Hot, Neutral, or Ground readings was observed as HVAC motor/compressor load was essentially zero.

[illegible][illegible]

[illegible][illegible]

[illegible][illegible]

[illegible][illegible]

[illegible]

[illegible][illegible]

[illegible][illegible]

[illegible][illegible]

[illegible][illegible]

[illegible]

[illegible]

[illegible]

Nov/11/08	11:50:23	Gnd	632,mv	Nov/11/08	11:57:03	Gnd	632,mv	Nov/11/08	12:03:43	Gnd	632,mv	Nov/11/08	12:10:23	Gnd	632,mv
Nov/11/08	11:50:28	Gnd	632,mv	Nov/11/08	11:57:08	Gnd	632,mv	Nov/11/08	12:03:48	Gnd	632,mv	Nov/11/08	12:10:28	Gnd	636,mv
Nov/11/08	11:50:33	Gnd	632,mv	Nov/11/08	11:57:13	Gnd	636,mv	Nov/11/08	12:03:53	Gnd	632,mv	Nov/11/08	12:10:33	Gnd	632,mv
Nov/11/08	11:50:38	Gnd	632,mv	Nov/11/08	11:57:18	Gnd	632,mv	Nov/11/08	12:03:58	Gnd	636,mv	Nov/11/08	12:10:38	Gnd	632,mv
Nov/11/08	11:50:43	Gnd	632,mv	Nov/11/08	11:57:23	Gnd	632,mv	Nov/11/08	12:04:03	Gnd	632,mv	Nov/11/08	12:10:43	Gnd	632,mv
Nov/11/08	11:50:48	Gnd	628,mv	Nov/11/08	11:57:28	Gnd	632,mv	Nov/11/08	12:04:08	Gnd	632,mv	Nov/11/08	12:10:48	Gnd	632,mv
Nov/11/08	11:50:53	Gnd	632,mv	Nov/11/08	11:57:33	Gnd	632,mv	Nov/11/08	12:04:13	Gnd	636,mv	Nov/11/08	12:10:53	Gnd	632,mv
Nov/11/08	11:50:58	Gnd	628,mv	Nov/11/08	11:57:38	Gnd	632,mv	Nov/11/08	12:04:18	Gnd	636,mv	Nov/11/08	12:10:58	Gnd	632,mv
Nov/11/08	11:51:03	Gnd	632,mv	Nov/11/08	11:57:43	Gnd	632,mv	Nov/11/08	12:04:23	Gnd	632,mv	Nov/11/08	12:11:03	Gnd	632,mv
Nov/11/08	11:51:08	Gnd	632,mv	Nov/11/08	11:57:48	Gnd	632,mv	Nov/11/08	12:04:28	Gnd	636,mv	Nov/11/08	12:11:08	Gnd	632,mv
Nov/11/08	11:51:13	Gnd	628,mv	Nov/11/08	11:57:53	Gnd	632,mv	Nov/11/08	12:04:33	Gnd	632,mv	Nov/11/08	12:11:13	Gnd	632,mv
Nov/11/08	11:51:18	Gnd	632,mv	Nov/11/08	11:57:58	Gnd	632,mv	Nov/11/08	12:04:38	Gnd	636,mv	Nov/11/08	12:11:18	Gnd	632,mv
Nov/11/08	11:51:23	Gnd	632,mv	Nov/11/08	11:58:03	Gnd	632,mv	Nov/11/08	12:04:43	Gnd	636,mv	Nov/11/08	12:11:23	Gnd	632,mv
Nov/11/08	11:51:28	Gnd	632,mv	Nov/11/08	11:58:08	Gnd	632,mv	Nov/11/08	12:04:48	Gnd	632,mv	Nov/11/08	12:11:28	Gnd	632,mv
Nov/11/08	11:51:33	Gnd	632,mv	Nov/11/08	11:58:13	Gnd	632,mv	Nov/11/08	12:04:53	Gnd	636,mv	Nov/11/08	12:11:33	Gnd	632,mv
Nov/11/08	11:51:38	Gnd	632,mv	Nov/11/08	11:58:18	Gnd	632,mv	Nov/11/08	12:04:58	Gnd	636,mv	Nov/11/08	12:11:38	Gnd	632,mv
Nov/11/08	11:51:43	Gnd	632,mv	Nov/11/08	11:58:23	Gnd	632,mv	Nov/11/08	12:05:03	Gnd	636,mv	Nov/11/08	12:11:43	Gnd	632,mv
Nov/11/08	11:51:48	Gnd	632,mv	Nov/11/08	11:58:28	Gnd	632,mv	Nov/11/08	12:05:08	Gnd	636,mv	Nov/11/08	12:11:48	Gnd	632,mv
Nov/11/08	11:51:53	Gnd	628,mv	Nov/11/08	11:58:33	Gnd	632,mv	Nov/11/08	12:05:13	Gnd	636,mv	Nov/11/08	12:11:53	Gnd	632,mv
Nov/11/08	11:51:58	Gnd	632,mv	Nov/11/08	11:58:38	Gnd	632,mv	Nov/11/08	12:05:18	Gnd	636,mv	Nov/11/08	12:11:58	Gnd	632,mv
Nov/11/08	11:52:03	Gnd	628,mv	Nov/11/08	11:58:43	Gnd	628,mv	Nov/11/08	12:05:23	Gnd	636,mv	Nov/11/08	12:12:03	Gnd	632,mv
Nov/11/08	11:52:08	Gnd	628,mv	Nov/11/08	11:58:48	Gnd	632,mv	Nov/11/08	12:05:28	Gnd	636,mv	Nov/11/08	12:12:08	Gnd	632,mv
Nov/11/08	11:52:13	Gnd	632,mv	Nov/11/08	11:58:53	Gnd	632,mv	Nov/11/08	12:05:33	Gnd	636,mv	Nov/11/08	12:12:13	Gnd	632,mv
Nov/11/08	11:52:18	Gnd	628,mv	Nov/11/08	11:58:58	Gnd	632,mv	Nov/11/08	12:05:38	Gnd	636,mv	Nov/11/08	12:12:18	Gnd	632,mv
Nov/11/08	11:52:23	Gnd	628,mv	Nov/11/08	11:59										

