

## **ADVERTISEMENT FOR BIDS**

Sealed proposals will be received in the Office of the Purchasing Technician, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina 27834 until 2:00 PM (EDST) on September 24, 2013 and immediately thereafter publicly opened and read for the furnishing of two (2) 55,000 gallon shop fabricated horizontal LNG storage tanks to be installed at the Greenville Utilities Commission's LNG facility in Greenville, NC.

Instructions for submitting bids and complete specifications will be available in the Office of the Purchasing Technician, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina during regular office hours, which are 8:30 AM – 5:00 PM Monday through Friday and at <http://www.guc.com/doing-business-with-us>.

Greenville Utilities Commission reserves the right to reject any or all bids.

## **SECTION I**

### **GENERAL INSTRUCTIONS FOR FORMAL BIDS**

### **RELATED TO THE PURCHASE OF APPARATUS, SUPPLIES,**

### **MATERIALS, AND EQUIPMENT**

#### **1.0 NOTICE TO BIDDERS**

Sealed bids, subject to the conditions made a part hereof, will be received in the Office of the Purchasing Technician, Greenville Utilities Commission, 401 S. Greene Street, Greenville, North Carolina 27834 until 2:00 PM (EDST) on September 24, 2013 the day of opening. **Bids submitted in a fax or e-mail in response to this Invitation for Bids will not be acceptable.**

#### **2.0 STANDARD FORMS REQUIRED**

Each bidder must submit a proposal on the enclosed bid forms. **The bid must be signed by an authorized official of the firm. Return only the attached Proposal Form. Do not return the Advertisement for Bids, Instructions to Bidders or Specifications.**

#### **3.0 PREPARATION OF BID**

Bids must be in sealed envelopes clearly marked on the outside with the name of the bid and the bid opening date and time. Bid shall be addressed to PURCHASING TECHNICIAN, GREENVILLE UTILITIES COMMISSION, 401 S. GREENE STREET, GREENVILLE, NORTH CAROLINA 27834.

#### **4.0 TIME FOR OPENING BIDS**

Bids will be opened promptly and read at the hour and on the date set forth in the advertisement in the Office of the Purchasing Technician, Greenville Utilities Main Office, 401 S. Greene Street, Greenville, North Carolina. Bidders or their authorized agents are invited to be present.

#### **5.0 DEPOSIT**

A deposit is **NOT** required for this bid.

#### **6.0 NC SALES TAX**

Do **not** include NC sales taxes in bid figure; however, Greenville Utilities Commission (GUC) does pay sales tax. Sales tax should be added to the invoice as a separate item.

#### **7.0 FEDERAL EXCISE TAX**

GUC is exempt from Federal Excise Tax and will issue a Federal Exemption Certificate upon request to the successful bidder.

## **8.0 EXCEPTIONS TO BE CLEARLY STATED**

If bid is not in strict accordance with Section II, "Specifications," bidder must list or note all exceptions **on the Request for Proposal Form**, otherwise, it is fully understood that the successful bidder will furnish equipment and/or materials exactly as specified. GUC reserves the right to accept or reject bids with noted minor deviations from specifications and to determine the lowest and best responsible bid from the standpoint of quality, performance, and price.

## **9.0 EVALUATION AND AWARD OF BIDS**

GUC reserves the right to reject any and all bids, to waive any and all informalities, and to disregard all nonconforming or conditional bids or counter proposals. In evaluating bids, GUC shall consider whether the bids comply with the prescribed requirements, plus all alternates or options requested. GUC reserves the right to include or exclude any option or alternative in GUC's opinion is in GUC's best interests. If a bid is to be awarded, it will be awarded to the lowest responsible, responsive bidder whose evaluation by GUC indicates that the award will be in GUC's best interests. Only firm prices will be considered for award of this bid.

## **10.0 PROMPT PAYMENT DISCOUNTS**

Bidders are urged to compute all discounts into the price offered. If a prompt payment discount is offered, it may be considered in the award of the contract.

## **11.0 PROGRESS PAYMENTS**

GUC will consider progress payments to Provider based on predefined milestones. Bidders should include preferred payment terms in bid.

## **12.0 NUMERICAL ERRORS**

In the case of a discrepancy between a unit price and the extension (the unit price multiplied by the number of units), the unit price governs. In the case where numerical bids are stated both in numbers and in words, the words govern.

## **13.0 BID WITHDRAWAL**

A bidder must notify GUC in writing of its request to withdraw a bid within seventy-two (72) hours after the bid opening, not including Saturdays, Sundays, or holidays. In order to justify withdrawal, the bidder must demonstrate that a substantial error exists and that the bid was submitted in good faith.

## **14.0 MINORITY BUSINESS PARTICIPATION PROGRAM**

GUC has adopted an Affirmative Action and Minority and Women Business Enterprise Plan (M/WBE) Program. Firms submitting a proposal are attesting that they also have taken affirmative action to ensure equality of opportunity in all aspects of employment, and to utilize M/WBE suppliers of materials and/or labor.

#### **15.0 DELIVERY TIME**

Delivery time is to be stated and will be considered in the evaluation of bids. GUC endeavors to complete site preparations for receipt of the tanks no later than June 1, 2014.

#### **16.0 MANUFACTURER**

Bidder is to specify the manufacturer of items being quoted.

#### **17.0 CONTACT INFORMATION**

Questions regarding this bid request should be directed to Jonathan Britt, Gas Systems Engineer, (252) 551-2048, [BRITTJN@guc.com](mailto:BRITTJN@guc.com), or Cleve Haddock, Buyer II, Finance/Purchasing Dept. at (252) 551-1533, [haddocgc@guc.com](mailto:haddocgc@guc.com).

#### **18.0 TERMS AND CONDITIONS**

**The attached Terms and Conditions apply to all purchases made by Greenville Utilities Commission (GUC) and must be considered as part of the bid proposal.**

[Balance of page left blank intentionally]

Vendor Name: \_\_\_\_\_

**GREENVILLE UTILITIES COMMISSION**

**PROPOSAL FORM**

The undersigned bidder hereby declares that it has carefully examined the enclosed detailed specifications for furnishing GUC with the below listed item(s). The undersigned bidder further agrees, if this proposal is accepted within thirty (30) days from the date of the opening, to furnish any or all of the item(s) or service(s) upon the quoted price.

