



**RETURN BIDS TO:
Canadian Nuclear Safety Commission (CNSC)**

Ground floor reception / Security

Attention:
Dan Simard
280 Slater Street
Ottawa, ON
K1P 5S9
Canada

Bid solicitation

Proposal to: Canadian Nuclear Safety Commission (CNSC)

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 and services listed herein and on any attached sheets at the price(s) set out thereof.

Instructions: See herein

Supplier name and address:

Issuing office: CNSC

Buyandsell.gc.ca/tenders is the official site for the CNSC to meet its trade agreement obligations and the authoritative source for Government of Canada tenders.

Title: R567.1 Review and standardization of testing procedures for irradiated Zr-2.5Nb pressure tube material	
Solicitation no.: 87055-14-0185	Date: August 15, 2014
File No. – N° de dossier:	
Solicitation closes: September 26, 2014 At 2 p.m. / 14 h	Time zone: Eastern Daylight Time (EDT)
Address inquiries to: Dan Simard Senior Contracting Officer	
Telephone: 613-996-6784	Fax: 613-995-5086
Email: Dan.simard@cnscccsn.gc.ca	
Destination: See herein	

Delivery required:	Delivery offered:
Supplier name and address:	
Telephone:	
Fax:	
Name and title of person authorized to sign on behalf of supplier (type or print):	
Signature	Date



Bid Solicitation

For the Provision of

**R567.1 Review and standardization of testing
procedures for irradiated Zr-2.5Nb pressure tube
material**



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Part 1 – General Information

It is understood that the procurement of services for the Canadian Nuclear Safety Commission (CNSC) falls under the provisions of the *Nuclear Safety and Control Act*, S.C. 1997, c. 9.

1. Security Requirement

There is no security requirement associated with the requirement.

2. Statement of Work

The work to be performed is detailed in Annex A attached to this contract.

3. Debriefings

After a contract is awarded, 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 of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.



Part 2 – Bidder Instructions

1. Standard Instructions, Clauses and Conditions (A0000T – 2012-07-16 – modified)

- 1.1 All instructions, clauses and conditions incorporated by reference in the bid solicitation (number, date and title) are set out in the [Standard Acquisition Clauses and Conditions \(SACC\) Manual](http://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by PWGSC. All of the clauses of this document are legally binding on the parties.
- 1.2 Annexes A and form part of the legally binding agreement between the parties.
- 1.3 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.
- 1.4 Standard Instructions – Goods or Services – Competitive Requirements (2003) dated 2014-03-01 are incorporated by reference into and form part of the bid solicitation. The following changes are made:
 - a) Replace references to “Canada” and “Public Works and Government Services Canada” (or “PWGSC”) with “Canadian Nuclear Safety Commission” (CNSC).
 - b) Delete subsections 4 and 5 of section 01: Code of Conduct and Certifications – Bid.
 - c) Delete section 02 in its entirety.
 - d) Revise subsection 2d of section 5, Submission of Bids, to read:

“send its bid only to the CNSC as specified on page 1 of the bid solicitation”.
 - e) Revise subsection 4 of section 5, Submission of Bids, as follows:

Delete: sixty (60) days
Insert: ninety (90) days
 - f) Delete subsection 1. of section 8, Transmission by Facsimile, in its entirety.
 - g) Delete subsections 1a and 1b of section 12, Rejection of Bid, and replace with:

Bidders are advised that the CNSC reserves the right to consider, as part of its evaluation, any unsatisfactory performance in a previous or current project performed by the bidder, proposed subcontractor or individual proposed resource either on contract or under previous CNSC employment.

Additionally, bidders shall take note that once awarded, the performance of the contractor during and upon completion of the work shall be evaluated by the CNSC. The evaluation may include all or some of the following criteria: quality of deliverables, timeliness of completion of the work, project management, contract management, and cost. Should the contractor's performance be considered unsatisfactory, the contractor may be declared ineligible for future CNSC contracts.
 - h) Add the following paragraphs to section 18, Conflict of Interest – Unfair Advantage:

Conflict of Interest – Performance of the Work

 - i. The CNSC reserves the right to review real, potential or apparent conflict(s) of interest. Bidders must disclose any of their activities related to the subject of the statement of work that are licensed by the CNSC. Bidders are also required to disclose any involvement in previous, current or planned work undertaken for a CNSC licensee that is or may be related to the subject of the statement of work.



Such activities or work are not in themselves grounds for rejection; however, proposals to review previous work contributed by the bidder on behalf of a CNSC licensee, and proposals to make recommendations affecting the CNSC licensing decisions in which the bidder has a financial or non-financial interest may be rejected.