[illegible]

Section IV - Ground Impedance Testing

A. 3 Point Fall of Potential Test Procedure

Most installations of grounding systems follow the very minimum requirement of the National Electrical Code Article 250. These installations will consist of one or two rods driven to a depth of 10 or less feet. This is all the contractor must do to meet the code or minimum electrical system requirements

Once a grounding system is installed, in 99+% of the time it is not properly tested for resistance (performance). In .5% of the cases it is tested improperly, if tested at all. Less than 1% of grounding installations are tested properly by a qualified and experienced technician with the proper equipment.

Reasons to perform ground system testing include:

Good (low resistance) grounding systems enhances life safety.

Reduces standalone and networked systems noise.

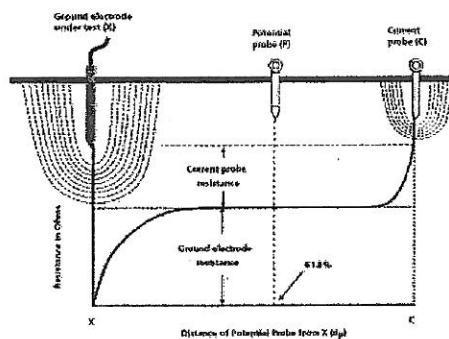
So power surges and impulses can be shunted by surge protection devices.

So circuit breakers can function properly.

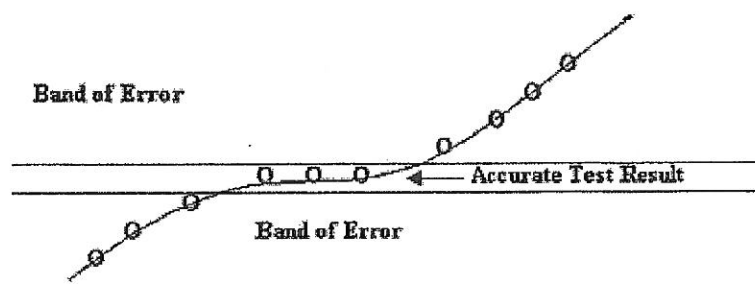
So lightning protection systems can operate properly.

Proper installation procedures call for grounding to be tested during system installation. This allows for equal potential grounding installation and eliminates any potential hot spots (high resistance components) in the system. Ideally, a driven rod installation should have individual rods tested during and after installation and overall system testing upon completion. Once the completed system has been tested, it can be certified to the owner and a base point can be established for recommended annual testing. In lightning prone areas, it is recommended the grounding of a sensitive facility be tested annually.

Testing is recommended to be by the fall-of-potential method. It should be completed by an experienced technician using test equipment in current calibration and following the equipment manufacture operator's manual. The fall-of-potential method is often referred to as the "three point method". Utilizing a ground resistance meter (digital is preferred), two auxiliary electrodes are driven into the soil at predetermined distances, per the testing specifications, in a straight line from the ground being tested. Grounding mats and grounding systems, other than rods, often require a modified test method. If you have questions for these test procedures please contact PSI directly. During a normal test of ground rod(s) the meter supplies a constant current between the ground rod(s) under test and the most remote auxiliary electrode. A series of measurements of the voltage drops between the ground rod(s) under test and the remote electrode are made by moving the intermediate electrode in steps away from the ground rod under test. The goal is to reach the actual rod's resistance and this is most often reached at the 62% distance point.