Item No.	Est. Qty.	Description	MFG.	Delivery Time (Days)	Unit Price	Total
I	2	55,000 gallon shop fabricated horizontal LNG storage tanks to be installed at the Greenville Utilities Commission's LNG facility in Greenville, NC.	_____	_____	\$ _____	\$ _____
II	2	Delivery to installation site	_____	_____	\$ _____	\$ _____

**Grand Total \$** \_\_\_\_\_

**Method of Award:** Item(s) I-II, will be awarded as a total bid.

**Complete and Check All Math:** It is the responsibility of the Bidder to extend bid prices and supply a total for all item(s).

[Balance of page left blank intentionally]



**GREENVILLE UTILITIES COMMISSION**

**GREENVILLE, NORTH CAROLINA**

**EXCEPTION//VARIATION FORM**

**Provider's Certification:** This is to certify that it is our intent to furnish equipment, material, services, etc. in absolute compliance with the bid specification except where expressly noted below.

**Instructions:** List all exceptions or variations to these bid specifications. Providers shall identify each exception or variation by specification page. The omission of exception or variation information shall be deemed by the Commission as the Provider's intent to absolutely comply with the bid specification. If additional space is required, Provider may reproduce this form as necessary.

<u>Page #</u>	<u>Exception/Variation</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Authorized Signature of Certification: \_\_\_\_\_

Print Name: \_\_\_\_\_

Firm Represented: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

## **SECTION II**

### **TERMS AND CONDITIONS FOR THE PURCHASE OF APPARATUS, SUPPLIES, MATERIALS, EQUIPMENT AND SERVICES**

These Terms and Conditions, made and entered into on this the \_\_\_\_ day of \_\_\_\_\_, by and between GREENVILLE UTILITIES COMMISSION OF THE CITY OF GREENVILLE, PITT COUNTY, NORTH CAROLINA, with one of its principal offices and places of business at 401 S. Greene Street, Post Office Box 1847, Greenville, Pitt County, North Carolina 27835-1847, hereinafter referred to as "GUC" and \_\_\_\_\_, a \_\_\_\_\_ organized and existing under and by virtue of the laws of the State of \_\_\_\_\_, with one of its principal offices and places of business at \_\_\_\_\_, hereinafter referred to as "PROVIDER";

#### **1.0 TAXES**

No taxes shall be included in any bid prices. GUC is exempt from Federal Excise Tax. GUC is not exempt from North Carolina state sales and use tax or, if applicable, Pitt County sales and use tax. Such taxes shall be shown as a separate item on the invoice.

#### **2.0 INVOICES**

It is understood and agreed that orders will be shipped at the established contract prices and quantities in effect on dates orders are placed. Invoicing at variance with this provision may subject the contract to cancellation. Applicable North Carolina sales tax shall be invoiced as a separate line item. All invoices must bear the GUC purchase order number. Mail all invoices to Greenville Utilities Commission, Finance Department, P. O. Box 1847, Greenville, NC 27835-1847.

#### **3.0 PAYMENT TERMS**

Unless otherwise indicated in the purchase agreement, payments for equipment, materials, or supplies will be made after the receipt and acceptance of the equipment, materials, or supplies and after submission of a proper invoice. GUC's normal payment policy is thirty (30) days. GUC will not be responsible for any goods delivered without a purchase order having been issued. Payment will be made in U. S. currency only.

#### **4.0 QUANTITIES**

Quantities specified are only estimates of GUC's requirements. GUC reserves the right to purchase more or less than the stated quantities at prices indicated in the submitted Proposal Form based on our actual needs.

#### **5.0 AFFIRMATIVE ACTION**

The Provider will take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of the handicapped, and concerning the treatment

of all employees, without discrimination by reason of race, color, religion, sex, national origin, or physical handicap.

## **6.0 CONDITION AND PACKAGING**

Unless otherwise indicated in the bid, it is understood and agreed that any item offered or shipped shall be new and in first class condition, that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging.

## **7.0 SAMPLES**

Samples of items, if required, must be furnished free of expense to GUC, and if not destroyed, will, upon request, be returned at the Provider's expense. Request for the return of samples must be made at the bid opening, otherwise, the samples will become GUC's property. Each individual sample must be labeled with Provider's name.

## **8.0 SPECIFICATIONS**

Any deviation from specifications must be clearly pointed out, otherwise, it will be considered that items offered are in strict compliance with specifications, and the Provider will be held responsible. Deviations must be explained in detail. **The Provider shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.**

## **9.0 INFORMATION AND DESCRIPTIVE LITERATURE**

Providers are to furnish all information requested. Further, as may be specified elsewhere, each Provider must submit with its proposal: cuts, sketches, descriptive literature, and/or complete specifications covering the products offered. Reference to literature submitted with a previous bid does not satisfy this provision. Bids which do not comply with these requirements will be subject to rejection.

## **10.0 AWARD OF CONTRACT**

As directed by statute, qualified bids will be evaluated and acceptance made of the lowest responsible, responsive bid most advantageous to GUC as determined upon consideration of such factors as prices offered, the quality of the article(s) offered, the general reputation and performance capabilities of the Provider, substantial conformity with the specifications and other conditions set forth in the bid, the suitability of the article(s) for the intended use, the related services needed, the date(s) of delivery and performance, and such other factors deemed by GUC to be pertinent or peculiar to the purchase in question.

Acceptance of the order includes acceptance of all terms, conditions, prices, delivery instructions, and specifications as shown on this set of Terms and Conditions and in this order or attached to and made a part of this order.

The conditions of this order cannot be modified except by written amendment in the form of "Amended Purchase Order," which has been approved by GUC's Purchasing Technician.

In the event of a Provider's failure to deliver or perform as specified, GUC reserves the right to cancel the order or any part thereof, without prejudice to GUC's other rights. The Provider agrees that GUC may return part of or all of any shipment at Provider's expense. GUC may

charge the Provider with all reasonable expenses resulting from such failure to deliver or perform.