- ii. Bidders must address in detail, in their submitted bids, any real, potential or apparent conflict(s) of interest they may encounter while performing the work, and must substantiate which measures they are taking to prevent the conflict(s). If in doubt about a particular situation, bidders may contact the Contracting Authority before bid closing. The CNSC reserves the right to reject any bids in which a real, potential or apparent conflict of interest exists.
- i) Delete subsection 2 of section 20, Further Information, in its entirety.

2. Submission of Bids

Bids must be submitted only to the CNSC by the date, time and place indicated on page 1 of the bid solicitation.

3. Inquiries – Bid Solicitation

- 3.1 All inquiries must be submitted in writing to the contracting authority no later than 10 calendar days before the bid closing date. Inquiries received after that time may not be answered.
- 3.2 Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the inquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable the CNSC to provide an accurate answer. Technical inquiries 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 the CNSC determines that the inquiry is not of a proprietary nature. The CNSC may edit the questions or may request that the bidder do so, so that the proprietary nature of the question is eliminated, and the inquiry can be answered with copies to all bidders. Inquiries not submitted in a form that can be distributed to all bidders may not be answered by the CNSC.

4. Applicable Laws

- 4.1 Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.
- 4.2 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.



PART 3 – Bid Preparation Instructions

1. Bid Preparation Instructions

- 1.1 The CNSC requests that bidders provide their full company name and address, as well as a contact name, telephone number and fax number.
- 1.2 The CNSC requests that bidders provide copies of their bid in separately bound envelopes, as follows:
 - Section I: Technical Bid (4 hard copies)
 - Section II: Financial Bid (2 hard copies)
 - Section III: Certifications (1 hard copy)
- 1.3 **Prices must appear in the financial bid only.** No prices must be indicated in any other section of the bid.
- 1.4 The CNSC requests that bidders follow these format instructions in the preparation of their bids:
 - a) use 8.5 x 11 inch (216 mm x 279 mm) paper
 - b) use a numbering system that corresponds to the bid solicitation
- 1.5 In April 2006, Canada issued the [Policy on Green Procurement \(tps-gc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html\)](https://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html), which directed federal departments and agencies to incorporate environmental considerations into the procurement process. To assist Canada in reaching its objectives, bidders should:
 - a) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably managed forest and/or containing minimum 30% recycled content
 - b) use an environmentally preferable format, including black and white printing instead of colour printing, printing double-sided/duplex, and staples or clips instead of cerlox, duotangs or binders
- 1.6 **Section I: Technical Bid**
 - a) Technical bids should address clearly and in sufficient depth the elements that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate evaluation of bids, the CNSC requests that bidders address and present topics in the order of the evaluation criteria and under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.
 - b) Technical bids must specifically respond to each point-rated technical evaluation criteria.
- 1.7 **Section II: Financial Bid**
 - a) Bidders must submit their financial bids **in Canadian dollars**, in accordance with the pricing schedule detailed in Attachment 1 to Part 3 of this bid solicitation. The total amount of Applicable Taxes must be shown separately, if applicable. Bidders must also reference Annex B, Basis of Payment, when preparing their financial bids.
 - b) The financial bid **must** also include costs as follows:
 - i. a detailed cost breakdown, including fees for each resource category,



- ii. an estimate of the general expenses expected to be incurred during the performance of the work, such as equipment, materials and supplies, communication costs, travel costs, and subcontracts.

1.8 Estimated Funding by Fiscal Year

- a) The estimated funding breakdown per government fiscal year (April 1–March 31) is as follows:

Fiscal year 2014–15: **13% of estimated total cost**

Fiscal year 2015–16: **38% of estimated total cost**

Fiscal year 2016–17: **49% of estimated total cost**

- b) Amounts expressed above are only an approximation of the requirement and are not to be considered as a contract guarantee.

1.9 Section III: Certifications

Bidders must submit the certifications required under Part 5 of this bid solicitation.



Attachment 1 to Part 3 – Pricing Schedule

1. The bidder must complete this pricing schedule and include it in its financial bid.
2. Any estimated level of services specified in this pricing schedule is provided for bid evaluated price determination purposes only. It is only an approximation of the requirements and is not to be considered as a contract guarantee. Levels of effort are provided as estimates only, and must not be construed as a commitment by the CNSC to respect those estimated in any resulting contract.

Firm all-inclusive price, including travel cost, for each deliverable:

Deliverables*	Delivery date	Firm price (percentage based)
Work Plan (Deliverable 5.3)	One (1) month after contract award	
Progress Report (Deliverable 5.4)	Six (6) months after contract award	13%
Subject Matter Expert Findings Report (Deliverable 5.5)	Twelve (12) months after contract award	19%
Progress Report (del. 5.6)	Eighteen (18) months after contract award	19%
Draft Standard or Draft Standard Appendix # 1 (Deliverable 5.7)	Twenty-Four (24) months after contract award	
Draft Standard or Draft Standard Appendix # 2 (Deliverable 5.8)	Twenty-Four (24) months after contract award	
Presentation (Deliverable 5.9)	Twenty-Five (25) months after contract award	49%
Total bid evaluation price (Applicable Taxes are extra)		\$

The bidder may propose a different deliverables schedule in the bid; however, all payments must be linked to specific deliverables with at least 20 percent reserved for final payment.



