



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

Public Works Government Services Canada- Bid  
Receiving / Réception des soumissions  
189 Prince William Street  
Room 405  
Saint John  
New Brunswick  
E2L 2B9  
Bid Fax: (506) 636-4376

**INVITATION TO TENDER**

**APPEL D'OFFRES**

**Tender To: Public Works and Government Services  
Canada**

We hereby offer to sell to Her Majesty the Queen in right of  
Canada, in accordance with the terms and conditions set  
out herein, referred to herein or attached hereto, the goods,  
services, and construction listed herein and on any attached  
sheets at the price(s) set out therefor.

**Soumission aux: Travaux Publics et Services  
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la  
Reine du chef du Canada, aux conditions énoncées ou  
incluses par référence dans la présente et aux annexes  
ci-jointes, les biens, services et construction énumérés  
ici et sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaires**

All enquiries are to be submitted in writing to the  
Contracting Authority, Darlene Reay, either by  
facsimile or by e-mail at: darlene.reay@pwgsc.gc.ca.

**Vendor/Firm Name and Address**

Raison sociale et adresse du  
fournisseur/de l'entrepreneur

**Issuing Office - Bureau de distribution**

Public Works Government Services Canada- Bid  
Receiving / Réception des soumissions  
189 Prince William Street  
Room 405  
Saint John  
New Bruns  
E2L 2B9

<b>Title - Sujet</b> MAINTENANCE SERVICES-OPERATIONAL	
<b>Solicitation No. - N° de l'invitation</b> W6898-180100/A	<b>Date</b> 2018-03-14
<b>Client Reference No. - N° de référence du client</b> W6898-180100	<b>GETS Ref. No. - N° de réf. de SEAG</b> PW-\$PWB-021-4301
<b>File No. - N° de dossier</b> PWB-7-40165 (021)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2018-04-05</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Atlantic Daylight Saving Time ADT	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Reay, Darlene	<b>Buyer Id - Id de l'acheteur</b> pwb021
<b>Telephone No. - N° de téléphone</b> (902) 314-7957 ( )	<b>FAX No. - N° de FAX</b> (506) 636-4376
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> DEPARTMENT OF NATIONAL DEFENCE 5 CDSB GAGETOWN 17000, B18, 238 CHAMPLAIN AVENUE OROMOCTO New Brunswick E2V4J5 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

**MAINTENANCE SERVICES –  
OPERATIONAL INSPECTION, MAINTENANCE AND  
REPAIRS OF PRESSURE VESSELS,  
5 CDSB GAGETOWN, N.B.**

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Security Requirements**

Not applicable.

### **1.2 Requirement**

The Work covered under this Service Contract comprises the furnishing of all supervision, labour, material, tools and equipment required to provide inspections, maintenance and repairs on Pressure Vessels listed in Annex A Pressure Vessel Inventory, various buildings at 5CDSB Gagetown, Oromocto, New Brunswick as specified herein.

This Service Contract will extend from May 1, 2018 to March 31, 2019 with two (2) one (1) year option periods. The services must be provided in accordance with the Specification attached at Annex "F".

### **1.3 Debriefings**

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

### **1.4 Trade Agreements**

The requirement is subject to the provisions of the Canada Free Trade Agreement (CFTA).

## **PART 2 - BIDDER INSTRUCTIONS**

### **2.1 Standard Instructions, Clauses and Conditions**

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-andguidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

#### **2.1.1 SACC Manual Clauses**

##### **C9000T - Pricing (2010-08-16)**

### **2.2 Submission of Bids**

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

#### **NOTE: THIS IS NOT A PUBLIC OPENING**

##### **2.2.1 Improvement of Requirement During Solicitation Period**

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least 7 days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

*(Derived from - Provenant de: A9076T, 2007/05/25 )*

### **2.3 Former Public Servant A3025T (2014-06-26)**

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid nonresponsive.

#### ***Definitions***

For the purposes of this clause, "former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the *Public Service Superannuation Act*

(PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits*

*Act*, R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the

*Canadian Forces Superannuation Act*, R.S., 1985, c. C-17, the *Defence Services Pension Continuation*

*Act*, 1970, c. D-3, the *Royal Canadian Mounted Police Pension Continuation Act*, 1970, c. R-10, and the

*Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c. R-11, the *Members of Parliament*

*Retiring Allowances Act*, R.S. 1985, c. M-5, and that portion of pension payable to the *Canada Pension*

*Plan Act*, R.S., 1985, c. C-8.

### ***Former Public Servant in Receipt of a Pension***

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes** (  ) **No** (  )

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

- a. name of former public servant;
  - b. date of termination of employment or retirement from the Public Service.
- By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

### **Work Force Adjustment Directive**

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes** (  ) **No** (  )

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

### **2.4 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) calendar days before the bid closing date. Enquiries received after that time may not be answered. Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request

that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

## **2.5 Applicable Laws**

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in N.B. Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

## **2.6 Insurance Requirements – G1007T (2011-05-16)**

The Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in Annex “C”. If the information is not provided in the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

## **2.7 Workers Compensation Certification - Letter of Good Standing – A0285T (2012-07-16)**

The Bidder must have an account in good standing with the applicable provincial or territorial Workers' Compensation Board.

The Bidder must provide, within three (3) days following a request from the Contracting Authority, a certificate or letter from the applicable Workers' Compensation Board confirming the Bidder's good standing account. Failure to comply with the request may result in the bid being declared nonresponsive.

## **PART 3 - BID PREPARATION INSTRUCTIONS**

### **3.1 Bid Preparation Instructions**

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

It is required that the bids follow the response format/instructions as detailed below:

## **Section I: Technical Bid**

No Technical Bid required as part of this requirement.

## **Section II: Financial Bid**

Bidders must submit their financial bid in accordance with Annex "B" Basis of Payment. The total amount of Applicable Taxes must be shown separately.

## **Section III: Certifications**

Bidders must submit the certifications and additional information required under Part 5.

### **3.1.1 Electronic Payment of Invoices – Bid**

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "E" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "E" Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **4.1 Evaluation Procedures and Basis of Selection**

Bids will be evaluated in accordance with the **Evaluation Criteria and Basis of Selection** specified in **Annex "A"** and **Basis of Payment** specified in **Annex "B"**. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.

#### **4.1.2 Financial Evaluation**

*SACC Manual* Clause A0220T (2014/06/26), Evaluation of Price - Bid

#### **4.2 Basis of Selection**

A bid must comply with all requirements of the bid solicitation to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

*(Derived from - Provenant de: A0069T, 2007/05/25 )*

## **PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION**

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

### **5.1 Certifications Required with the Bid**

Bidders must submit the following duly completed certifications as part of their bid.

#### **5.1.1 Integrity Provisions - Declaration of Convicted Offences**

In accordance with the *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, to be given further consideration in the procurement process.

### **5.2 Certifications Precedent to Contract Award and Additional Information**

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

#### **5.2.1 Integrity Provisions – Required Documentation**

In accordance with the *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

## **5.2.2 Federal Contractors Program for Employment Equity - Bid Certification**

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website ([http://www.esdc.gc.ca/en/jobs/workplace/human\\_rights/employment\\_equity/federal\\_contractor\\_program.page?&\\_ga=1.229006812.1158694905.1413548969](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969)).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

## **PART 6 - RESULTING CONTRACT CLAUSES**

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### **6.1 Security Requirements**

Not applicable.

### **6.2 Requirement**

The Contractor must perform the Work in accordance with the Statement of Work at Annex "F".

### **6.3 Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standardacquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

#### **6.3.1 General Conditions**

2010C (2016-04-04), General Conditions - Services (Medium Complexity) apply to and form part of the Contract.