## **11.0 MEDIATION/BINDING ARBITRATION**

In the event of any dispute between the Parties, the Parties agree to submit any dispute to non-binding mediation before a mutually agreeable Mediator prior to initiating litigation. If the Parties are unable to agree upon a Mediator within thirty (30) days after demand therefore, either Party may petition a Court of competent jurisdiction for the designation of a qualified Mediator for these purposes. Each Party shall bear its own costs and expenses of participating in the mediation (including, without limitation, reasonable attorneys' fees), and each Party shall bear one-half (1/2) of the costs and expenses of the Mediator. Unless otherwise agreed, the Parties will hold the mediation in Greenville, North Carolina. The matters discussed or revealed in the mediation session shall not be disclosed in any subsequent litigation.

In the event the matter is not resolved in mediation, either Party may request arbitration. The parties shall jointly select an Arbitrator, and shall be bound by the decision of the Arbitrator with respect to any dispute between the parties with respect to this Agreement. If the parties are unable to mutually agree upon an Arbitrator, the Parties shall each select an Arbitrator, and the two Arbitrators so selected shall select a third Arbitrator, and the decision of the majority of the Arbitrators shall be conclusive and binding upon the Parties. The Parties at all times agree to equally split the costs of any Arbitrator(s) selected in an effort to resolve the dispute between the Parties. Any party desiring to resolve a dispute under the terms of this Agreement shall notify the other Party in writing, and the Parties shall seek to agree upon a mutually agreed-upon Arbitrator within a period of ten (10) days from the date of such written demand. If the Parties are unable to agree within such ten (10) day period, the Parties shall each select an Arbitrator, and the two (2) Arbitrators so selected shall select a third Arbitrator within fifteen (15) days from the date of the written demand for arbitration, and a decision shall be rendered by the Arbitrator(s) so selected within five (5) days after such Arbitrator(s) is selected.

## **12.0 GOVERNMENT RESTRICTIONS**

In the event any Governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship, or performance of the items offered on this bid prior to their delivery, it shall be the responsibility of the successful Provider to notify the GUC Purchasing Technician, at once, indicating in its letter the specific regulation which required such alterations. GUC reserves the right to accept any such alterations, including any price adjustments occasioned thereby, or, in the sole discretion of GUC, to cancel the contract.

## **13.0 INSURANCE**

**13.1 Coverage** – During the term of the contract, the Provider at its sole cost and expense shall provide commercial insurance of such type and with the following coverage and limits:

**13.1.1 Workers' Compensation** – The Provider shall provide and maintain Workers' Compensation Insurance, as required by the laws of North Carolina, as well as employer's liability coverage with minimum limits of \$1,000,000 each accident, covering all Provider's employees who are engaged in any work under the contract. If any work is sublet, the

Provider shall require the subcontractor to provide the same coverage for any of its employees engaged in any work under the contract.

**13.1.2 General Liability** – Commercial Liability Coverage written on an “occurrence” basis in the minimum amount of \$1,000,000 per occurrence.

**13.1.3 Automobile** – Automobile Liability Insurance, to include coverage for all owned, hired, and non-owned vehicles used in connection with the contract with a minimum combined single limit of \$1,000,000 per accident.

**13.2 Requirements** - Providing and maintaining adequate insurance coverage is a material obligation of the Provider. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized to do business in North Carolina by the Commissioner of Insurance. The Provider shall at all times comply with the terms of such insurance policies and all requirements of the insurer under any of such insurance policies, except as they may conflict with existing North Carolina laws or this contract. The limits of coverage under each insurance policy maintained by the Provider shall not be interpreted as limiting the Provider’s liability and obligations under the contract. It is agreed that the coverage as stated shall not be canceled or changed until thirty (30) days after written notice of such termination or alteration has been sent by registered mail to GUC’s Purchasing Technician.

#### **14.0 PATENTS AND COPYRIGHTS**

The Provider shall hold and save GUC, its officers, agents, and employees, harmless from liability of any kind, including costs and expenses, including reasonable attorney fees, on account of any copyrighted articles or any patented or unpatented invention, device or appliance manufactured or used in the performance of this contract.

#### **15.0 PATENT AND COPYRIGHT INDEMNITY**

The Provider will defend or settle, at its own expense, any action brought against GUC to the extent that it is based on a claim that the product(s) provided pursuant to this agreement infringe any U.S. copyright or patent; and will pay those costs, damages, and attorney fees finally awarded against GUC in any such action attributable to any such claim, but such defense, settlements, and payments are conditioned on the following: (1) that Provider shall be notified promptly in writing by GUC of any such claim; (2) that Provider shall have sole control of the defense of any action on such claim and of all negotiations for its settlement or compromise; (3) that GUC shall cooperate with Provider in a reasonable way to facilitate the settlement of defense of such claim; (4) that such claim does not arise from GUC modifications not authorized by the Provider or from the use of combination of products provided by the Provider with products provided by GUC or by others; and (5) should such product(s) become, or in the Provider’s opinion likely to become, the subject of such claim of infringement, then GUC shall permit Provider, at Provider’s option and expense, either to procure for GUC the right to continue using the product(s), or replace or modify the same so that it becomes non-infringing and performs in a substantially similar manner to the original product.

## **16.0 EXCEPTIONS**

All proposals are subject to the terms and conditions outlined herein. All responses will be controlled by such terms and conditions and the submission of other terms and conditions, price catalogs, and other documents as part of a Provider's response will be waived and have no effect on this Request for Proposal or any other contract that may be awarded resulting from this solicitation. The submission of any other terms and conditions by a Provider may be grounds for rejection of the Provider's proposal. The Provider specifically agrees to the terms and conditions set forth in this set of Terms and Conditions by affixing its name on the signatory page contained herein.

## **17.0 CONFIDENTIAL INFORMATION**

Except as provided by statute and rule of law, GUC will keep trade secrets which the Provider does not wish disclosed confidential. Each page shall be identified in boldface at the top and bottom as "CONFIDENTIAL" by the Provider. Cost information shall not be deemed confidential. The determination of whether a matter is confidential will be determined by North Carolina law.