Part 4 – Evaluation Procedures and Basis of Selection

1. Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation, including the technical and financial evaluation criteria.
- (b) An evaluation team composed of CNSC representatives will evaluate the bids.

1.1 Technical Evaluation

a) Point-Rated technical criteria

Refer to Attachment 1 to Part 4 of this bid solicitation. Point-rated technical criteria not addressed in the bid will be given a score of zero.

1.2 Financial Evaluation

- a) Refer to Attachment 1 to Part 3 of this bid solicitation.
- b) For bid evaluation and contractor(s) selection purposes only, the evaluated price of a bid will be determined in accordance with the Pricing Schedule detailed in Attachment 1 to Part 3 of this bid solicitation.

1.3 Evaluation of Price (A0220T – 2013-04-25 - modified)

The price of the bid will be evaluated in Canadian dollars, with Applicable Taxes excluded, and Canadian customs duties and excise taxes included.

1.4 Maximum Funding (A0210T – 2013-04-25)

The maximum funding available for the Contract resulting from the bid solicitation is **\$185,000.00**, (Travel included, Applicable Taxes extra). Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit the CNSC to pay the maximum funding available.

2. Basis of Selection

2.1 Basis of Selection – Highest Rated Within Budget (A0036T – 2007-05-25)

- 1. To be declared responsive, a bid must:
 - a. comply with all the requirements of the bid solicitation; and
 - b. obtain the required minimum of **75 points overall** of the points for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 100 points.
- 2. Bids not meeting any of the requirements set out above in subsection 1 will be declared non-responsive.
- 3. The responsive bid with the highest number of points will be recommended for award of a contract, provided the total evaluated price does not exceed the budget available for this requirement.

3. Security Requirement

There is no security requirement associated with the requirement.



Attachment 1 to Part 4 – Evaluation Procedures

1. Point-Rated Technical Criteria

- 1.1 The Bidder must provide the necessary documentation to demonstrate its qualifications and capabilities in relation to each criterion.
- 1.2 Any bid that fails to obtain the required minimum number of points specified will be declared non-responsive and will receive no further consideration.

#	RATED CRITERIA	MAX POINTS	SCORES TO BE ASSIGNED BASED ON THE FOLLOWING	WEIGHT FACTOR	Bidder's cross-reference to proposal
R1	<p>Understanding of scope and objectives</p> <p>The bidder should demonstrate that they understand the objectives and scope.</p> <p>The Bidder should include a short introduction with a brief evaluation of the need for the project, the objectives of the proposed Work, and the reasons for carrying it out as proposed and the benefits to be derived.</p>	5	<p>0 Points - incorrect understanding of scope and objective</p> <p>1 Point – given verbatim from bid solicitation and understanding is not fully demonstrated</p> <p>3 Points - good understanding of scope and objectives</p> <p>5 Points - in-depth understanding of scope and objective fully demonstrated</p>	x1	



#	RATED CRITERIA	MAX POINTS	SCORES TO BE ASSIGNED BASED ON THE FOLLOWING	WEIGHT FACTOR	Bidder's cross-reference to proposal
R2	<p>Recognition of problems and solutions proposed</p> <p>The bidder should identify potential or anticipated major problems and/or difficulties that could affect the outcome of the work and address how these will be addressed and resolved.</p>	10	<p>0 Points - fails to identify any potential problems 1 Point - 1 to 2 major difficulties identified; proposed solutions will not adequately resolve all 2 Points - 1 to 2 major difficulties identified; proposed solutions adequately resolve 3 Points - 3 to 4 major difficulties identified; proposed solutions will not adequately resolve all 4 Points - 3 to 4 major difficulties identified; proposed solutions adequately resolve all 5 Points - 5 or more difficulties identified, proposed solutions are innovative</p>	x2	
R3	<p>Proposed work feasibility, approach and methodology</p> <p>The Bidder should clearly outline its approach and proposed methodology to meet the requirement as well as the degree of success expected. The proposed approach is to be compliant with the requirements of the Statement of Work provided as part of the bid solicitation. Sufficient detail should be provided to demonstrate the Bidder's grasp of the requirement and the Bidder's competence to meet it.</p>	10	<p>0 Points - not addressed in proposal 1 Point - approach and methodology does not expand from the bid solicitation 3 Points - approach and methodology address the bid solicitation requirements with adequate level of success 5 Point - approach and methodology address the bid solicitation requirements with high level of level of success 7 Points - novel benchmarking approach /methodology with a adequate level of level of success 10 Points - novel benchmarking approach/methodology with a high level of level of success</p>	x1	