## **6.4 Term of Contract**

### **6.4.1 Period of the Contract**

This Service Contract will extend from May1, 2018 to March 31, 2019.

### **6.4.2 Option to Extend the Contract**

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to two (2) additional one (1) year period(s) under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least thirty (30) calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

## **6.5 Authorities**

### **6.5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Name: Darlene Reay  
Title: Supply Officer  
Organization: Public Works and Government Services Canada  
Acquisitions Branch Directorate:  
Real Property Contracting  
Address: 3 Queen Street  
Charlottetown, Prince Edward Island  
C1A 4A2  
  
Telephone: 902-314-7957  
Facsimile: 902-566-7514  
E-mail address: [darlene.reay@pwgsc.gc.ca](mailto:darlene.reay@pwgsc.gc.ca)

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

## 6.5.2 Project Authority

The Project Authority for the Contract is: *Will be made available at time of award*

Name:

Title:

Organization:

Address:

Telephone :

Facsimile:

E-mail address:

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

## 6.5.3 Contractor's Representative

Name:

Title:

Organization:

Address:

Telephone :

Facsimile:

E-mail address:

## 6.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a *Public Service Superannuation Act* (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

## 6.7 Payment

### 6.7.1 Basis of Payment

Basis of payment is in accordance with Annex "B" and section 12, Payment Period, of the 2010C (2016-04-04), General Conditions - Services (Medium Complexity).

## **6.7.2 Limitation of Price**

*SACC Manual* clause C6000C (2011-05-16) Limitation of Price

## **6.7.3 Monthly Payment**

*SACC Manual* clause H1008C (2008-05-12) Monthly Payment

## **6.7.4 Electronic Payment of Invoices – Contract**

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);
- f. Large Value Transfer System (LVTS) (Over \$25M)

## **6.8 Invoicing Instructions**

The Contractor must submit invoices in accordance with the information required in section 10, Invoice Submission, of the 2010C (2016-04-04), General Conditions - Services (Medium Complexity).

## **6.9 Certifications and Additional Information**

### **6.9.1 Compliance**

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

## **6.10 Applicable Laws**

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in New Brunswick.

## **6.11 Priority of Documents**

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions 2010C (2016-04-04)
- (c) Annex F, Requirement;
- (d) the Contractor's bid dated \_\_\_\_\_

## **6.12 SACC Manual Clauses**

SACC Manual Clause A0285C (2007-05-25) Workers Compensation (2007-05-25)  
SACC Manual Clause A2000C (2006-06-16) Foreign Nationals (Canadian Contractor)  
SACC Manual Clause A2001C (2006-06-16) Foreign Nationals (Foreign Contractor)

## **6.13 Insurance Requirements**

The Contractor must comply with the insurance requirements specified in Annex "C". The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract. The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within three (3) days after request from the Contracting Authority and prior to award of Service Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. Coverage must be placed with an Insurer licensed to carry out business in Canada. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

## **ANNEX "A"**

### **EVALUATION CRITERIA AND BASIS OF SELECTION**

Bids received will be assessed in accordance with the entire requirement of the bid solicitation.

#### **Mandatory Criteria**

1. Submission of firm prices/rates for one (1) year including two (2) option years in accordance with Invitation to Tender.
2. A duly completed and signed Invitation to Tender including all Addenda.
3. Within six (6) days of request from contracting authority and prior to award of Service Contract, provide proof that Bidder has an account in good standing with the Provincial Workers Compensation Board/Commission.
4. Within six (6) days of request from Contracting Authority and prior to award of the Service Contract, Contractor must provide proof of \$2 Million General Liability Insurance.

#### Within six days of request from Contracting Authority and prior to award of the Service Contract

5. The Contractor will be an established company with minimum five (5) years experience dealing with maintenance and repairs of Pressure Vessels. Proof of experience must be forwarded to the Engineer prior to award of this Service Contract.
6. Work requested under this contract will be performed by a qualified Steamfitter/Pipefitter licensed in the province of New Brunswick in the performance of tearing down and assembly of Pressure Vessels. A minimum of six (6) licensed tradesman will be required to meet the requirement of this contract. Proof of license for each employee shall be provided prior to award of contract.
7. Work requiring Ultra Sonic Examination will require proof of qualifications before performing any scan.

#### **2. 2007/05/25 A0069T Basis of Selection - Mandatory Requirements Only**

A bid must comply with all requirements of the bid solicitation to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

## **ANNEX "B"**

### **Basis of Payment**

The following requirement must be strictly adhered to: **Failure to do so shall render the bidder's proposal as non-responsive.**

It is mandatory that the bidders submit firm rates for the Period of the Service Contract for all items listed hereafter. Unit Price Tables, will be considered as the bidder's Financial Proposal.

Each item specified in the Unit Price Tables, includes wages, traveling time and costs, allowances, supervision, liabilities as employer, insurance, and the use of all tools, tackle, etc., overhead, profit, and all other liabilities whatsoever.

The prices inserted in the Unit Price Tables, includes all applicable federal, provincial and municipal taxes. However, they do not include any amount for the Goods and Services Tax (GST)/Harmonized Sales Tax (HST). The appropriate GST/HST amounts will be paid by Her Majesty to the Offeror in addition to the amount paid against the amount of the contract.

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**The estimated quantity entered in column four for each item is an estimate only for service as and when required and does not infer all the quantities for that item will be utilized or that the quantities may not be exceeded.  
NOTE: TENDERS WILL BE EVALUATED ON THE TOTAL BID FOR THE FIRST TERM OF THE CONTRACT PLUS THE OPTION YEARS. HOWEVER, ANY CONTRACT AWARD WILL BE – MAY 1, 2018 TO MARCH 31, 2019.**

Item	Class of Service	Unit of Measure	Estimated Quantity	A Term – May 1, 2018 to March 31, 2019		B Option Year April 1, 2019, to March 31, 2020		C Option Year April 1, 2020, to March 31, 2021	
				Price per Unit	Total	Price per Unit	Total	Price per Unit	Total
1	Unit rate to perform Inspection and Maintenance on Heat Exchangers in accordance with Annex B (Internal Heat Exchanger). The price to include all material, labour and on site supervision (Annex G ,On site Supervisor). Work to commence the June 01 and be completed by July 15.	Inspection	60						
2	Unit rate to perform Inspection and Maintenance on DHWT in accordance with Annex C (Internal Domestic Hot Water Tank). The price per unit includes all material, labour and on site supervision (Annex G). This work will be completed in the month of December.	Inspection	30						

Item	Class of Service	Unit of Measure	Estimated Quantity	A Term – May 1, 2018 to March 31, 2019		B Option Year April 1, 2019, to March 31, 2020		C Option Year April 1, 2020, to March 31, 2021	
				Price per Unit	Total	Price per Unit	Total	Price per Unit	Total
3	Unit rate to perform Inspection and Maintenance on Air Receiver Tanks in accordance with Annex D (Internal Air Receiver Tank). The price per unit includes all material, labour. This work will be completed in the month of July.	Inspection	10						
4	Unit rate to perform Inspection and Maintenance on Expansion Tanks in accordance with Annex E (Internal Expansion Tank). The price per unit includes all material, labour. This work will be completed in the month of July.	Inspection	15						
5	Unit rate to perform start-up of Heat Exchangers in accordance with Annex H. The price per unit includes all labour and on site supervision (Annex G). This work will start approximately the first of October.	per	60						