When graphed, the series of measurements of the voltage drops between the ground rod under test and the remote electrode when graphed will provide a chart that will look like the one below. The band of error will be those areas outside the flat part of the graph.



An experienced technician will be able to determine the resistance of the ground rod after a number of readings are taken by moving the intermediate electrode away from and then closer to the rod under test. The most remote electrode must remain in the same position for the results to be accurate.

B . 3 Point Fall of Potential Plot – Lakin Correctional Center

See following page

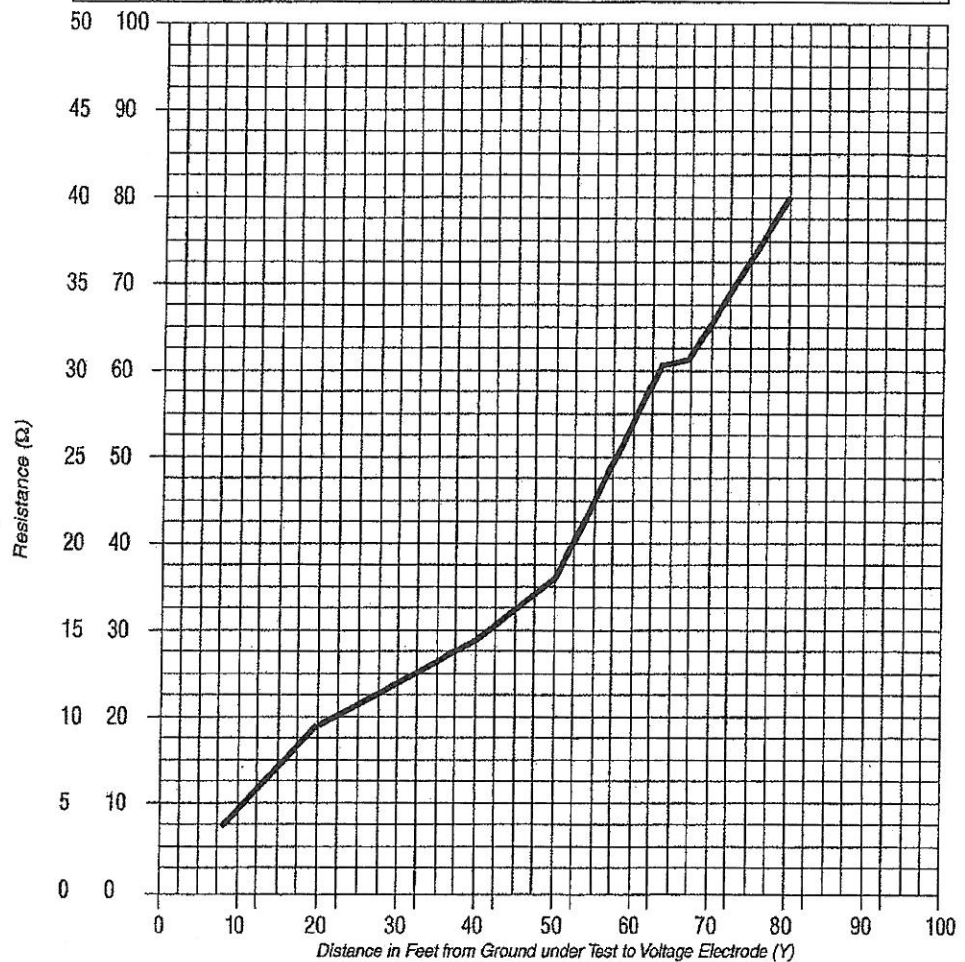
Fall Of Potential Plot

Instrument Mfr. Fluke Name of Operator Keith Brashear
 Model 1625 Location Lakin Correctional Center Date 11/11/08
 Serial # 385676 Ground System Type: Single Rod ☒ Rod Depth 8-10' Vert. ft
 Multiple Rods (Grid) ☐ Longest Diagonal Dimension _____ ft
 Z Electrode Distance 100 ft

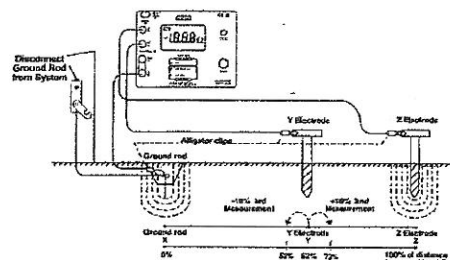
	Voltage Electrode (Y) distance from Ground Rod under Test (X)	Measured Resistance
%	FEET	OHMS
100	100	75
90		
80	80	64.
72		
70	70	23.
62	62	23.
60		
52		
50	50	11.
40	40	11.
30		
20	20	4.9
10		
0	0	0