#	RATED CRITERIA	MAX POINTS	SCORES TO BE ASSIGNED BASED ON THE FOLLOWING	WEIGHT FACTOR	Bidder's cross-reference to proposal
R4	<p>Adequacy of work plan, level of effort (per person/task) and schedule</p> <p>The bidder should provide a work plan include a list of specific tasks and deliverables, the level of effort (per person, per task) in hours or days, and the proposed schedule for completion or delivery.</p>	10	<p><u>Work Plan/ Tasks to be Performed</u> 0 Points - not addressed in proposal 1 Point - work plan does not expand from the bid solicitation 2 Points - work plan is well explained and meets the requirements of the RFP</p> <p><u>Schedule</u> 0 Points - not addressed in proposal 1 Point - schedule is as per the bid solicitation with no indication that bidder feels it is realistic 2 Points - adequate schedule</p> <p><u>Level of Effort</u> 0 Points - not addressed in technical proposal 2 Points - adequate total level of effort; critical work performed by junior personnel 4 Points - adequate total level effort, critical work performed by appropriate mix of junior/senior personnel 6 Points - adequate total level of effort; critical work performed by recognized subject matter experts</p>	x1	



#	RATED CRITERIA	MAX POINTS	SCORES TO BE ASSIGNED BASED ON THE FOLLOWING	WEIGHT FACTOR	Bidder's cross-reference to proposal
R5	<p>Proposed management of the project and the qualifications and relevant experience of the Project Manager, including position within the organization</p> <p>The Bidder should identify the Project Manager who will be assigned to this requirement, demonstrating position with organization, experience, education, and qualifications. His/her curriculum vitae must also be included.</p>	15	<p><u>Experience</u> 0 Points - no project management experience; experience not demonstrated in proposal 1 Point - 2 to 4 years project management experience 3 Points - 5+ years project management experience</p> <p><u>Education</u> 0 Points - no formal project management training 1/2 Point - formal project management training 1 Point - PMP Certified</p> <p><u>Qualifications</u> 0 Points - not addressed 1 Point - 2 to 4 successful projects as project manager 2 Points - 5+ successful projects as project manager</p> <p><u>Position</u> 0 Points - not addressed 1 Point - no authority to (re)direct resources 3 Points - authority to (re)direct resources</p> <p><u>Other</u> 1 Point - project management experience in related or relevant nuclear area</p>	x1.5	



For the specific experience identified in 6.1 through 6.5 please note that the main resource assigned to perform the related task(s) shall be evaluated for the associated experience required. If the main resource has not been identified and two or more resources with different experience levels have been named, the score assigned will be the average of the sum of the individual resource scores (e.g. manager level resource and subject matter expert identified with no clear assignment the score given shall be $(3+5)/2 = 4$

#	RATED CRITERIA	MAX POINTS	SCORES TO BE ASSIGNED BASED ON THE FOLLOWING	WEIGHT FACTOR	Bidder's cross-reference to proposal
R6.1	Practical experience in testing of material mechanical properties (including experience with state of art instrumentation applications)	15	<p>0 Points - no demonstrated practical experience</p> <p>1 Point - less than or equal to 2 years demonstrated practical experience</p> <p>2 Points - less than or equal to 4 years but more than 2 years demonstrated practical experience</p> <p>3 Points - less than or equal to 6 years but more than 4 years demonstrated practical experience</p> <p>4 Points - less than or equal to 8 years but more than 6 years demonstrated practical experience</p> <p>5 Points – 8 or more years demonstrated practical experience</p>	x3	
R6.2	Experience in fracture mechanics and the development of a technical basis for fracture toughness testing methods	10	<p>0 Points - no demonstrated experience</p> <p>1 Point - less than or equal to 3 years demonstrated experience</p> <p>3 Points - less than or equal to 8 years but more than 3 years demonstrated practical experience</p> <p>5 Points - more than 8 years demonstrated experience</p>	x2	
R6.3	Demonstrated experience as a <u>contributor</u> to working groups, committees or sub-committees involved in the development of fracture toughness testing standards (e.g. experience developing E08 ASTM standards, etc.)	5	<p>0 Points - no demonstrated experience</p> <p>1 Point - less than or equal to 2 years demonstrated experience</p> <p>2 Points - less than or equal to 4 years but more than 2 years demonstrated experience</p> <p>3 Points - less than or equal to 6 years but more than 4 years demonstrated experience</p> <p>4 Points - less than or equal to 8 years but more than 6 years demonstrated experience</p> <p>5 Points – 8 or more years demonstrated experience</p>	x1	