## **18.0 ASSIGNMENT**

No assignment of the Provider's obligations or the Provider's right to receive payment hereunder shall be permitted without the express written consent of GUC, provided however, upon written request approved by the GUC Purchasing Technician, solely as a convenience to the Provider, GUC may:

- Forward the Provider's payment check directly to any person or entity designated by the Provider, and
- Include any person or entity designated by Provider as a joint payee on the Provider's payment check.
- In no event shall such approval and action obligate GUC to anyone other than the Provider, and the Provider shall remain responsible for fulfillment of all contract obligations.

## **19.0 ACCESS TO PERSON AND RECORDS**

GUC shall have reasonable access to persons and records of Provider as a result of all contracts entered into by GUC.

## **20.0 INSPECTION AT BIDDER'S SITE**

GUC reserves the right to inspect, at a reasonable time, the item, plant, or other facilities of a prospective Provider prior to contract award and during the contract term as necessary for GUC's determination that such item, plant, or other facilities conform with the specifications/requirements and are adequate and suitable for the proper and effective performance of the contract. Provider may limit GUC's access to restricted areas.

## **21.0 AVAILABILITY OF FUNDS**

Any and all payments of compensation of this specific transaction and any continuation or any renewal or extension are dependent upon and subject to the allocation of GUC funds for the purpose set forth in this Agreement.

## **22.0 GOVERNING LAWS**

All contracts, transactions, agreements, etc., are made under and shall be governed by and construed in accordance with the laws of the State of North Carolina.

## **23.0 ADMINISTRATIVE CODE**

Bids, proposals, and awards are subject to applicable provisions of the North Carolina Administrative Code.

## **24.0 EXECUTION**

In the discretion of GUC, failure of a duly authorized official of Provider to sign the Signatory Page may render the bid invalid.

## **25.0 CLARIFICATIONS/INTERPRETATIONS**

Any and all questions regarding these Terms and Conditions must be addressed to the GUC Purchasing Technician. Do not contact the user directly. **These Terms and Conditions are a complete statement of the parties' agreement and may only be modified in writing signed by Provider and the GUC Purchasing Technician.**

## **26.0 SITUS**

The place of all contracts, transactions, agreements, their situs and forum, shall be North Carolina, where all matters, whether in contract or tort, relating to the validity, construction, interpretation, and enforcement shall be determined.

## **27.0 TERMINATION OF AGREEMENT**

GUC or Provider may terminate this Agreement for just cause at any time. Provider will be paid for all time and expenses incurred as of the termination date. Termination for just cause by either party shall be by certified letter and shall be effective thirty (30) days after signed and acknowledged receipt of said letter. Just cause shall be based on reasonable grounds, and there must be a fair and honest cause or reason for such action. The causes for termination, include, but are not limited to: (1) Provider's persistent failure to perform in accordance with the Terms and Conditions, (2) Provider's disregard of laws and regulations related to this transaction, and/or (3) Provider's substantial violation of the provisions of the Terms and Conditions.

## **28.0 DELIVERY**

**Shipments will be made only upon releases from a purchase order issued by GUC in accordance with GUC's current needs.**

Delivery of all equipment, materials, or supplies shall be made Free on Board (FOB) GUC LNG Plant, 490 Aqua Lane, Greenville, North Carolina 27834, unless otherwise specified. The agreed price for such equipment, materials, or supplies shall include all costs of delivery and ownership, and risks of loss shall not be transferred from Provider to GUC until express written acceptance of delivery and inspection by GUC. Delivery hours are between 8:00 AM and 4:30 PM Monday-Friday only. **GUC's purchase order number is to be shown on the packing slip or any related documents.** GUC reserves the right to refuse or return any delivery with no purchase order number or which is damaged. GUC will not be charged a restocking fee for any delivery which is refused or returned.

### **29.0 INDEMNITY PROVISION**

Provider agrees to indemnify and save GREENVILLE UTILITIES COMMISSION of the City of Greenville, Pitt County, North Carolina, and the City of Greenville, North Carolina, its co-owners, joint venturers, agents, employees, and insurance carriers harmless from any and all losses, claims, actions, costs, expenses including reasonable attorney fees, judgments, subrogations, or other damages resulting from injury to any person (including injury resulting in death), or damage (including loss or destruction) to property of whatsoever nature of any person arising out of or incident to the performance of the terms of this Contract by Provider, including, but not limited to, Provider's employees, agents, subcontractors, and others designated by Provider to perform work or services in, about, or attendant to, the work and services under the terms of this Contract. Provider shall not be held responsible for any losses, expenses, claims, subrogations, actions, costs, judgments, or other damages, directly, solely, and proximately caused by the negligence of Greenville Utilities Commission of the City of Greenville, Pitt County, North Carolina. Insurance covering this indemnity agreement by the Provider in favor of Greenville Utilities Commission of the City of Greenville, Pitt County, North Carolina, and the City of Greenville, North Carolina, shall be provided by Provider.

### **30.0 FORCE MAJEURE**

Neither party shall be considered in default in the performance of its obligations hereunder to the extent that the performance of any such obligation is prevented or delayed by any cause, existing or future, which is beyond the reasonable control of such party. In any such event of force majeure, the parties shall advise each other of such event, and the parties shall negotiate an equitable adjustment to their respective obligations under this Agreement.

### **31.0 WARRANTY(IES)**

The Provider hereby includes all warranties, whether expressed or implied, including, but not limited to, the Implied Warranty of Merchantability and the Implied Warranty of Fitness for a Particular Purpose.

### **32.0 INTEGRATED CONTRACT**

These Terms and Conditions, Instructions to Bidders, Specifications, and the selected Provider's bid represents the entire contract between the Parties. No verbal or other written agreement(s) shall be held to vary the provisions of this Agreement.

### **33.0 CONTRACT PROVISIONS**

Each of the provisions of these Terms and Conditions shall apply to the full extent permitted by law, and the invalidity in whole or in part of any provision shall not affect the remainder of such provision or any other provisions.

### **34.0 NOTICES**

Notices to the Parties should be sent to the names and addresses specified below:

Jonathan Britt  
Gas Systems Engineer  
Greenville Utilities Commission  
P.O. Box 1847  
Greenville, NC 27835-1847

Cleve Haddock  
Buyer II, Finance/Purchasing Dept.  
Greenville Utilities Commission  
P.O. Box 1847  
Greenville, NC 27835-1847

Vendor Specified on Page 1 of Section III when awarded.