Resistance Scale: ☐ 50
☒ 100
 Multiplier: ☒ x1
☐ x10

Test Conditions				
Temp: <u>69 F</u>		Soil: <input checked="" type="checkbox"/> Moist <input type="checkbox"/> Dry		
Soil Type				
<input type="checkbox"/> Loam	<input checked="" type="checkbox"/> Sand & Gravel	<input type="checkbox"/> Shale	<input type="checkbox"/> Clay	<input type="checkbox"/> Limestone
<input type="checkbox"/> Sandstone	<input type="checkbox"/> Granite	<input type="checkbox"/> Slate	<input type="checkbox"/> Other _____	



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 San Antonio, TX 78216
 (210) 545-4171



C. Fall Of Potential Test – Summary Report

Average Measured Ground Resistance R_e	=	23.1 Ohms (@ Accurate Band)
Average Measured AC Impedance Range R^*	=	0.74 – 4.04 Ohms
Auxiliary Electrode Resistance R_h	=	1.5KOhms
Probe Resistance R_s	=	1.5KOhms
Measuring Voltage Frequency F_m	=	111Hz
Compensation Resistance R_k	=	0

Test Conditions: Very Wet Sandy Soil @ 69° F

Ground Cable Length and Size: 4/0 Insulated – Nominal exterior length. Interior lengths exceed 100'.

Ground resistance of 23.1 ohms in warm / wet soil conditions should be considered fairly high for a control or network systems application even though it does technically meet the 25 ohm limitation required for compliance with National Electric Code – Article 250. High resistance will result in the following:

- High noise floor in control applications requiring essentially zero Volt ground reference such as PLC, Desktop Computer or Ethernet Network installations. This correlates very well with the elevated ground voltage observed in the grounding data log as related in Section III. Short term effects include loss of processing integrity, data errors, etc. Longer term effects include shortening of the time between failures in digital components
- Unreliability of magnetic circuit breakers and ground fault interrupters. Strong to moderate chance that elevated voltage will eventually affect the reliability of protective devices over time and may also result in false trips.
- Increases Ground Potential Rise amplitude and lengthens excursion period during a lightning strike or high speed switching impulse, especially when combined with high inductive reactance. This means that near proximity strikes will cause higher voltage rises on ground adjacent to the strike zone and that the rise will dissipate much more slowly than in a low resistance/impedance application.
- Seriously affects performance of Transient Voltage Surge Suppressors and other critical protective devices, especially when connected by long cable run as in this site installations. See Section V.

Recommendations: See Section VII

D. Other Test Data

Interference Voltage Range U_{st}	=	0.4 – 0.6 Volts
Interference Frequency F_{st}	=	Variable
AC Test Frequency	=	55Hz

Effects mirror those of a high resistance/impedance case.

Section V – Surge Suppression

A. Installed Equipment

Presently, no systems are equipped with discrete surge suppressors. These include:

- Incoming telephone lines. Note: grounding for this equipment appears to be via neutral connection only.
- Switching controller on the main process platform.
- Major load centers.
- Remotely mounted instruments.
- Mains Power Panel (Type 3R) and associated breaker panels as installed.

B. Ground Impulse Calculation

During the inspection and testing, concerns arose over the effectiveness of the future installed surge suppressors because of the excessive length of the ground lead (100+ feet) from the individual outlets or ground busses to the grounding electrode. In long lead ground cables operating in high frequency (such as observed in a lightning strike) events, self inductance of the cable and electrode assembly become a serious liability to connected equipment.

Self Inductance calculations on the installed system were performed for two cases as outlined below:

- The first depicts Ground Potential Rise for the system as installed during a 600 Ampere (the service limit) Ground Fault event. As can be seen, the system as installed could handle the event with 3.44 Volts GPR observed.
- The second calculation depicts the system during a fast-rise (>50KHz) near-strike event in which (a very conservative) 60 Amperes of current is developed through near-field induction, as would be expected on an ungrounded fence. Note that the GPR is now increased to near 3,500 Volts due to the effect of the increase in frequency and the resulting inductive characteristics of the site grounding cable based on projected system geometry. Clearly, the presently installed ground system cannot be relied upon for protection during a lightning strike nor will it perform well with discrete Transient Voltage Surge Suppressors.

Section VI – Bonding

A. Installed Equipment

During the inspection and testing, concerns arose over the fact that no effective bonding has been installed to ensure an electrically continuous path through all metallic components. The main concern at Lakin Correctional Center is with the telephone switch racks in the main equipment rooms and with PLC Processing Gear. Article 250 of the National Electric Code provides extensive guidelines for accomplishment of this work and a good deal of information of the relative advantages of this practice. These advantages include:

- Removal of dangerous voltage potentials between conductive parts of building components and electrical systems.
- Provides a fault current path to facilitate the operation of overcurrent protection devices.
- Diversion of lightning-produced high voltage to the earth to improve equipment and operational reliability.