#	RATED CRITERIA	MAX POINTS	SCORES TO BE ASSIGNED BASED ON THE FOLLOWING	WEIGHT FACTOR	Bidder's cross-reference to proposal
R6.4	Demonstrated experience as a <u>lead</u> for working groups, committees or sub-committees involved in the development of fracture toughness testing standards (e.g. experience developing E08 ASTM standards, etc.)	5	0 Points - no demonstrated lead experience 5 Points - demonstrated lead experience	x1	
R6.5	Experience in Zr-2.5Nb pressure tube material mechanical behavior and material properties including understanding of the effects of hydrogen and hydrides.	5	0 Points - no demonstrated experience 1 Point - less than or equal to 2 years demonstrated experience 2 Points - less than or equal to 4 years but more than 2 years demonstrated experience 3 Points - less than or equal to 6 years but more than 4 years demonstrated experience 4 Points - less than or equal to 8 years but more than 6 years demonstrated experience 5 Points - 8 or more years demonstrated experience	x1	
R7	Proposed team organization, including availability of team members, reporting structure, and capability to carry out the project The Bidder should include a description of the team, the reporting structure, major subcontractors as applicable, as well as the competence, previous experience working together and ability of the proposed team to complete the work.	5	0 Points - not addressed in proposal 1 Point - reporting structure not defined 2 Points - defined reporting structure; proposed team have no apparent experience working together 3 Points - well defined reporting structure; proposed team have prior experience working together (less than 2 projects) 5 Points - well defined reporting structure; proposed team have prior experience working together (more than 2 projects)	x1	



#	RATED CRITERIA	MAX POINTS	SCORES TO BE ASSIGNED BASED ON THE FOLLOWING	WEIGHT FACTOR	Bidder's cross-reference to proposal
R8	<p>Bidder's organization, including subcontractors - its relevant experience and competence proven by similar work in nature and size, and resource capability</p> <p>The Bidder should demonstrate the background and experience of its organization, particularly as it relates to this requirement, as well as the background and experience of proposed subcontractors. Also, where subcontractors are proposed as part of the project team, the Bidder should provide a list of the individual subcontracts proposed, describe the work to be performed by each one and include an explanation of the bidder's proposed basis of selection for each subcontractor.</p>	5	<p>0 Points - not addressed in proposal 1 Point - bidder and/or subcontractor has experience with 1 to 2 successful prior relevant project 3 Points - bidder and/or subcontractor has experience with 3 to 4 successful prior relevant project 5 Points - bidder and/or subcontractor are well known in field of study with 5 or more successful prior relevant projects</p>	x1	
	TOTAL	100			



PART 5 – Certifications

1. Bidders must provide the required certifications and related documentation to be awarded a contract. The CNSC will declare a bid non-responsive if the required certifications and related documentation are not completed and submitted as requested.
2. Compliance with the certifications bidders provide to the CNSC is subject to verification by the CNSC during the bid evaluation period (before award of a contract) and after award of a contract.
3. The contracting authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications or to comply with the request of the contracting authority for additional information will also render the bid non-responsive.

4. Certification Required With the Bid

By submitting a bid, the Bidder certifies the following:

4.1 Status and Availability of Resources (A3005T – 2010-08-16)

1. The bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by the CNSC representatives and at the time specified in the bid solicitation or agreed to with the CNSC. If for reasons beyond its control, the bidder is unable to provide the services of an individual named in its bid, the bidder may propose a substitute with similar qualifications and experience. The bidder must advise the contracting authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.
2. If the bidder has proposed any individual who is not an employee of the bidder, the bidder certifies that it has the permission from that individual to propose his/her services in relation to the work to be performed and to submit his/her résumé to the CNSC. The bidder must, upon request from the contracting authority, provide a written confirmation, signed by the individual, of the permission given to the bidder and of his/her availability.

4.2 Education and Experience (A3010T – 2010-08-16)

1. The bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the bidder to be true and accurate.
2. Furthermore, the bidder warrants that every individual proposed by the bidder for the requirement is capable of performing the work described in the resulting contract.



5. Mandatory Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, 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.

5.1 Federal Contractors Program for Employment Equity – Bid Certification

1. 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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Human Resources and Skills Development Canada \(HRSDC\) - Labour's](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) website.
2. CNSC 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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list at the time of contract award.

5.2 Former Public Servant Certification (A3025T – 2013-11-06)

1. 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 with FPS, 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, CNSC will inform the Bidder of a time frame within which to provide the information. Failure to comply with CNSC's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

2. 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, in the context of the fee abatement formula, a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S.C, 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.C, 1985, c. C-17, the [Defence Services Pension Continuation Act](#), R.S.C. 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.C, 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S.C, 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S.C, 1985, c. C-8.

Former public servant in receipt of a pension

Is the bidder a FPS in receipt of a pension as defined above? **Yes () No ()**



If so, the bidder must provide the following information:

- 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](#).