Item	Class of Service	Unit of Measure	Estimated Quantity	A Term – May 1, 2018 to March 31, 2019		B Option Year April 1, 2019, to March 31, 2020		C Option Year April 1, 2020, to March 31, 2021	
				Price per Unit	Total	Price per Unit	Total	Price per Unit	Total
6	Unit rate to perform heat torque of Heat Exchangers after initial start-up has been completed. Work to be in accordance with Annex I. This work will be completed when requested by the Engineer throughout the heating season.	Per	120						
7	Unit rate for licensed Steamfitter/Pipefitter for service calls during normal working hours (0730 hrs to 1600 hrs Monday to Friday).	Hour	100						
8	Unit rate for licensed Steamfitter/Pipefitter for service calls after normal working hours.	Hour	20						
9	Unit rate for Trades Helper to assist Steamfitter/Pipefitter if required during normal working hours.	Hour	40						

Item	Class of Service	Unit of Measure	Estimated Quantity	A Term – May 1, 2018 to March 31, 2019		B Option Year April 1, 2019, to March 31, 2020		C Option Year April 1, 2020, to March 31, 2021	
				Price per Unit	Total	Price per Unit	Total	Price per Unit	Total
10	Unit rate for Ultra Sonic Examination to include complete Field Inspection and Ultra Sonic Examination Reports. Contractor will be required to make all arrangements and accompany Ultra Sonic Examination personnel. Proof of qualification to perform scans will be required prior to award of contract.	Hour	80						
11	All material will be invoiced at the Contractors wholesale cost, plus a percentage of mark-up. For tendering purposes, the Contractor will submit their percent of mark-up on material estimated at \$10,000. The Contractor is to submit a percent of mark-up for tendering purposes.	Allowance	\$10,000.00	Mark-up _____ % = \$ _____	Allowance + Mark-up = \$ _____	Mark-up _____ % = \$ _____	Allowance + Mark-up = \$ _____	Mark-up _____ % = \$ _____	Allowance + Mark-up = \$ _____

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Client Ref. No. - N° de réf. du client  
W6898-180100/A

And. No. - N° de la modif.  
File No. - N° du dossier  
pwb-7-40165

Buyer ID - Id de l'acheteur  
pwb021  
CCC No./N° CCC - FMS No./N° VME

Item	Class of Service	Unit of Measure	Estimated Quantity	A Term - May 1, 2018 to March 31, 2019		B Option Year April 1, 2019, to March 31, 2020		C Option Year April 1, 2020, to March 31, 2021	
				Price per Unit	Total	Price per Unit	Total	Price per Unit	Total
12	When a requirement for a trade not listed above in the Estimated Quantities, the Engineer will review with the Contractor and authorize a sub contractor for this work. When invoicing the contractor will submit a copy of the time and materials plus a 10% mark-up.	Allowance	\$20,000.00	Mark-up 10 % = \$2,000.00	Allowance + Mark-up = \$22,000.00	Mark-up 10 % = \$2,000.00	Allowance + Mark-up = \$22,000.00	Mark-up 10 % = \$2,000.00	Allowance + Mark-up = \$22,000.00

**TOTAL FOR FIRST TERM AND OPTION YEARS** \$ \_\_\_\_\_ **A** \$ \_\_\_\_\_ **B** \$ \_\_\_\_\_ **C**

**TOTAL** \$ \_\_\_\_\_ **A, B and C**

## ANNEX "C" INSURANCE REQUIREMENTS

### Commercial General Liability Insurance

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability policy must include the following:
  - a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Department of National Defence.
  - b. Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
  - c. Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
  - d. Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
  - e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
  - f. Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
  - g. Employees and, if applicable, Volunteers must be included as Additional Insured.
  - h. Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)

- i. Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
- j. Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
- k. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
- l. Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
- m. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.
- n. Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.

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pwb021  
CCC No./N° CCC - FMS No./N° VME

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## **ANNEX "D"**

### **Complete List of Each Individual Who is Currently on the Board of Directors**

#### ***NOTE TO BIDDERS***

***WRITE DIRECTORS SURNAMES AND GIVEN NAMES IN BLOCK LETTERS***

## **ANNEX “E” to PART 3 OF THE BID SOLICITATION**

### **ELECTRONIC PAYMENT INSTRUMENTS**

The Bidder accepts any of the following Electronic Payment Instrument(s):

- VISA Acquisition Card;
- MasterCard Acquisition Card;
- Direct Deposit (Domestic and International);
- Electronic Data Interchange (EDI);
- Wire Transfer (International Only);
- Large Value Transfer System (LVTS) (Over \$25M)

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## **ANNEX "F" SPECIFICATION**



**DEPARTMENT OF NATIONAL DEFENCE  
REAL PROPERTY OPERATIONS  
DETACHMENT (GAGETOWN)  
5 CDSB GAGETOWN**

**SPECIFICATION**

**SERVICE CONTRACT  
OPERATIONAL INSPECTION, MAINTENANCE AND  
REPAIRS OF PRESSURE VESSELS,  
5 CDSB GAGETOWN  
01 APRIL 2018 TO 31 MARCH 2019  
WITH TWO ONE YEAR OPTIONS TO RENEW**

**Designed by**

**Fire Inspector**

**Project O**

**Engineering O**

**PF No:**

**Job No:** L-G2-9900 /1781

**Date:** 2017-11-01

<u>Section</u>	<u>Title</u>	<u>Pages</u>
<u>DIVISION 00</u>	<u>Procurement and Contracting Requirements</u>	
00 21 13	Instructions to Bidder	6
<u>DIVISION 01</u>	<u>General</u>	
01 35 30	Health and Safety Requirements	2
01 35 35	DND Fire Safety Requirements	3
01 35 43	Environmental Procedures	1
<u>List of Annexes</u>		
Annex A	Pressure Vessel Inventory	5
Annex B	Internal Heat Exchanger	1
Annex C	Internal Domestic Hot Water Tank	1
Annex D	Internal Air Receiver Tank	1
Annex E	Internal Expansion Tank	1
Annex F	Info Sheet	1
Annex G	On Site Supervisor	1
Annex H	Start-up Heat Exchanger	1
Annex I	Inspection Sheet Heat Exchanger	1
Annex J	Basis of Payment	3

**END OF SECTION**

## 1 GENERAL

### 1.01 DESCRIPTION OF WORK

- .1 The Work covered under this Service Contract comprises the furnishing of all supervision, labour, material, tools and equipment required to provide inspections, maintenance and repairs on Pressure Vessels listed in Annex A Pressure Vessel Inventory, various buildings at 5 CDSB Gagetown, Oromocto, New Brunswick; as specified herein.
- .2 The work includes the:
  - .1 Inspection and maintenance of Heat Exchangers scheduled by the Engineer. Work will be performed in accordance with Annex B, Internal Heat Exchanger.
  - .2 Inspection and maintenance of Domestic Hot Water Tanks (DHWT) scheduled by the Engineer. Work will be performed in accordance with Annex C, DHWT Internal.
  - .3 Inspection and maintenance of Air Receiver Tanks scheduled by the Engineer. Work will be performed in accordance with Annex D, Internal Air Receiver Tank.
  - .4 Inspection and maintenance of Expansion Tanks scheduled by the Engineer. Work will be performed in accordance with Annex E, Internal Expansion Tank SOP.
  - .5 Start up of Heat Exchanger scheduled by the Engineer. Work will be performed in accordance with Annex H, Start-up of Heat Exchangers.
  - .6 Heat torque of Heat Exchangers after initial start up. Work will be performed in accordance with Annex I, Inspection Heat Exchanger.
  - .7 A list of scheduled Heat Exchangers to be completed that year will be provided to the Contractor in April to allow for site visits and material ordering.
  - .8 The work period to inspect and close up Heat Exchangers will be from end of May (after Heating Plant shut down) to end of July.
  - .9 Provision of one (1) On Site Supervisor to control work scheduled by the Engineer. This person will not be part of the licensed working team but will perform duties in accordance with Annex G, On-Site Supervisor. This will be required for Internal Heat Exchangers (Annex B), Internal DHWT (Annex C) and Start-up Heat Exchanger (Annex H).  
**Note: The on site Supervisor cost will be included in the price per unit.**

### 1.02 DURATION OF CONTRACT

- .1 This Service Contract will extend from 01 April 2018 to 31 March 2019 with 2 one year options.