ILD Technologies, LLC strongly believes in the importance of an effective bonding system as part of a comprehensive approach to lightning protection. Structural metal provides a virtually unlimited number of pathways for lightning energy (directly applied or induced) to reach sensitive equipment. When analyzed from a cost-benefit standpoint, bonding is an inexpensive and highly effective way to close these unanticipated pathways and help mitigate overall risk.

Section VII-E of this report will provide specific recommendations regarding bonding of critical equipment and sub-structures.

Section VII – Executive Summary

Conclusions and System Recommendations

A. NFPA Worksheet

The National Fire Protection Association lightning risk assessment worksheet provided in Section II of this report provides a conservative projection of risk from direct lightning strikes. It is therefore widely utilized as a guide to determine necessity of passive lightning protection (rods, SPD systems or dissipation arrays.)

With the Lakin Correctional Center composite Risk Rating of 5.75 in an Isoceraunic zone 45 installation, the assessed risk of a direct lightning strike is determined to be moderately severe and even increased due to current deficiencies in the existing system grounding network (see B below.)

This increased risk can be illustrated in the level of observed damage to facility equipment that occurred in a recent direct lightning attachment to a duplex lighting pole located in the parking lot adjacent to the Lakin main building. In that event, numerous telephone and control circuits were affected at great cost – even though the pole was well grounded in compliance with the National Electric Code. Because an equi-potential grounding condition is not currently present in this facility, lightning induced current sought out lower impedance pathways through ground connections in these seemingly non-related circuits. This reverse current travelling through ground connections is known as Low Side Surge and is the #1 cause of lightning damage to electronic systems.

Given the conservative nature of the rating as well as the low-elevation site topography without close proximity to prominent structures, the following recommendation is offered:

Recommendation 1

Careful consideration for the addition of lightning rods (air terminals) to the Lakin facility. In the opinion of ILD Technologies, LLC, installation of an air terminal system would provide an increased level of protection to the building proper, rooftop mounted equipment (HVAC) and adjacent structures (light poles) from damage associated with direct attachment (primarily fire and structural.) However, it is important to understand that these devices are completely dependent upon availability of low impedance ground pathways arranged in an equi-potential configuration for safe and effective diversion of excess energy. This system does not currently exist at Lakin Correctional Center. Therefore, this option should only be exercised in conjunction with general grounding system upgrades as listed in Recommendation 3, Item B, this section. Conversely, installation of an air terminal system into the present ground configuration (with no upgrades) will without doubt increase risk to critical facility electronic systems.

B. Power/Grounding System

Overall power quality is found to be within a marginally acceptable range for services of this type. However, the data included in Section III of this report would indicate an abnormally low power factor, resulting in poor power efficiency as well as susceptibility to harmonic distortion. Localized or utility switching load effects could affect performance or reliability over the life of the equipment. Therefore, the following recommendation is made:

Recommendation 2

WV Division of Corrections should consider initiating a basic engineering study of the main distribution system with the utility service provider and in conjunction with a Grounding System Study per recommendation 3 below. This study should include optimization of load matching and power factor correction (including addressing harmonics.) In addition, installation of a combination lightning arrestor/surge suppressor/power filter for incoming utility power is highly recommended. Installed either at the service entrance just before the main power panel, this unit would provide a considerable level of surge protection for the entire facility power system, control actuators and instrumentation. This recommendation represents a significant performance and cost benefit over the use of low-end discrete surge suppressors installed throughout the building.

Grounding was found to be the major site issue at Lakin Correctional Center and one of two sub-systems most responsible for determining lightning susceptibility. The ability of the facility systems to endure both common and lightning level surges is tied to the combination of low impedance grounding as well as proper bonding. These are explained as follows:

Grounding as part of an effective modern Lightning Protection System involves highly technical and much more complicated engineering aspects than in conventional 60Hz ground systems. The National Electric Code (Article 250) only requires a simple 25 ohm resistance for personnel and equipment protective systems in these facilities and this is all that is presently installed at Lakin Correctional Center. In almost all cases, this simplistic system is completely inadequate for modern electronic systems (which typically require a maximum 5 ohm resistance) and especially so when attempting to also address lightning susceptibility. In considering LPS design, the following must be addressed:

- Total Impedance (X_L , X_C , R , G) of the Grounding System
- High Frequency Transmission Characteristics
- Ground Potential Rise and Near Field Coupling Effects

A properly designed grounding system should provide for effective transmission of the very high energy/high frequency lightning impulse featuring dissipation in the shortest possible period of time while limiting the maximum amplitude of the voltage rise on any affected systems.