Workforce Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of a 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.



Part 6 – Resulting Contract Clauses

It is understood that the procurement of services for the Canadian Nuclear Safety Commission (CNSC) falls under the provisions of the *Nuclear Safety and Control Act*, S.C. 1997, c. 9.

1.0 Security Requirement

There is no security requirement associated with the requirement.

2.0 Statement of Work (B4007C – 2006-06-16)

The contractor must perform the work in accordance with the statement of work in Annex A and the contractor's technical bid entitled _____, dated _____ (*insert date*).

3.0 Standard Clauses and Conditions (A0000C – 2012-07-16 – modified)

1. All clauses and conditions incorporated by reference in the contract (number, date and title) are set out in the *Standard Acquisition Clauses and Conditions (SACC) Manual* (buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada. All of the clauses of this document are legally binding on the parties. The following changes are made:
2. Wherever “Public Works and Government Services Canada” or “Canada” appears in any of the standard clauses or the general or supplemental general conditions, replace with “Canadian Nuclear Safety Commission” (or “CNSC”).
3. Annexes A and B form part of the legally binding agreement between the parties.

3.1 General Conditions

2010B (2014-03-01), General Conditions – Professional Services (Medium Complexity) apply to and form part of the contract. The following change is made:

- a) Replace section 27 with the following:
 - i. The contractor acknowledges that individuals who are subject to the provisions of the *Conflict of Interest Act* (S.C. 2006, c. 9, s. 2) the *Conflict of Interest Code for Members of the House of Commons*, the *Values and Ethics Code for the Public Sector*, the *Treasury Board Policy on Conflict of Interest and Post-Employment*, the *CNSC Values and Ethics Code* or the *CNSC Conflict of Interest and Post-Employment Policy* cannot derive any direct benefit resulting from the contract. Post-employment procedures apply to individuals who have left the public sector.
 - ii. The CNSC Values and Ethics Code and CNSC Conflict of Interest and Post-Employment Policy can be found at nuclearsafety.gc.ca/eng/about/index.cfm

3.2 Supplemental General Conditions

4006 (2010-08-16) Contractor to Own Intellectual Property Rights in Foreground Information, apply to and form part of the Contract.

4.0 Term of Contract

4.1 Period of the Contract (A9022C – 2007-05-25)

The period of the contract is from date of contract to _____ inclusive.



5.0 Authorities

5.1 Contracting Authority

1. The contracting authority for the contract is:

Dan Simard
Senior Contracting Officer
Canadian Nuclear Safety Commission
Corporate Services Branch
P.O. Box 1046, Station B
280 Slater Street
Ottawa, Ontario K1P 5S9
Canada

Telephone: 613-996-6784
Fax: 613-995-5086
Email: dan.simard@cnsccsn.gc.ca

2. 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.

5.2 Project Authority

1. The project authority for the contract is:

Name:
Title:
Canadian Nuclear Safety Commission
P.O. Box 1046, Station B
280 Slater Street
Ottawa, Ontario K1P 5S9
Canada

Telephone: 613-9xx-xxxx
Fax: 613-995-5086
Email: _____@cnsccsn.gc.ca

2. The project authority is the representative of the CNSC 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.



5.3 Contractor's Representative

Name:
Title:
Organization:
Address:

Telephone:
Fax:
Email:

6.0 Payment

6.1 Basis of Payment

For the satisfactory performance of the contract, the contractor shall be paid in accordance with the basis of payment, which is found in Annex B attached to this contract.

6.2 Method of Payment –Deliverables Payments

Payment will be made in accordance with the schedule of deliverables set out in Annex B attached to this contract.

6.3 T1204 – Information Reported by Contractor (A9116C – 2007-11-30 - modified)

1. Pursuant to paragraph 221 (1)(d) of the [Income Tax Act](#), R.S.C. 1985, c.1 (5th Supp.), payments made by departments and agencies to contractors under applicable services contracts (including contracts involving a mix of goods and services) must be reported on a T1204 Government Service Contract Payments slip.
2. To enable departments and agencies to comply with this requirement, the contractor must provide the following information prior to signature of the contract:
 - a. the legal name of the contractor, i.e. the legal name associated with its business number or social insurance number (SIN), as well as its address and postal code;
 - b. the status of the contractor, i.e. an individual, a sole proprietorship, a corporation, or a partnership;
 - c. the business number of the contractor if the contractor is a corporation or a partnership and the SIN if the contractor is an individual or a sole proprietorship. In the case of a partnership, if the partnership does not have a business number, the partner who has signed the contract must provide its SIN;
 - d. in the case of a joint venture, the business number of all parties to the joint venture who have a business number or their SIN if they do not have a business number.
3. The information must be sent to the contracting authority. If the information includes a SIN, the information should be provided in an envelope marked "Protected".