### 1.03 REFERENCES

- .1 New Brunswick Pressure Boiler and Pressure Vessel Act.
- .2 The Boiler Pressure and Pressure Piping Code (CSA B51-03)
- .3 The New Brunswick Occupational Health and Safety Act, 1991.
- .4 Manufacture Specifications.

- .5 Canada Labour Code Part 2

#### **1.04 QUALIFICATIONS**

- .1 The Contractor will be an established company with minimum five (5) years experience dealing with maintenance and repairs of Pressure Vessels. Proof of experience must be forwarded to the Engineer prior to award of this Service Contract.
- .2 Work requested under this contract will be performed by a qualified Steamfitter/Pipefitter licensed in the province of New Brunswick in the performance of tearing down and assembly of Pressure Vessels. A minimum of six (6) licensed **tradesman will be required to meet the requirement of this contract. Proof of license for each employee shall be provided prior to award of contract.**
- .3 Work requiring Ultra Sonic Examination will require proof of qualifications before performing any scan.

#### **1.05 SITE VISIT**

- .1 All Contractors will attend a mandatory site visit prior tendering to familiarize themselves with the premises and work to be performed.

#### **1.06 ENGINEER**

- .1 The Engineer, as defined and stated in this specification will be the Commanding Officer Real Property Operations Detachment (Gagetown) or a designated representative.

The address of the Engineer is:  
Contracts Office  
Real Property Operations Det Gagetown  
238 Champlain Avenue  
PO Box 17000 Station Forces  
Oromocto, NB E2V J5  
Tel:(506) 422-2677  
Fax:(506) 422-1248

#### **1.07 DOCUMENTS REQUIRED**

- .1 Maintain at job site, one copy each of the following;  
.1 Specification;  
.2 Addenda.

#### **1.08 CONTRACTOR'S USE OF SITE**

- .1 Work site access will be as directed by the Engineer.
- .2 Movement around the site is subject to restrictions laid down by the Engineer.
- .3 Do not unreasonably encumber the site with materials or equipment.

#### **1.09 POWER AND WATER SUPPLY**

- .1 DND can provide, free of charge, temporary electric power and water for

the purpose of this agreement.

- .2 Engineer will determine delivery points and quantitative limits. Engineer's written permission is required before any connection is made. Connect to existing power supply in accordance with Canadian Electrical Code.
- .3 Contractor is to provide at no cost to DND, all equipment and temporary lines to bring these services to the work site.
- .4 Supply of temporary services is subject to DND requirements and may be discontinued by The Engineer at any time without notice, or acceptance of any liability for damage or delay caused by such withdrawal of temporary services.

#### **1.10 ACCEPTABILITY OF MATERIAL**

- .1 Material and parts used will be those specified by the manufacturer of the equipment and proof of this shall be provided when requested by the Engineer.
- .2 Provide material and equipment of specified design and quality, performing to published ratings and for which replacement parts are readily available.
- .3 The Contractor will not make any change in the design and installation of equipment and materials without prior written approval of the Engineer.
- .4 If, in an emergency, the Contractor installs parts other than those specified, they will be replaced with specified parts before claiming payment, but no claim for other than specified parts will be made.
- .5 All replaced parts and materials not under warranty, whether serviceable or unserviceable will be left on site for inspection on completion of the work.
- .6 Requests for acceptance of material other than those specified will be submitted in writing to the Engineer. The request must be supported with sufficient product information to enable the Engineer to make an assessment.

#### **1.11 GUARANTEE**

- .1 The Contractor will guarantee all materials and workmanship for a period of one year or the manufacturer's guarantee, whichever is longer, after acceptance by the Engineer. Any defects which may develop during this period will be rectified and made good to the satisfaction of the Engineer, by the Contractor at their own expense.

#### **1.12 CODES AND STANDARDS**

- .1 In addition to the requirements of 1.3, perform work and enforce safety measures in accordance with the following:
- .2 Contractor must be registered with WorkSafeNB and provide proof of such to PWGSC prior to award of this contract.
- .3 When necessary, the Contractor must provide their own Confined Space Entry Procedure with a Site Safety Plan. The Contractor will provide a copy of their Confined Space Certification to the Engineer, upon request.

- .4 Comply with the requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials; and labelling and provision of Material Safety Data Sheets acceptable to Human Resources and Skills Development Canada and Health Canada.
- .5 Work to meet or exceed requirements of specified standards, codes and referenced documents. In event of conflict between any provisions of above authorities, the most stringent provision will apply.

### **1.13 OVERLOADING**

- .1 Ensure no part of work is subject to a load which will endanger its safety or will cause permanent deformation.

### **1.14 TEMPORARY ALL STRUCTURES**

- .1 The Contractor will furnish and maintain equipment such as ladders, ramps, scaffolds, hoists, chutes, etc, as required for the proper execution of the work.
- .2 Temporary structures erected by the Contractor will be removed by them from the site on completion of the work.

### **1.15 CUTTING FITTING AND PATCHING**

- .1 Perform cutting, fitting and patching of materials when required to allow work to fit properly together. This work will only be completed by licensed tradesman and all fire permits and permission must be in place prior to starting.
- .2 Where new work connects with existing and where existing work is altered, cut, patch and perform repairs to match existing work.

### **1.16 CLEAN UP**

- .1 On completion of all work, the Contractor will remove all surplus material, tools, equipment and debris. The building and site must be left in a clean and tidy condition which meets the satisfaction of the Engineer. The Contractor will not remove any salvageable material or equipment from the job site without permission from the Engineer.

### **1.17 WORKMANSHIP**

- .1 Workmanship will be of a uniformly high standard and in accordance with accepted trade practices.

### **1.18 WORK REQUISITION**

- .1 The Contractor will provide service during normal working hours on an 8 hour per day 5 days per week basis 0730hrs to 1600 hrs Monday to Friday inclusive and emergency services after normal working hours.
- .2 The Contractor will advise the Engineer of the telephone number or location at which they or their representative may be contacted at all times.

- .3 The Contractor on receipt of an Acceptance of Tender will be advised by the Engineer in writing, the names of persons authorized to request service. Work undertaken at the request of others will be entirely at the risk of the Contractor with regard to payment.
- .4 The Contractor will not refuse any call for service by the Engineer and will respond with a qualified trade person within 24 hours on normal service calls and within 4 hours on emergency service calls.
- .5 When service is required, the Engineer will notify the Contractor and detail the job. When requested, a written estimate will be provided indicating labour, and material costs. The work request will detail the work to be done and will be signed by the Engineer or his representative.
- .6 The Contractor will report to the Engineer prior to starting work and upon completion of work on a daily basis to sign in and out.
- .7 After reporting the Contractor will proceed to the job and carry out the work. The contractor will provide daily work reports to the Engineer detailing work performed, contractor's employees assigned to work, location or building number of work site, hours worked for each employee, trade of each employee and materials used in the completion of the work and any recommendations for further work that may be required. This work report must indicate the work order number and the requisition number on which the work was requested from the Engineer. Contractor is to have the Engineer sign the work report either at the end of the work day or at the beginning of the next work day while signing in.
- .8 The Contractors to return one copy of the signed requisition that requested the work with their invoice, as well as copies of all daily work reports and copies of all contractor's wholesale invoices for material used in the completion of the work. Invoices must detail the location and description of work performed for each work request. The Contractor's invoice shall reference the contract, work order and requisition numbers issued on the work request.