There were numerous deficiencies discovered at Lakin Correctional Center as illustrated in the photos below:

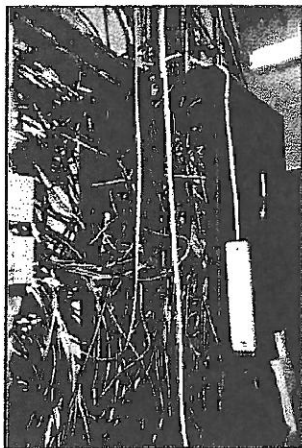


Photo 7B-1

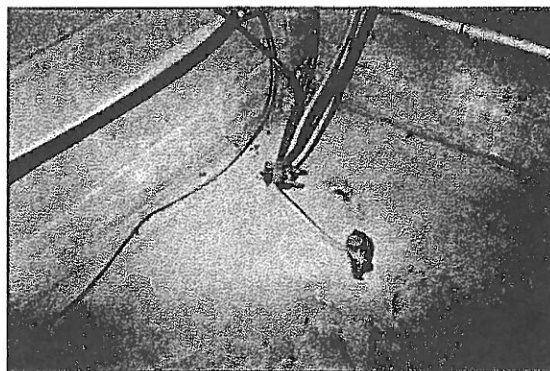


Photo 7B-2

Photo 7B-1 - Equipment rack showing unmanaged cable routing contributing greatly to common-mode signal noise as observed on oscilloscope waveforms. Note also that no structural or chassis bonding connections are visible in this installation.

Photo 7B-2 - Main Equipment Room ground terminal presenting multiple ground conductors (5) connected to a single nut (bolt connection) with final connection to exposed ground electrode through a single undersized ground lead. A good example of improper wiring methods that seriously affect the effectiveness of the facility ground system and represent NEC code violations as well as probable safety hazards. While this photo is a rather case, it is typical of the installation problems observed throughout the facility.

Recommendation 3

Commission a comprehensive Lightning Protection System grounding design study to be performed by a qualified technical service company experienced in Active LPS Grounding System design in compliance with Institute of Electrical and Electronics Engineers (IEEE) Std 1100 Recommended Practice: Powering and Grounding of Electronic Equipment. This study should be performed in conjunction with work developed as part of Recommendation 1 and 2 above and should include the following :

- Main building and Central Control grounding including equipment rooms.
- Perimeter and fence grounding systems
- GPR Analysis
- Active LPS Consideration
- TVSS considerations per Recommendation 4 below

C. Surge Suppression

During the inspection and testing, concerns arose over the apparent lack of installed surge suppressors (TVSS's.) It appears that these may have been included in the original site design but were omitted prior to construction. In any case, the future installation of surge suppressors at discrete locations may present problems because of the excessive length of the required ground lead s (50+ feet.) In long lead ground cables operating in high frequency (such as observed in a lightning strike) events, self inductance of the cable and electrode assembly become a serious liability to connected equipment. The self inductance calculation in Section V indicates a GPR of 3,500 volts will develop during a very moderate near strike event. As stated before, the presently installed Ground system cannot be relied upon to handle diverted energy from surge protection devices during a lightning strike.

Recommendation 4

Include study on use of TVSS systems as part of grounding study per Recommendations 2 and 3 above.

D. Bonding

No effective bonding is installed at this site. ILD Technologies, LLC strongly believes in the importance of an effective bonding system as part of a comprehensive approach to lightning protection and considers it equal to (and, in some cases more so) the importance of grounding in achieving effective performance. Structural metal provides a virtually unlimited number of pathways for lightning energy (directly applied or induced) to reach sensitive equipment. The key to eliminating reverse currents through electronic equipment is to bond all power supplies, chassis, equipment racks and other parts of critical systems so that all conductive points in the system are at the same potential voltage with respect to ground. This is referred to as an equi-potential system. Through application of Ohm's Law, it can be understood easily that if all points are at the same voltage potential, it is impossible for unwanted current to flow between these points. When analyzed from a cost-benefit standpoint, bonding is an inexpensive and highly effective way to close these unanticipated current pathways by creation of equi-potential condition and to help mitigate overall risk. Recommendations are as follows:

Recommendation 5

Owner should strongly reconsider installation of a moderate number of bonding jumpers for main equipment racks, metal enclosures and structural steel components and the connection of these jumpers to the reconfigured Main Grounding Bus. This will ensure all equipment is equi-potential and connected to a single low impedance ground point. This work can easily be performed by facility staff and coordinated with the Grounding Study effort per Recommendation 3 above.