7.0 Invoicing Instructions

1. Invoices can be emailed to finance@cnsccsn.gc.ca or be mailed to the following address:

Canadian Nuclear Safety Commission
Finance Division
P.O. Box 1046, Station B
Ottawa, ON K1P 5S9
Canada



2. The contractor shall include the contract number and appropriate Applicable Taxes registration number on all invoices pertaining to the contract.
3. The last and final invoice under the contract shall be clearly marked "final invoice".

8.0 Certifications

8.1 Instructions to Bidders/Contractors (A3015C – 2008-12-12)

Compliance with the certifications provided by the contractor in its bid is a condition of the contract and subject to verification by the CNSC during the term of the contract. If the contractor does not comply with any certification or it is determined that any certification made by the contractor in its bid is untrue, whether made knowingly or unknowingly, the CNSC has the right, pursuant to the default provision of the contract, to terminate the contract for default.

9.0 Applicable Laws

The contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

10. Priority of Documents

The following documents form part of the legally binding agreement between the parties. 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 Supplemental General Conditions 4006 (2010-08-16) Contractor to Own Intellectual Property Rights in Foreground Information
- (c) the General Conditions 2010B (2014-03-01) – General Conditions – Professional Services (Medium Complexity)
- (d) Annex A – Statement of Work
- (e) Annex B – Basis of Payment
- (f) the contractor's bid dated _____

11. Intellectual Property

11.1 Contractor to Own Intellectual Property Rights in Foreground Information (4006 – 2010-08-16)

Supplemental General Conditions 4006 shall form part of the contract.

11.2 Confidentiality of Foreground Information (K3015C – 2008-05-12)

The contractor, during the performance of the contract must keep confidential and must not publish or otherwise disclose to any person any foreground information, except as may be necessary to perform the work under the contract. The contractor must impose the same obligation of confidentiality on any person to whom the information is disclosed to perform the work.

11.3 License to Material Subject to Copyright (H3030C – 2010-01-10 - modified)

1. In this section, "material" means anything that is created or developed by the contractor as part of the work under the contract, and in which copyright subsists.
2. The contractor grants the CNSC a non-exclusive, perpetual, irrevocable, worldwide, fully paid and royalty-free license to exercise all rights comprised in the copyright in the material, for any government purposes. The CNSC may use independent contractors in the exercise of the CNSC's license pursuant to this clause.



3. Copyright in any translation of the material made by or for the CNSC belongs to the CNSC. The CNSC agrees to reproduce the contractor's copyright notice, if any, on all copies of the material, and to acknowledge the contractor's title to the copyright in the original Work on all copies of translations of the material effected by or for the CNSC.
4. No restrictions other than those set out in this section must apply to the CNSC's use of copies of the material or of translated versions of the material.
5. At the request of the CNSC, the contractor must provide to the CNSC, at the completion of the work or at such other time as the CNSC may require a written permanent waiver of moral rights, in a form acceptable to the CNSC, from every author that contributed to the material. If the contractor is an author of the material, the contractor permanently waives its moral rights in respect of the material.

11.4 Commercialization in Canada (K3415C – modified – 2008-05-12)

1. In consideration of the contractor receiving ownership of the intellectual property rights in the foreground information, the contractor agrees that manufacture of any product incorporating or derived from the foreground information will be done substantially in Canada and that the provision of any service incorporating or derived from the foreground information will be substantially from a base in Canada.
2. The CNSC will determine what evidence will be required to demonstrate that the obligation set out in subsection 1 has been met and will set the time period required to meet it. When the obligation has been met in relation to any part of the foreground information, the obligation will cease to apply to that part of the foreground information.

If at the end of the period specified by the CNSC, the obligation to market and sell a product or service as required has not yet been satisfied in relation to any part of the foreground information, the contractor must immediately submit to the CNSC, a report setting out:

- (a) a description of the efforts that have been and will be made by the contractor to satisfy the obligation; and
 - (b) the reasons why the obligation has not been satisfied.
3. At the expiration of the period specified, if the CNSC is satisfied that the foreground information is capable of commercial exploitation in Canada but that:
 - (a) the contractor is incapable of achieving that; or
 - (b) the contractor has not made every reasonable effort to fulfil the obligation; then the CNSC may invoke either of the remedies set out in subsection 5. If the CNSC is satisfied that the potential value to Canada of commercial exploitation of the foreground information substantially in Canada so justifies, it may also extend the time for the contractor to fulfil the obligation.
 4. The contractor agrees that any of the following, affecting any part of the foreground information, would constitute a breach of the contractor's obligation entitling the CNSC to exercise, in relation to that part of the foreground information, the option to collect the liquidated damages provided for in the contract (if any) for such a breach, or, without affecting any other remedy available at law or under the contract, to exercise a remedy set out in subsection 5:
 - (a) the contractor or any affiliate, subcontractor or agent of the contractor manufactures outside Canada a product incorporating or derived from the foreground information without that product also being manufactured substantially in Canada, or provides from a base outside Canada a service incorporating or derived from the foreground information without that service also being provided substantially from a base in Canada;
 - (b) through the act or omission, whether direct or indirect, and whether deliberate or negligent, of the Contractor or an employee or a subcontractor (including the sale or assignment of the foreground information or license or other authorization of the use of the foreground information), any person or entity is enabled to