GREENVILLE UTILITIES COMMISSION

By: \_\_\_\_\_  
Anthony C. Cannon

Title: General Manager/CEO  
(Authorized Signatory)

Date: \_\_\_\_\_

Attest: \_\_\_\_\_

Name (Print): Amy Carson Quinn

Title: Executive Secretary

Date: \_\_\_\_\_

(OFFICIAL SEAL)

COMPANY NAME:

By: \_\_\_\_\_

Name (Print): \_\_\_\_\_

Title: \_\_\_\_\_  
(Authorized Signatory)

Date: \_\_\_\_\_

Attest: \_\_\_\_\_

Name (Print): \_\_\_\_\_

Title: Corporate Secretary

Date: \_\_\_\_\_

(CORP. SEAL)

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

By: \_\_\_\_\_  
Jeff W. McCauley

Title: Chief Financial Officer

Date: \_\_\_\_\_

APPROVED AS TO FORM AND LEGAL CONTENT:

By: \_\_\_\_\_  
Phillip R. Dixon

Title: Commission Attorney

Date: \_\_\_\_\_



*Section III  
Specification for*

***SHOP FABRICATED HORIZONTAL  
LNG STORAGE TANK***

*For*

***Greenville Utilities Commission  
Greenville, NC***

*Prepared by*

***Northstar Industries, LLC.  
126 Merrimack Street  
Methuen, MA 01844  
(978) 975-5500  
Fax (978) 975-9975***

**Revision A  
August 5, 2013**



**SPECIFICATION FOR  
SHOP FABRICATED LNG STORAGE  
TANK  
GREENVILLE UTILITIES COMMISSION**

**DATE: 08/05/2013  
PAGE: i  
Rev. A**

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**SPECIFICATION FOR  
SHOP FABRICATED LNG STORAGE  
TANK  
GREENVILLE UTILITIES COMMISSION**

**DATE: 08/05/2013  
PAGE: 1  
Rev. A**

## **1.0 GENERAL CONDITIONS**

This specification, together with all attached documents, covers the requirements for two (2) 55,000 gallon shop fabricated horizontal LNG storage tanks to be installed at the Greenville Utilities Commission's LNG facility in Greenville, NC.

The word "Purchaser" in this specification shall be taken to mean Greenville Utilities Commission(GUC).

The word "Engineer" in this specification shall be taken to mean Northstar Industries, LLC. (Northstar).

The word "Vendor" in this specification shall mean the manufacturer of the tanks. If the Vendor purchases any components and/or subsystems from other suppliers, then it is the Vendor's responsibility to ensure compliance of those components and/or subsystems with the requirements of this specification.

The shop fabricated horizontal LNG storage tank described in this specification shall be designed in accordance with all of the applicable sections, paragraphs, and subparagraphs, not modified herein of the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 "Pressure Vessels"; US DOT 49 CFR Part 193, Liquefied Natural Gas Facilities: Federal Safety Standards; and NFPA 59A, Standard for the Production, Storage, and Handling of Liquefied Natural Gas.

The Vendor shall list all exceptions to this specification in their proposal.

All conflicts between the requirements of this specification, attachments and codes shall be referred to the Engineer for clarification before proceeding with the manufacturing of the affected parts. In general, the codes take precedence over other documents, and secondly, this specification shall govern.



**SPECIFICATION FOR  
SHOP FABRICATED LNG STORAGE  
TANK  
GREENVILLE UTILITIES COMMISSION**

**DATE: 08/05/2013  
PAGE: 2  
Rev. A**

## **1.1 PROJECT PRIMARY CONTACTS**

**Purchaser:** Greenville Utilities Commission  
**Location:** Greenville, NC 27835-1847  
**Address:** 801 Mumford Road/P.O. Box 1847  
**Telephone:** (252) 551-2048  
**Fax:** (252) 551-3303  
**Contact:** Jonathan Britt, Gas System Engineer

**Engineer:** Northstar Industries, LLC  
**Location:** Methuen, MA 01844  
**Address:** 126 Merrimack Street  
**Telephone:** (978) 975-5500 Ext. 234  
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**Contact:** Alexandra Ahlstedt, Process Engineer

## **2.0 BASIC DESIGN**

### **2.1 PROJECT BACKGROUND**

The Greenville Utilities Commission is expanding an existing LNG storage and vaporization facility in Greenville, NC. The facility, commissioned in 1997, and expanded in 2000, currently uses four (4) 55,000-gallon LNG storage tanks. This final phase of expansion will include the addition of two (2) 55,000-gallon LNG storage tanks.

### **2.2 SCOPE OF SUPPLY**

The Vendor's scope of supply shall consist of all equipment and materials described in this specification and shown on attached drawing number GRN-0056-D5.

### **2.3 CODES AND STANDARDS**

The design and manufacturing of the two (2) shop fabricated horizontal LNG storage tanks shall fully comply with the latest versions of the following codes and standards, along with the codes and standards that they reference:

ASME Boiler and Pressure Vessel Code, Section VIII, Division 1



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US DOT 49 CFR Part 193 Liquefied Natural Gas Facilities: Federal Safety Standards,  
Revised as of March 1, 2011.

NFPA 59A Standard for the Production, Storage, and Handling of Liquefied  
Natural Gas (LNG), 2006 Edition.