#### **1.19 BASIS OF PAYMENT**

- .1 The Contractor will submit prices for the following in accordance with the specification. Such prices will include transportation (travel time to and from base of operation will be included in rates provided) supervision, expenses and profit.
- .2 Time charged and the price of materials used may be verified by Government audit before or after payment is made under the terms of this standing offer.
- .3 The quantities are not guaranteed and the Contractor will have no claim for loss of anticipated profits as a result of these estimated quantities.

#### **1.20 INVOICES**

- .1 The original invoice covering all charges for each different item (price per unit) and location will be listed on invoice.
- .2 The original invoice and company service report covering each service call, complete with date, hours worked and material used as well as a copy of the work request will be submitted to the Engineer.

- .3 Invoice will quote the PWGSC Contract Number.
- .4 All invoices are to be submitted to the **Engineer within 14 days of completion of work.**

#### 1.21 SECURITY CLEARANCES

- .1 The Contractor shall maintain an up to date roster of all employees involved in the contract including managers, supervisors and labourers. This roster shall be made available to the Engineer upon demand.
- .2 The Contractor shall provide proof of the information contained within the roster to the Engineer upon request. The Engineer reserves the right to have removed from the site those personnel who do not meet security requirements as laid down by the Military Police.

#### 1.22 CONTRACTOR PASSES

- .1 All Contractor employees will carry an authorized Contractor Pass on their persons when employed on DND property. Such passes will be produced when requested by the Military Police, Commissionaires, Security Guards and persons in authority.
- .2 The Contractor will complete an application form for contractor passes for each individual. The Contractor will accompany the employee to the Military Police Identification Section building F-19 for the issuance of pass.
- .3 Photocopies of passes are to be provided to the Engineer.
- .4 The Contractor will ensure Contractor passes are recovered from employees who cease to be employed on DND property. Such passes shall be returned to the Military Police Identification Section upon completion of the Contract or termination of the Contractor's employee.

**END OF SECTION**

## **1 GENERAL**

### **1.01 REFERENCES**

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
- .2 Province of New Brunswick Occupational Health and Safety Act, S.N.B. 1983.
- .3 National Building Code of Canada (Latest Version).

### **1.02 REGULATORY REQUIREMENTS**

- .1 Do work in accordance with the safety measures of the National Building Code of Canada (latest version), the Canada Labour Code Part 2, the New Brunswick Occupational Health and Safety Act and WorkSafeNB provided that in any case of conflict or discrepancy the more stringent requirements shall apply.

### **1.03 RESPONSIBILITY**

- .1 Contractor is responsible for the health and safety of all persons on site. Contractor is also responsible for the protection of property, persons and the environment on or adjacent to the site in so far as the work may affect these.
- .2 Contractor and all contractor's employees are to comply with all safety requirements specified in the Contract Documents as well as all applicable federal, provincial and local statutes, regulations, ordinances and with Contractor's site-specific Health and Safety Plan, proof of plan must be submitted before award of contract.
- .3 As outlined in the Canada Labour Code Part 2, the Contractor is responsible to provide a site-specific Health and Safety Plan that includes a Confined Space Entry Procedure in the event that work is deemed by the Engineer to be in a confined space. Work is not to begin until this Health and Safety Plan is submitted and approved by the Engineer prior to award.
- .4 Real Property Operations Detachment (Gagetown) employs a Lock Out/Tag Out program to prevent work related injuries due to electrical or mechanical systems being energized while personnel are working in or around these systems. The Contractor must respect these locks and tags when encountered. Do not forcibly remove these locks and/or tags at any time. If the Contractor requires that these be removed to perform work, a request is to be made to the Engineer for such removal.
- .5 As per the Canada Labour Code Part 2, it is the Contractor's responsibility to employ their own Lock Out/Tag Out program to ensure that equipment is not energized by other personnel while they are working in or around equipment.
- .6 It is the Contractor's responsibility to ensure that all their employees are provided all Personal Protective Equipment (PPE) necessary to perform all work. Hard hats and safety glasses are to worn at all times.

#### 1.04 UNFORESEEN HAZARDS

- .1 Should any unforeseen or peculiar safety-related factor, hazard, or condition become evident during performance of work, the Contractor must have procedures in place to facilitate the Employee's Right to Refuse Work in accordance with Acts and Regulations of New Brunswick. The Contractor is to advise the Engineer verbally and in writing of any employee who exercises this right.

#### 1.05 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Engineer.
- .2 Provide Engineer with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Engineer may stop work if non-compliance of health and safety regulations is not corrected.

#### 1.06 WORK STOPPAGE

- .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for work.

END OF SECTION

## **1 GENERAL**

### **1.01 REPORTING FIRES**

- .1 Know location of nearest fire alarm box and telephone, including emergency phone number.
- .2 Report immediately all fire incidents to Fire Department as follows:
  - .1 telephone 911.
- .3 When reporting fire by telephone, give location of fire, name or number of building and be prepared to verify the location.

### **1.02 INTERIOR AND EXTERIOR FIRE PROTECTION AND ALARM SYSTEMS**

- .1 Fire protection and alarm system will not be:
  - .1 obstructed;
  - .2 shut-off; and
  - .3 left inactive at end of working day or shift without authorization from Fire Chief.
- .2 Fire hydrants, standpipes and hose systems will not be used for other than fire-fighting purposes unless authorized by Fire Chief.

### **1.03 FIRE EXTINGUISHERS**

- .1 Supply fire extinguishers, as scaled by Fire Chief, necessary to protect work in progress and contractor's physical plant on site.

### **1.04 BLOCKAGE OF ROADWAYS**

- .1 Advise Fire Chief of any work that would impede fire apparatus response. This includes violation of minimum overhead clearance, as prescribed by Fire Chief, erecting of barricades and digging of trenches.

### **1.05 SMOKING PRECAUTIONS**

- .1 Observe smoking regulations at all times.

### **1.06 RUBBISH AND WASTE MATERIALS**

- .1 Rubbish and waste materials are to be kept to minimum.
- .2 Burning of rubbish is prohibited.
- .3 Removal:
  - .1 Remove all rubbish from work site at end of work day or shift or as directed.
- .4 Storage:
  - .1 Store oily waste in approved receptacles to ensure maximum cleanliness and safety.
  - .2 Deposit greasy or oily rags and materials subject to spontaneous

combustion in approved receptacles and remove.

#### 1.07 FLAMMABLE AND COMBUSTIBLE LIQUIDS

- .1 Handling, storage and use of flammable and combustible liquids are to be governed by the current National Fire Code of Canada.
- .2 Flammable and combustible liquids such as gasoline, kerosene and naphtha will be kept for ready use in quantities not exceeding 45 litres provided they are stored in approved safety cans bearing Underwriters' Laboratory of Canada or Factory Mutual seal of approval. Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires permission of Fire Chief.
- .3 Transfer of flammable and combustible liquids is prohibited within buildings or jetties.
- .4 Transfer of flammable and combustible liquids will not be carried out in vicinity of open flames or any type of heat-producing devices.
- .5 Flammable liquids having a flash point below 38° C such as naphtha or gasoline will not be used as solvents or cleaning agents.
- .6 Flammable and combustible waste liquids, for disposal, will be stored in approved containers located in a safe ventilated area. Quantities are to be kept to a minimum and Fire Department is to be notified when disposal is required.