E. System Lightning Protection Recommendations

Use of automatic detection and isolation systems is highly recommended in order to provide protection from the two most common forms of damage from near strikes:

- Low Side Surge resulting from Ground Potential Rise
- Near-Field Coupling associated with Electromagnetic Pulse

It should be noted that these unique systems are specifically designed to operate effectively in with poor earth ground conditions or deficient existing ground network designs, making them particularly advantageous for facilities such as Lakin Correctional Center.

These network compatible systems offer a wide range of advantages over conventional LP systems in that they provide the means to detect a lightning strike while it is developing and automatically disconnecting critical equipment for the duration of the strike event. Equipment is subsequently re-connected at the end of the event. The entire isolation/reconnection sequence occurs without any operator intervention but is fast enough to result in no loss of operation, data or service and do not depend upon ground for effective protection. When used in conjunction with a battery UPS system and/or standby generator, it can also be configured to automatically disconnect selected circuits from utility power and place the facility on generator power during conditions likely to produce lightning. These systems provide the highest level of operability and protection available for ultra-sensitive electronic systems. Recommendation is as follows:

Recommendation 6

Install an ILD Technologies, LLC Model 2000 as site master controller unit at the main equipment room with ACP/ CLS switch systems (interposing relay control) as required to interface telephone switching systems as well as critical controls, cameras and other sensitive devices. Planning for this recommendation should occur as part of activities planned in Recommendation 3 above.



ILD Technologies, LLC

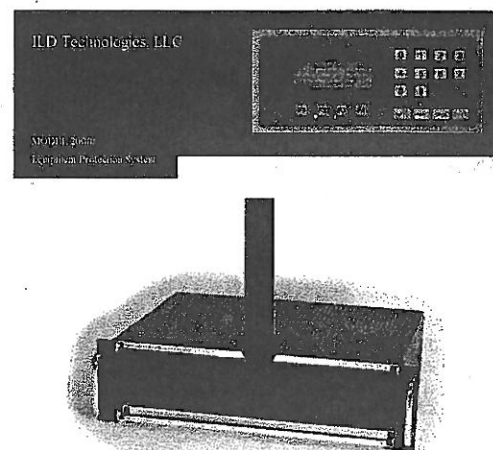
ACTIVE AND INTELLIGENT LIGHTNING PROTECTION TECHNOLOGY,
SURGE SUPPRESSION AND FACILITY GROUNDING SYSTEM DESIGN

www.ildtechnologies.com

MODEL 2000 Series

Lightning Detection/ Equipment Protection System with Remote Detector Unit.

The Model 2000 is a rack-mounted microprocessor-based equipment protection system which functions to perform high-speed disconnect and grounding of the circuit pathways of a protected system. Triggered by the detection of a lightning strike, these pathways are automatically reconnected when danger is past. Due to the very high speed of the strike event and resulting protection cycle, the event occurs without loss of operation of protected equipment. Available in 120 or 240 Volt.



FEATURES

- Built in LCD display/HMI makes for fast custom configuration, visual monitoring of atmospheric disturbances and provides system status in real time
- Fully network compatible with Modbus™, RS-485 interface and other OSI Layer 7 applications.
- Protected AC Power Source 10 Amperes- 1200 Watts Max
- Exclusive Tri-Disconnect to combat low side surges
- Built-in real time clock and flash memory stores and reports number of equipment disconnect cycles, system status, and other user definable data.
- Standard terminal block connectors for phone, intercom, or control/data line equipment protection
- Remote Detector Unit has protection circuitry for the detector during potentially damaging conditions and built-in diagnostics to continuously verify detector operation
- Standard 3-wire female AC terminals for equipment power source connection
- Euro style terminal block connections for additional equipment disconnect switchers.
- Battery back-up for uninterrupted protection, even when power is off
- User programmable disconnect, delay and special function timers for 8 independent channels.
- Self -Protect function: Unit disconnects/isolates itself from AC power line when in protect mode and operates on internal battery power source

- Available with optional encoded wireless interface to remote devices located as far as 2000 feet away.
- Optional 2-piece case allows easy removal and replacement of main control module without the need to disconnect field, power or communications wiring.

ELECTRICAL SPECIFICATIONS

- 120/240 VAC, 50-60HZ Input Power
- Maximum 10 AMPS Equipment Power Source
- Maximum 10 AMP @ 12 VDC Power Source for additional/optional equipment switchers
- Maximum 10 AMP dry switching contacts for telephone, intercom, or data equipment protection.

The Model 2000 Equipment Protection System for Business & Industry

The quantity and complexity of electronic and electrical equipment used in business and industry continues to grow as more new technologies become available. Business offices are no longer just typewriters and copying machines; agriculture facilities are no longer just plows and sprinklers; schools are no longer just desks and chalkboards. Even in the home, the equipment is not limited to home appliances and entertainment. The popular and increasing trend in telecommuting and home offices has added a significant amount of expensive equipment upon which personal incomes now depend.