**2.3 TANK SPECIFICATIONS**

1.	Configuration:	12'-0" Dia., Horizontal Double Wall
2.	Capacity:	
	A. Water Volume:	55,000 Gallons, Min.
	B. Cold Liquid at Trycock:	50,000 Gallons, Min.
3.	Maximum Allowable Working Pressure:	100 psig
4.	Design Temperature Range:	-320°F to 100°F
5.	Required Withdrawal Rate:	150 GPM
6.	Normal Tank Working Pressure:	85 psig
7.	Filling:	Via Commercial Highway Transport
8.	Boiloff Rate:	Not to Exceed 0.25 Percent Per Day
9.	Mounting:	Saddles with Provisions for Anchor Bolts for Installation on Purchaser's Foundation
10.	Support Loads:	Supports must be Designed in Accordance with NFPA 59A
11.	Handling Provisions:	Lifting Lugs to Permit Lifting the Tank into Place
12.	Head of the Tank (End Caps)	The end caps will be stainless steel to prevent cracking.
13.	Paint:	<b>APPLIED BY VENDOR:</b> Surface Preparation: SSPC SP10/NACE 2 Near White Metal Blast Cleaning.  Primer Coat: Tnemec Series 94H20 Hydro- Zinc applied at 2.5 – 3.5 dry mils  <b>APPLIED BY PURCHASER:</b> Field Touch Up: Tnemec Primer Coat Field: Tnemec Intermediate & Top Coats



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## **2.5 TANK DESIGN**

### **2.5.1 General**

The tanks shall be conventional double-walled cryogenic tank with evacuated perlite insulation and internal shell stiffeners.

Inner vessel shall be manufactured and stamped in accordance with ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, for the operating conditions described in Section 2.4 above, and shall be registered with the National Board. Material shall be SA-353/553 Type 1 9% nickel steel.

Outer vessel (vacuum jacket) shall be manufactured of carbon steel, SA-36 or better. It shall be designed per the Compressed Gas Association (CGA) Standard 341, Paragraphs 3.6.2.1, 3.6.2.2, 3.6.2.3, 3.6.2.4, 3.6.2.5, and 3.6.4, except that the shock load factors of Paragraph 3.4 shall not be applicable.

### **2.5.2 Piping and Tubing**

All piping and tubing shall conform to NFPA 59A and ASME/ANSI B31.3. All piping shall be seamless ASTM A312 Grade TP304L and all tubing shall be seamless ASTM A269 Grade TP304L. Piping and tubing shall be formed from continuous lengths of pipe or tubing to the maximum extent practicable. All piping joints that are used shall be welded. Piping more than 2 inches nominal diameter must be joined by butt welding, but piping 2 inches nominal diameter and under may be joined by socket weld fittings. All butt weld fittings shall be ASTM A403 Grade WP304L and all socket weld fittings shall be ASTM A182 Grade F304L. Interface connections between Vendor's and Purchaser's piping shall be made with ANSI Class 300 raised face flanges. All flanges shall be ASTM A182 F304L. All flanged connections shall include spring washers. Piping 2 inches nominal diameter and over shall be schedule 10 as a minimum. Piping under 2 inches nominal diameter shall be schedule 40 as a minimum. Tube fittings, if required, shall only be used external to the LNG storage tank. All tube fittings shall be stainless steel; Swagelok or Engineer approved equal.



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**Tank Nozzles/Connections**

<b>Size</b>	<b>Description</b>
2" NPS	Bottom Fill
2" NPS	Vent/Safety Relief
2" NPS	Top Fill
1/4" NPS	Top Gauge (low pressure)
1/4" NPS	Bottom Gauge (high pressure)
1" NPS	Pressure Build Liquid
1/4" NPS	Full Trycock
3" NPS	Liquid Withdrawal
2" NPS	Pressure Build Vapor
5/8" NPS	Vacuum Gauge
3" NPS	Vacuum Evacuation (2) (including suitable perlite filter)

**2.5.3 Tank Subsystems**

The following subsystems and equipment external to the LNG storage tank shall be included:

1. Manual and pneumatic shut off valves.
2. Pressure building control valve and pressure build coil (coil to be mounted to underside of tank).
3. Boiloff economizer regulator and warming coil (coil to be mounted to underside of tank).

**2.5.4 Valves**

All valves in LNG or LNG vapor service shall be stainless steel rated ANSI Class 300 for cryogenic temperatures and preferred to have socket or butt weld end connections.

Manual block valves (1/2" NPS and over) shall be extended stem Goddard Series S-110 gate valves or Goddard Series S-210 globe valves or Engineer approved equal. Selector valve for tank overpressure protection relief valves shall be a Worcester model C4466PMSWV1 socket weld end diverter ball valve or Engineer approved equal.

All control valves shall have manual block valves located upstream of them in order to isolate them from the LNG storage tank during maintenance. Control valves may have flanged or threaded end connections if weld end connections are not available. Threaded end control valves



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shall be seal welded. All control valves shall fail-safe to the closed position. Tubing and fittings on all control valves shall be stainless steel. Control valves on the top fill and bottom fill lines shall be Fisher model EZ-C flanged globe valves with pneumatic spring-diaphragm type actuators or Engineer approve equal and WestLock Becon limit switches (24VDC model number 2007NBY2E2M0200) to indicate valve position. The emergency shutdown valve (ESV) on the liquid withdrawal line shall be a Worcester model C466P wafer ball valve with spring return pneumatic actuator or Engineer approved equal with WestLock Becon limit switches (24VDC model number 2007NBY2E2M0200) to indicate open and closed valve position. The emergency shutdown valve (ESV) on the vent/boiloff vapor line shall be a Worcester model C4466P socket weld ball valve with spring return pneumatic actuator or Engineer approved equal with WestLock Becon limit switches (24VDC model number 2007NBY2E2M0200) to indicate open and closed valve position. The pressure control valve on the pressure build line shall be an extended stem CASHCO model 2266-5, with NPT female pipe thread end, globe valve with a pneumatic spring-diaphragm type actuator or Engineer approved equal. Local pneumatic shut off controls for all control valves shall be located on a panel near the front of the LNG storage tank.

All valves in instrument air service or used for instrumentation isolation shall be Swagelok valves constructed of stainless steel or Engineer approved equal.

### **2.5.5 Relief Valves**

All relief valves in LNG or LNG vapor service shall be rated for cryogenic temperatures with threaded or flanged end connections. Thermal expansion relief valves shall be installed in any section of a liquid or cold vapor pipe that can be isolated by valves. These relief valves shall be Flow Safe F84M Series micro safety relief valves constructed of stainless steel or Engineer approved equal. LNG storage tank primary and secondary overpressure protection relief valves shall be sized in accordance with NFPA 59A, Chapter 4, Section 4-8. LNG vapor relief valves (primary and secondary tank relief valves and also the pressure build coil outlet relief valve) shall be Flow Safe Type F8000 Pilot Operated Safety Relief Valve, 1" FNPT Inlet Connection x – 2" FNPT Outlet Connections with ANSI Class 150 stainless steel raised face flanges.