#### 1.08 HAZARDOUS SUBSTANCES

- .1 Work entailing use of toxic or hazardous materials, chemicals and/or explosives, or otherwise creating hazard to life, safety or health, will be in accordance with National Fire Code of Canada.
- .2 Obtain from Fire Chief a "Hot Work" permit for work involving welding, burning or use of blow torches and salamanders, in buildings or facilities.
- .3 When Work is carried out in dangerous or hazardous areas involving use of heat, provide fire watchers equipped with sufficient fire extinguishers. Determination of dangerous or hazardous areas along with level of protection necessary for Fire Watch is at discretion of the Fire Chief. Contractors are responsible for providing fire watch service for work on a scale established and in conjunction with Fire Chief at pre-work conference.
- .4 Where flammable liquids, such as lacquers or urethanes are to be used, proper ventilation will be assured and all sources of ignition are to be eliminated. Fire Chief is to be informed prior to and at cessation of such work.

#### 1.09 QUESTIONS AND/OR CLARIFICATION

- .1 Direct any questions or clarification on Fire Safety in addition to above requirements to Fire Chief through the Engineer.

#### 1.10 FIRE INSPECTION

- .1 Site inspections by Fire Chief will be coordinated through Engineer.

- .2 Allow Fire Chief unrestricted access to work site.
- .3 Co-operate with Fire Chief during routine fire safety inspection of work site.
- .4 Immediately remedy all unsafe fire situations observed by Fire Chief.

**END OF SECTION**

**1 GENERAL**

**1.01 GENERAL**

- .1 Contractor will take all reasonable steps to ensure that they and their employees have complied with all pertinent legislation and have protected the environment.

**1.02 FIRES**

- .1 Fires and burning of rubbish on site not permitted.

**1.03 DISPOSAL OF WASTES**

- .1 Do not bury rubbish and waste materials on site unless approved by Engineer.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

**1.04 SPILL PROTECTION**

- .1 The Contractor must have adequate clean up materials for any potential hazardous materials used in the completion of the work (ie. Foams, fuels, oils, lubricants, etc).

**END OF SECTION**

Pressure Vessel Inventory

Bldg	Description	Manufacturer	Serial #
A10	Heat Exchanger	Docal	9275
A11	Heat Exchanger	Docal	9272
A41	Heat Exchanger	Stork	11331
A41 NPF	Heat Exchanger	Docal	12163
A42 NPF	Heat Exchanger	Docal	10950
A47	Heat Exchanger	Docal	B4846
A5	Heat Exchanger	Stork	11342
A7	Heat Exchanger	Docal	9273
A9	Heat Exchanger	Stork	11343
B1	Heat Exchanger	Docal	9791
B10	Heat Exchanger	Docal	10951
B14	Heat Exchanger	Bell & Gosset	914987-01
B18	Heat Exchanger	Docal	9654
B18	Heat Exchanger (G)	Docal	9654
B19	Heat Exchanger	ITT Fluid Products	44765
B59	Heat Exchanger	Docal	9274
B7	Heat Exchanger	Bell & Gosset	151795-01-3
B9	Heat Exchanger	Docal	9784
C8	Heat Exchanger	Bell & Gosset	156656-01
D10	Heat Exchanger	Docal	10949
D15	Heat Exchanger	Docal	9785
D17	Heat Exchanger	Docal	12161
D21	Heat Exchanger		
D22	Heat Exchanger	Bell & Gosset	454065
D22	Heat Exchanger	Docal	9788
D23	Heat Exchanger	A S LEITCH CO	178562
D24	Heat Exchanger	Armstrong	22446
D25	Heat Exchanger	A S LEITCH CO	178562
D27	Heat Exchanger	A S LEITCH CO	178562
D4	Heat Exchanger	Docal	9790
D5	Heat Exchanger	Armstrong	22445
D56	Heat Exchanger	ITT Fluid Products	940715-01-2
D56	Heat Exchanger (G)	ITT Fluid Products	940715.02.1
D56	Heat Exchanger (G)	ITT Fluid Products	940715-02-2

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D56	Heat Exchanger	ITT Fluid Products	940715-02-02
D57	Heat Exchanger (G)	Armstrong	538936
D57	Heat Exchanger (G)	Armstrong	538935
D57	Heat Exchanger	Armstrong	538271
D57	Heat Exchanger	Armstrong	538270
D58	Heat Exchanger	Bell & Gosset	9790 49-01-01
D58	Heat Exchanger	Bell & Gosset	9740 49-01-02
D59	Heat Exchanger	ITT Fluid Products	962198-01-1
D59	Heat Exchanger	Bell & Gosset	962198-01-2
D60	Heat Exchanger	Bell & Gosset	130609-01-1
D60	Heat Exchanger	Bell & Gosset	130609-01-2
D9	Heat Exchanger	Bell & Gosset	916235-01
F1	Heat Exchanger	Docal	9247
F12	Heat Exchanger	Docal	9246
F18	Heat Exchanger	Docal	34847
F2	Heat Exchanger	Docal	9245
F3	Heat Exchanger	Docal	8558
F4	Heat Exchanger	Docal	8556
F6	Heat Exchanger	Docal	8604
F7	Heat Exchanger	Docal	8603
F8	Heat Exchanger	Docal	8602
G3	Heat Exchanger	ITT Fluid Products	44810
G8	Heat Exchanger	Armstrong	704978
G8	Heat Exchanger	Armstrong	701493
H1	Heat Exchanger	Docal	8617
H10	Heat Exchanger	Docal	10955
H12	Heat Exchanger	Docal	9786
H16	Heat Exchanger	A S LEITCH CO	178563
H17	Heat Exchanger	Docal	10953
H18	Heat Exchanger	Docal	9652
H19	Heat Exchanger	Docal	9783
H20	Heat Exchanger	Armstrong	22447
H21	Heat Exchanger	Docal	8618
H23	Heat Exchanger	A S LEITCH CO	181585
H24	Heat Exchanger	Docal	9653
H3	Heat Exchanger	A S LEITCH CO	183353
H33	Heat Exchanger	Bell & Gosset	159801-01-1

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H33	Heat Exchanger	Taco	181561
H33	Heat Exchanger	Bell & Gosset	134866
H5	Heat Exchanger	Docal	9789
H6	Heat Exchanger	Docal	9746
H7	Heat Exchanger	Docal	9787
H8	Heat Exchanger	Armstrong	22448
J1	Heat Exchanger	Armstrong	13997
J1	Heat Exchanger	Caloritech	195506
J10	Heat Exchanger (G)	Armstrong	70322
J10	Heat Exchanger (G)	Armstrong	70321
J10	Heat Exchanger (G)	Armstrong	69995
J10	Heat Exchanger	Armstrong	69803
J10	Heat Exchanger	Armstrong	69996
K1	Heat Exchanger	Armstrong	90151
K10	Heat Exchanger	Docal	10954
K14	Heat Exchanger	Caloritech	106-03
K14	Heat Exchanger	Docal	12160
K14	Heat Exchanger	Armstrong	678368
K15	Heat Exchanger	Caloritech	T970217
K16	Heat Exchanger	Caloritech	T933106-01
K16	Heat Exchanger	Bell & Gosset	151795-011
K16	Heat Exchanger	Armstrong	13996
K17	Heat Exchanger	Taco	D02543
K17	Heat Exchanger	Taco	D02545
K17	Heat Exchanger	Gil Fab	79012
K18	Heat Exchanger		
K19	Heat Exchanger	Docal	12797
K4	Heat Exchanger	Docal	113354-13
K4	Heat Exchanger	Docal	12917
K4	Heat Exchanger	Taco	249552
K6	Heat Exchanger (G)	Bell & Gosset	727895-01
K60	Heat Exchanger (G)	Taco	14426
K60	Heat Exchanger (G)	Taco	14427
K60	Heat Exchanger	Taco	T2569
K73	Heat Exchanger		993053-05
L10	Heat Exchanger	Darling	7800199-061
L33	Heat Exchanger		
L33	Heat Exchanger (G)	Docal	9655
L33	Heat Exchanger (G)	Docal	12673
M2	Heat Exchanger	Bell & Gosset	113354-01