Equipment such as computers, fax machines, intercom & paging systems, telephones & radio systems, irrigation & pump controls, alarm systems, CCTV & security systems, watering & environmental controls, etc., are all susceptible to damage from induced voltages caused by lightning. This equipment represents a very significant investment, regardless of the size of the operation. Many times the ability to operate is adversely affected or even stopped when equipment is damaged by lightning. The protection of these valuable assets from lightning presents new challenges due to the common use of extremely sensitive microelectronic components in just about everything that has a power cord, telephone line, or coax cable connected to it.

The Model 2000 is a protection system that continuously monitors the atmosphere within a 2 - 10 mile radius. When lightning is detected within that range and, reaches an intensity that is likely to cause equipment damage, the System automatically performs the following functions simultaneously:

1. For equipment/systems that must remain in operation during an electrical storm, the System can initiate the automatic start-up of a stand-by generator and/or switch equipment to a UPS operation. Both of these secondary power sources isolate the equipment from the commercial power source. This mode of operation would remain in effect for 1 - 120 minutes (user selectable) after the last detected lightning strike. Equipment operation is then automatically switched back to normal operation and the stand-by generator shut down.
2. Disconnects/isolates circuits providing power to the AC outlets where selected non-critical, but sensitive equipment is plugged in, from the AC power source, and grounds those outlets for 1 - 120 minutes or until the storm moves a safe distance away. The System then automatically restores all connections and normal equipment operation resumes. This would also include isolating AC power from irrigation systems and non-critical motors.
3. Disconnects/isolates/grounds the control wiring to remote located/operated equipment (i.e. card readers, gate controls, CCTV cameras, pan & tilt units, valves/hopper controls, load cells, etc.) that

connects the remote equipment to a control location. The disconnect/isolate/grounding action can be as short as 0.1 second each time a lightning strike is detected (so, in effect, the equipment remains in operation) to a complete equipment shut-down for 4 hours or until the storm moves a safe distance away, then automatically restores all connections and normal equipment operation resumes. Isolating, then grounding the wiring going to remote located equipment from its associated control equipment, even for short periods (i.e. 0.1 second) each time a lightning strike is detected, assures that any lightning-induced voltage in the wiring is safely dissipated to ground and not fed directly into either the remote-located or control equipment, that would likely cause damage.

4. The protection of intercom and paging systems, telephone equipment, modems and fax machines is also addressed. Each time a nearby lightning strike is detected, the System performs a high speed "interrupt action," which automatically shunts the telephone and/or intercom line to ground for approximately a few milliseconds and then restores. If you are using the telephone when this occurs, it sounds like a "call waiting" click. You do not lose your connection, your equipment, or your hearing from the loud "pop" lightning can cause to be present in a telephone ear-piece or operator headset. In addition the System can automatically switch the telephone, intercom, etc., to operate from a standby power source, such as a UPS, to isolate equipment from damage via AC power wiring. Normal operation is automatically restored once the storm moves a safe distance away.

5. For radio and/or satellite equipment, the System has a coax switching relay that isolates the antenna from the radio transceiver and/or the satellite receiving equipment, including wiring to the motor. The System can either disconnect the equipment (isolate & ground the antenna), or, if operation of the radio or satellite cannot be interrupted, the System can place the equipment on a standby power source, such as a UPS or generator, then isolate and switch the antenna to ground for 0.4 seconds each time a lightning strike is detected. Once the storm is a safe distance away, normal operation resumes.

The System has a continuous, automatic test capability that verifies system operation. If an abnormal operation is detected, the system has a built-in alert for annunciation and can also place connected equipment in the protect mode until the abnormality is corrected. Also, you can push a button and simulate what happens when lightning is detected and test the protect function. In addition, there are LCD/LED indicators to let you see that the system is operational and to indicate when the equipment protection circuitry has been activated.

For More Information, Contact:

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121 Interpark Blvd., Suite 406
San Antonio, TX 78216
(210) 545-7141

www.ildtechnologies.com

CERTIFICATION AND SIGNATURE PAGE

By signing below, I certify that I have reviewed this Solicitation in its entirety, understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid or proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

(Company)

(Authorized Signature)

(Representative Name, Title)

(Phone Number)

(Fax Number)

(Date)

RFQ No. _____

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code §61-5-3*) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: _____

Authorized Signature: _____ Date: _____

State of _____

County of _____, to-wit:

Taken, subscribed, and sworn to before me this ____ day of _____, 20__.

My Commission expires _____, 20__.

AFFIX SEAL HERE

NOTARY PUBLIC _____