### **2.5.6 Boiloff Handling System**

The boiloff handling system shall consist of a backpressure economizer regulator and aluminum finned warming coil. The backpressure economizer regulator shall be a ¾" Cash-ACME stainless steel body regulator rated for cryogenic temperatures or Engineer approved equal. The outlet of the aluminum finned warming coil shall be provided with an ANSI Class 300 stainless steel raised face flange. The boiloff handling system shall be sized to handle the capacity



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required due to an upset condition. The upset condition shall be, as a minimum, twice the normal maximum boiloff rate.

### **2.5.7 Pressure Build System**

The pressure build system shall consist of the pressure build control valve, pneumatic pressure controller and aluminum-finned pressure build coil. The control valve shall be a CASHCO model 2266-5 linear or equal percentage globe valve with a pneumatic spring-diaphragm type actuator or Engineer approved equal. The pneumatic controller shall be a CASHCO 764P or equal controller with proportional and integral control options or Engineer approved equal.

## **2.6 TESTING AND DOCUMENTATION**

1. In addition to testing required by the ASME Code, the tanks shall be helium mass spectrometer tested for vacuum tightness of inner and outer vessels.
2. The Vendor shall furnish to the Engineer the Code U1-A Form and Certificate(s) of mass spectrometer and piping tests.
3. All weld type pipe joints in cryogenic service shall be 100% radiographically tested in accordance with NFPA 59A Chapter 9.
4. At time of shipment, Vendor shall submit to the Engineer five (5) copies of all tank documentation. The documentation shall consist of copies of the following information, as a minimum:
  - Correspondence between Vendor and Engineer or Purchaser,
  - LNG storage tank's and subsystem's design data,
  - Design and/or approval drawings,
  - Certificate of compliance,
  - Vendor welding procedure,
  - Weld identification drawings,
  - Vendor Welder Qualifications
  - Pressure and NDT test reports, and
  - Equipment data and O&M manuals for all equipment and subsystems purchased.



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### **3.0 ATTACHMENTS**

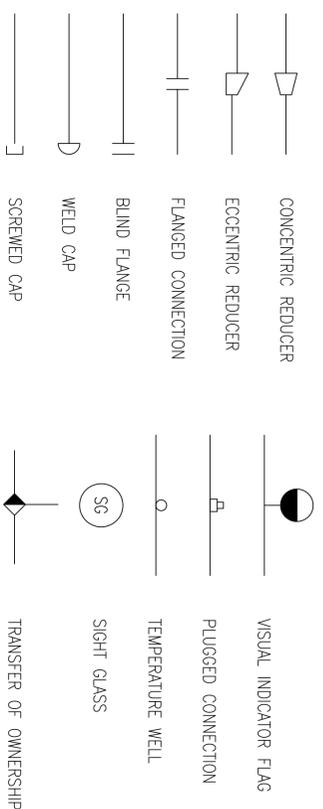
- Drawing No. GRN0056-D5, Piping and Instrumentation Diagram for LNG Tank Procurement
- Drawing No. GRN0056-L3, Piping and Instrumentation Diagram Symbols and Instrumentation Index

### **4.0 WARRANTY**

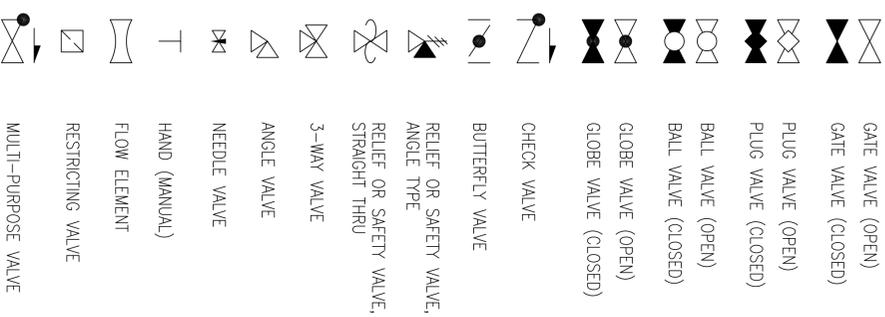
- Vacuum: Vacuum not to exceed 100 microns warm prior to in service date if within 12 months after shipment and 100 microns cold 12 months after in service date if in service within 12 months after shipment.
- General: Vendor to warrant materials and workmanship for a period of eighteen (18) months from date of shipment or twelve (12) months after date placed in-service.