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M2	Heat Exchanger (G)	A S LEITCH CO	178562-D
M5	Heat Exchanger (G)	Bell & Gosset	113354-10
M5	Heat Exchanger	Bell & Gosset	113354-01
M5	Heat Exchanger (G)	Bell & Gosset	113354-07
M5	Heat Exchanger	Bell & Gosset	113353-01
MA36	Heat Exchanger	A S LEITCH CO	168049

(G) Glycol

Pressure Vessel Inventory

<b>Bldg #</b>	<b>Description</b>	<b>Manufacturer</b>	<b>Manufacture Serial #</b>
B10	Exchanger		
B18	Exchanger		
B1	Exchanger		
B45	Exchanger		
B6	Exchanger		
B7	Exchanger		
B9	Exchanger		
C8	Exchanger		
C9	Exchanger		
D9	Exchanger		
D10	Exchanger		
D15	Exchanger		
D21	Exchanger		
D22	Exchanger		
D22	Exchanger		

### Internal Heat Exchangers

#### General Notes

1. **All work shall be completed by qualified Pipefitter/Steamfitter licensed in the province of New Brunswick. A minimum team of two (2) per unit.**
2. An on site supervisor will be required for this work as outlined in Annex G.
3. When signing in notify the Contract Manager of schedule and locations.
4. Inspection visits are to be arranged with Provincial Boiler Inspector and will be accompanied by the on-site supervisor.

#### Procedure

**The below procedures are just a guideline used to aid in the 5 CDSB Gagetown specific items. It is to be used in conjunction with manufacture specifications and acceptable work practices. A copy of manufactures specification will be given to Contract Manager upon request.**

1. Isolate high and low temperature to the heat exchanger.
2. Drain unit to the nearest drain minimizing cleanup.
3. Remove spool pieces to enable removal of bundle.
4. Mark head and bundle to ensure it goes back together the same way.
5. Remove head and thoroughly clean all gasket surfaces.
6. Clean bundle and inside of exchanger for inspection.
7. Have Unit inspected by inspector.
8. Install new manufacture gaskets, bolts, studs and nuts. Ensure gaskets are properly lined up. **Before installing head the Contract Manager must view the unit prior to close.**
9. Mark tightening sequence on studs and tighten all bolted joints uniformly and in diametrically staggered pattern as specified by the manufacture. Bolts should be torque incrementally to 30%, 60% and then 100%. This torque value will be noted on the Annex F info sheet.
10. Connect spool pieces.
11. Fill low temperature side of exchanger and ensure system is leak proof minimizing the amount of air in system.
12. Fill high temperature side of exchanger and perform hydrostatic test on unit to maximum allowable working pressure. Note this pressure on the info sheet.
13. Once test is completed, Contractor must take pressure off system.
14. Complete Info Sheet (Annex F) and leave one copy with the unit and provide another copy to Contract Manager.
15. Clean work area.
16. Lock out unit ensuring Heat Exchanger isolation valves are secured. A tag with Company name, workers name and phone number must be attached.

Internal DHWT

General Notes

1. **All work shall be completed by a qualified Pipefitter/Steamfitter licensed in the province of New Brunswick.**
2. An on site supervisor will be required for this work as outlined in Annex G.
3. DHWT inspection will be done by the Provincial Boiler Inspector. The opening, cleaning, inspection and closing of the Tanks must be completed in the same day with as little disruption in service as possible. **Prior to starting the Contractor shall:**
  - a. Make arrangement with Inspector to be on site.
  - b. Notify building occupants 24 hours prior of interruption and post signage.
  - c. If for any reason the Boiler Inspector cannot make the arranged timings, the units must be put back service immediately.
4. On the morning prior to starting, a list of buildings and timings shall be given to the Contract Manager. This list will be used to info the Control Shop and CE Trouble Calls of work being done.

Procedure

**The below procedures are just a guideline used to aid in the 5 CDSB Gagetown specific items. It is to be used in conjunction with manufacture specifications and acceptable work practices.**

1. Isolate energy source (i.e. high temp or electric).
2. Isolate domestic water supply to hot water tank.
3. Call Control Shop Loc 2215.
4. Drain tank to nearest location.
5. Remove manhole plate to allow for inspection.
6. Wash the inside of the tank to remove any sediment, sludge or particles making the inside of tank visible for inspection.
6. After the inspection is complete, install the manhole with a new gasket.
7. Open water supply and begin to fill the tank slowly, removing the air from the system at the highest point.
8. Put unit back in service and call Control Shop Loc 2215.
9. Clean work area.
10. Notify the building occupant that the work is complete and remove signs.
11. Complete Info Sheet (Annex F) and leave one copy with unit and provide another copy to Contract Manager.

## Internal Air Receiver Tanks

### General Notes

1. **All work shall be completed by qualified Pipefitter/Steamfitters in the province of New Brunswick.**
2. Notify the Contract Manager daily when signing in of locations and scheduled timings.
3. Air Compressor and Large Holding Tank inspections will be done by the Provincial Boiler Inspector. The opening, inspection and closing of the Air Receiver Tanks must be completed in the same day with as little disruption in service as possible. **Before any work is started, the Contractor shall:**
  - a. Make arrangements with Provincial Boiler Inspector to be on site prior to starting.
  - b. Notify the building occupants 24 hours prior of task and timings of any of any interruption in providing compressor air. This will have to be done in conjunction with Boiler Inspector arrangements.
  - c. If for any reason the Boiler Inspector cannot make the arranged inspection timings, the units will have to be put back in service immediately.
4. If there is no access to unit for internal viewing or impossible to shut down unit an Ultra Sonic Examination may be requested by the Engineer.

### Procedure

**The below procedures are just a guideline used to aid in the 5 CDSB Gagetown specific units. It is to be used in conjunction with manufacture specifications and acceptable work practices.**

1. Air Compressor Holding Tanks
  - a. Shut off power supply.
  - b. Open and drain the receiver tank in a safe manner.
  - c. Remove threaded plugs to allow for visual or camera inspection.
  - d. Once Inspector is complete, install threaded plugs and make air tight.
  - e. Turn on compressor on and fill back to working pressure.
  - f. Inspect for leaks.
  - g. Inform building occupant their unit is back in service.
  - h. Complete Info Sheet (Annex F) and leave one copy with the unit and provide another copy to the Contract Manager.
  
2. Large Holding Tanks
  - a. Shut air supply valve off.
  - b. Drain air in safe manner.
  - c. Remove manhole plate to allow for inspection.
  - d. After inspection is complete install manhole cover with new gasket.
  - e. Close drain and open valve building tank back to working pressure.
  - f. Inspect for leaks.
  - g. Clean work area.
  - h. Inform building occupants the unit is back in service.
  - i. Complete Info Sheet (Annex F) and leave one copy with the unit and provide another copy to the Contract Manager.

### Internal Expansion Tanks

#### General Notes

1. **All work will be completed by qualified Pipefitter/Steamfitter licensed in the province of New Brunswick.**
2. Notify the Contract Manager daily when signing in of the locations and scheduled timings.
3. Expansion Tank inspections will be done by the Provincial Boiler Inspector. The opening, inspection and closing of the tanks must be completed in the same day with as little disruption in service as possible. **Prior to starting the Contractor shall:**
  - a. Make arrangements with Provincial Boiler Inspector to be on site prior to starting.
  - b. Notify building occupants 24 hours prior of task of any interruptions. The name and local of person informed must be noted and given to Contract Manager.
  - c. If for any reason the Boiler Inspector cannot make arranged inspection the units must be put back in service.
4. If there is no access for unit internal viewing, an Ultra Sonic Examination may be requested by the Engineer.

#### Procedure

**The below procedures are just a guideline used to aid in the 5 CDSB Gagetown specific items. It is to be used in conjunction with manufactures specifications and acceptable work techniques.**

1. Isolate and drain tank to nearest drain location.
2. Remove manhole or inspection hole to allow Inspector to view inside.
3. After inspection, close unit and ensure it is water/air tight.
4. Open valves, fill to working level and confirm there are no leaks.
5. Clean work area.
6. Notify building occupant that work is complete.
7. Complete info sheet (Annex F) and leave one copy with the unit and provide another copy to the Contracts Manager.

Info Sheet

The information sheet will be completed every time maintenance and or cleaning are performed on Hear Exchangers, Domestic Hot Water Tanks (DHWT), Expansion Tanks and Air Receivers. One copy will be left with the unit and one copy given to the Contract Manager.

**Note- Use NA (Not Applicable) on lines that do not pertain to unit.**

1. Building # \_\_\_\_\_
2. Type of Unit \_\_\_\_\_  
(I.e. Heat Exchanger, DHWT, Air Receiver, Expansion Tank)
3. PV # \_\_\_\_\_ Item # \_\_\_\_\_
4. PSI of Low Temp System \_\_\_\_\_
5. Date Unit opened \_\_\_\_\_
6. Name of who opened Unit (a) \_\_\_\_\_  
(b) \_\_\_\_\_
7. Name of who cleaned bundle \_\_\_\_\_
8. Name of who closed Unit (a) \_\_\_\_\_  
(b) \_\_\_\_\_
- .9 Torque Values      30% \_\_\_\_\_  
   60% \_\_\_\_\_  
   100% \_\_\_\_\_
- .10 Heat Exchanger pressure test \_\_\_\_\_ PSI
- .11 Date of Unit close and pressure test \_\_\_\_\_
- .12 PSI of Low Temp System \_\_\_\_\_

Name of Supervisor \_\_\_\_\_

Signature \_\_\_\_\_

### On Site Supervisor

#### General Notes

1. An on site supervisor will be required when the Contractor performs internal inspection work on the Heat Exchangers (Annex B), Domestic Hot Water Tanks (Annex C) and the start up of Heat Exchangers (Annex H). This individual will remain on 5 CDSB at all times while work is ongoing, not be part of the working personnel and be consistent throughout the working period. A cell phone with camera capability will also be required.  
**The cost of this position will be included in the cost per unit price.**

#### Responsibilities

**The on-site supervisor will be responsible for all work performed by the Contractor. The below is a general guideline and not an inclusive list of duties.**

1. Main point of contact for Contract Manager.
  - a. Ensure all workers have signed in and out daily at B18.
  - b. Meet with Contract Manager daily first thing in morning (8am) to provide update.
  - c. Accompany Contract Manager on site visits when requested.
  - d. Immediately inform Contract Manager of any issues.
  - e. Ensure completion and deliver of info sheets.
  - f. Provide manufacture specification to sites and to Contract Manager if requested.
2. Organize material ordering and delivery.
  - a. Confirm unit make and model prior to ordering material. Any wrong material will be the responsibility of the contractor.
  - b. Handle any material issues that arise for duration of work.
  - c. Ensure only Manufacturer material is being used.
  - d. Provide Manufacture material info upon request by the Contract Manager.
3. Supervision
  - a. In conjunction with the Contract Manager, assign and monitor work.
  - b. Opening and closing boiler rooms. Some arranging with building occupants and signing of keys will be required.
  - c. **Supervisor shall be familiar with the Specification and all Annex's to ensure work is completed in accordance with them.**
  - d. Ensure all safety practices are being adhered to.
  - e. Arranging and accompanying Boiler Inspector.
  - f. Ensure all workmanship deficiencies picked up by Inspector are addressed soonest.
  - g. Coordination of Heat Exchanger Start up.
  - h. Obtaining any Hot Work Permits if required.
  - i. Final inspection of work and work area.

### Start-up Heat Exchanger

#### General Notes

1. **All work shall be completed by a qualified Pipefitter/Steamfitter licensed in the province of New Brunswick. A minimum of two (2) qualified tradesman per unit.**
2. An on site supervisor will be required for this work as outlined in Annex G.
3. Annex I, Inspection Sheet Heat Exchanger will be completed for start-up of Exchangers and any follow up heat torques. One copy will be left with the unit and one returned to Contract Manager.
4. Following the start-up of the Heat Exchanger, two (2) mandatory heat torques will be required as stated below;
  - a. #1 heat torque- 24 hours following start-up of Exchanger, and
  - b. #2 heat torque- within 5 days of start-up but scheduled by Contract Manager
5. Once #2 heat torque is complete, the Contract Manager may request to mark nuts and head of heat exchanger with a paint marker.
6. Cost of the two mandatory heat torques will be included in the price per unit bid.
7. Start-up locations will be issued daily in accordance with 5 CDSB building priorities.

#### Procedure

**The below procedure is a guideline to aid in the start-up 5 CDSB heat exchangers. It is to be used in conjunction with manufacturer's specifications and acceptable work practices.**

1. See Contract Manager and pick up list of buildings ready for heat exchanger to be brought on line.
2. Proceed to building in order of priority.
3. Remove lock out/tag out.
4. Open and fill low temperature side.
5. Open isolation valve on high temperature side.
6. Contact Control shop local 2215;
  - a. Inform who you are,
  - b. Provide building location,
  - c. Request to have valve to heat exchanger opened,
  - d. Ask for temperature they want to achieve and
  - e. Provide a cell number in case they have to call right back.
7. Monitor overall system while it builds up pressure and stabilizes.
8. Once the control valve closes, complete Inspection Sheet Heat Exchanger (Annex I).
9. Continue on to next building.

Inspection Sheet Heat Exchanger

General Notes

- (a) **All work on Heat Exchanger shall be completed by a qualified Pipefitter/Steamfitter licensed in the province of New Brunswick.**
- (b) This sheet will be completed every time the Heat Exchanger is started or heat torqued. One copy will be left with the unit and one returned to Contract Manager.
- (c) Visually inspect for leaks and re-torque entire unit and spool pieces.
- (d) During the heat torque if the nuts are tightened, the Contract Manager may request that the nuts and head be marked with a paint marker.
- (e) **Follow manufacturer specification to heat torque unit. Ensure to tightened uniformly in a diametrically staggered pattern following the tightening sequence.**

1. Building # \_\_\_\_\_

2. PV # \_\_\_\_\_ Item # \_\_\_\_\_

3. Date of: (a) Start-up \_\_\_\_\_

(b) Heat torque \_\_\_\_\_

4. Tradesman name(s) (a) \_\_\_\_\_

(b) \_\_\_\_\_

5. Torque values Heat Exchanger when complete \_\_\_\_\_ PSI

6. Comments: (ie. leaks, loose nuts and stud number, how loose nuts were and general review notes)

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Signature \_\_\_\_\_