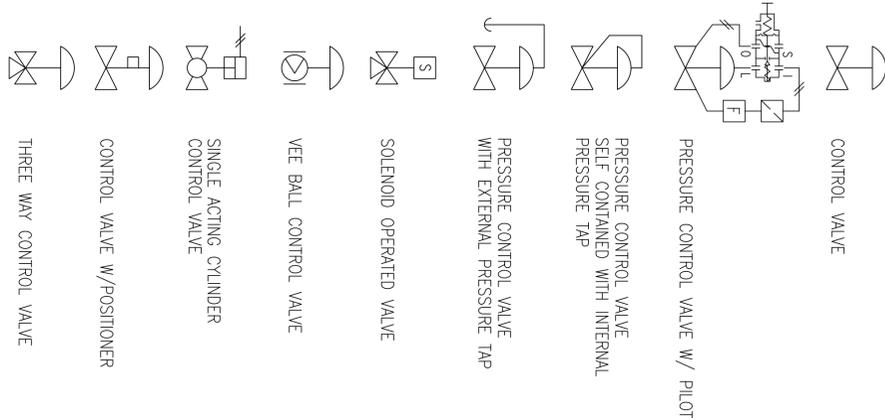
**PIPING SYMBOLS**



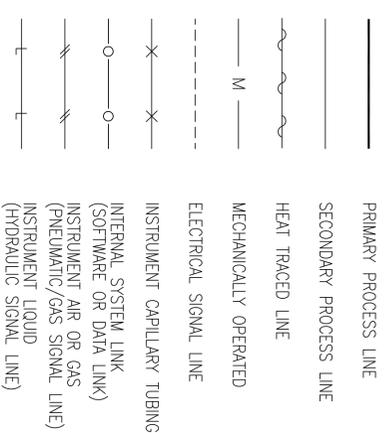
**GENERAL VALVE SYMBOLS**



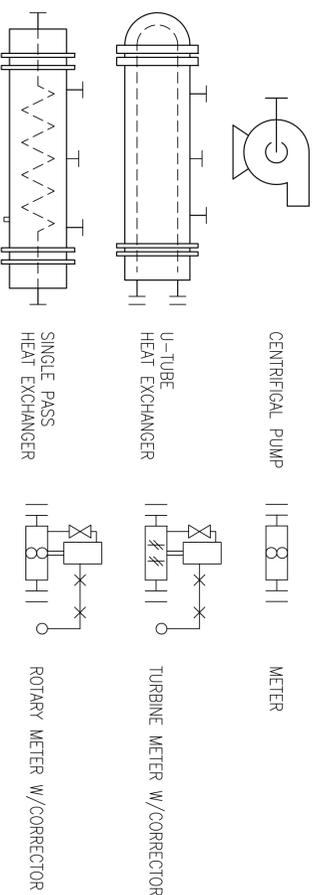
**CONTROL VALVE SYMBOLS**



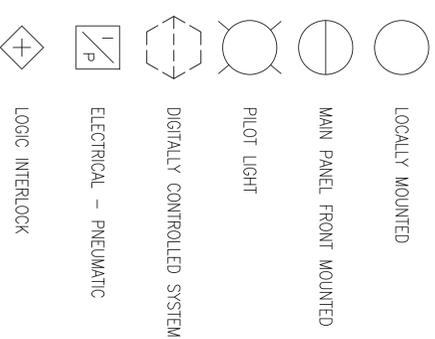
**PIPING & INSTRUMENTATION LINES**



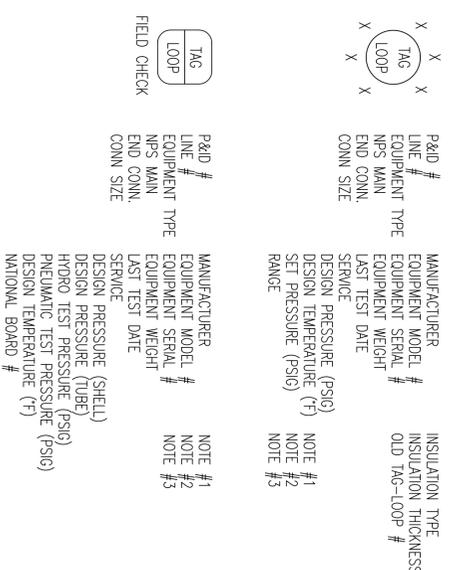
**EQUIPMENT SYMBOLS**



**CONTROL PANEL DESIGNATIONS**



**ATTRIBUTE DATA**



**GENERAL P & ID ABBREVIATIONS**

AI	ANALOG INPUT	PIC	PRESSURE INDICATOR CONTROLLER
AO	ANALOG OUTPUT	PI	PRESSURE INDICATOR TRANSMITTER
CSC	CAR SEAL CLOSED	PCV	PRESSURE CONTROL VALVE
C50	CAR SEAL OPEN	PSIG	POUNDS PER SQUARE INCH-GAUGE
CGD	COMBUSTIBLE GAS DETECTOR	PS	PRESSURE SWITCH
CV	CHECK VALVE	PSH	PRESSURE SWITCH (HIGH)
CVD	COMBUSTIBLE VAPOR DETECTOR	PSL	PRESSURE SWITCH (LOW)
D	DRAIN	PT	PRESSURE TRANSMITTER
DI	DISCRETE INPUT	RD	RUPTURE DISC
DO	DISCRETE OUTPUT	RTU	REMOTE TERMINAL UNIT
DPI	DIFFERENTIAL PRESSURE INDICATOR	RV	RELIEF VALVE
DPT	DIFFERENTIAL PRESSURE TRANSMITTER	SS	SHUT OFF SWITCH
ESD	EMERGENCY SHUTDOWN	STI	SMART TRANSMITTER
FCV	FLOW CONTROL VALVE	STR	STRAINER
FI	FLOW INDICATOR	TC	TEMPERATURE CONTROLLER
FIG	FLOW INDICATOR CONTROLLER	TCV	TEMPERATURE CONTROLLER VALVE
FLSW	FLOW SWITCH	TE	TEMPERATURE ELEMENT
HD	HEAT DETECTOR	TH	THERMOMETER
HTR	HEATER	TI	TEMPERATURE INDICATOR
HX	HEAT EXCHANGER	TIC	TEMPERATURE INDICATOR CONTROLLER
I/B	INSIDE BUILDING	TIT	TEMPERATURE INDICATOR TRANSMITTER
LI	LEVEL INDICATOR	TSH	TEMPERATURE SWITCH (HIGH)
LWC	LOW WATER CUTOFF	TT	TEMPERATURE TRANSMITTER
LC	LOCKED CLOSED	TW	TEMPERATURE WELL
LO	LOCKED OPEN	UV	ULTRAVIOLET SENSOR
NC	NORMALLY CLOSED	VFD	VARIABLE FREQUENCY DRIVE
NO	NORMALLY OPEN	V	VENT
O/B	OUTSIDE BUILDING	VS	VENT STACK
MR	MANUAL RESET	WC	WATER COLUMN
PB	PUSH BUTTON		
PI	PRESSURE INDICATOR		

P&ID NO. 0056 DATE: 5/14/02 DRAWN BY: J. SCARLON CHECKED BY: J. SCARLON PROJECT: SATELLITE LING FACILITY LOCATION: GREENVILLE, NC		PRODUCT NO. GRN-0056 DATE: 5/29/01 DRAWN BY: J. SCARLON CHECKED BY: J. SCARLON PROJECT: SATELLITE LING FACILITY LOCATION: GREENVILLE, NC		THIS DRAWING IS UNDESIGNED TO THE REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND IS NOT TO BE USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF THE DESIGNER.		
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