manufacture outside Canada a product incorporating or derived from the foreground information without that product also being manufactured substantially in Canada, or to provide from a base outside Canada a service incorporating or derived from the foreground information without that service also being provided substantially from a base in Canada;

- (c) the contractor or a controlling interest in the contractor, is acquired by a person not resident in Canada or by an entity controlled outside of Canada, and that person, or other entity does not enter into an agreement with the CNSC concerning the use of the foreground information, promptly and before a breach described in paragraph (a) or (b) has occurred; or
- (d) to the extent permitted by the laws applicable in Canada, the contractor becomes bankrupt or insolvent, makes an assignment for the benefit of creditors, or takes the benefit of any statute relating to bankrupt or insolvent debtors, or the contractor suffers the appointment against it of a receiver under a debt instrument or by a court, or an order is made or a resolution passed for the winding up of the contractor.

5. In the event of a breach of subsection 3 or 4, the CNSC may, by notice, either:

- (a) require the contractor to assign or transfer to Canada at no cost the intellectual property rights in the foreground information; or
- (b) require the contractor to provide to one or more persons, or other entities specified by the CNSC at no cost a non-exclusive, perpetual, unconditional, irrevocable, worldwide, and royalty free license permitting the commercial exploitation of the intellectual property rights in the foreground information, including the right to further develop the foreground information and to own the intellectual property rights in any such further development.

The contractor agrees that it will promptly execute such transfer documents relating to ownership or licensing as the CNSC may require, and that it will afford the CNSC or a licensee, as the case may be, at that party's expense all reasonable assistance in the preparation of applications and in the prosecution of any application for registration of any intellectual property rights in any jurisdiction arising out of the foreground information, including without limitation the assistance of the inventor in the case of an invention.

6. In the event of a breach described in paragraph (a) or (b) of subsection 5, in addition to all other remedies available to Canada at law or under the contract, the contractor must upon demand pay to Canada any net revenues earned by the contractor as a result of the breach.

12. Third-Party Information

- 1. The contractor acknowledges that all third-party technical documents supplied for the purpose of this contract belong to the third party. The contractor shall return these technical documents to the originator upon completion of the contract.
- 2. The contractor acknowledges that proprietary third-party technical documents belong to the third party and shall be treated as confidential. No physical copies or digital records of technical documents shall be retained by the contractor after completion of the contract.
- 3. Upon completion of the contract, the contractor shall immediately return all proprietary technical documents to the originator, and shall provide the CNSC with a certificate of a senior officer of the contractor certifying such return and that no copies of proprietary technical documents, or any part thereof, in any form remain in the possession or control of the contractor.



13. Proactive Disclosure of Contracts with Former Public Servants (A3025C – 2013-03-21)

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#), R.C.S. 1985, c. P-36 pension, the contractor has agreed that this information will be reported on departmental Web sites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2012-2](#) of the Treasury Board Secretariat of Canada.

14. Dispute Resolution

1. The parties must first attempt to resolve disputes arising in connection with this contract through direct good-faith negotiations. Such negotiations shall be undertaken for a maximum period of 30 working days unless resolved earlier. The parties may agree to an extension of the 30 working day period upon agreement in writing by each party.
2. All disputes, questions or differences arising in connection with this contract which cannot be resolved by the parties as set out in subsection 1 shall be resolved in an efficient and cooperative manner through mediation or any other such third-party assistance process as may be appropriate and agreed upon. Such a process shall be undertaken for at least 20 working days unless resolved earlier. The parties may agree to an extension of this 20 working day period upon agreement in writing by each party.
3. All disputes, questions or differences arising in connection with this contract, which the parties cannot resolve themselves through direct negotiations or the appropriate dispute resolution efforts discussed in subsection 2 shall be finally settled by binding arbitration.
4. The parties shall appoint a single arbitrator. The appointment of an arbitrator shall occur within 30 calendar days of the decision to proceed to binding arbitration. If such appointment has not occurred within this 30 calendar day period, then the parties shall apply to a Justice of the Ontario Court (General Division) in Ottawa to have an arbitrator appointed.
5. The arbitration shall be in accordance with the *Commercial Arbitration Act*, R.S.C., 1985,c.17 and shall take place in Ottawa, Ontario.
6. The arbitrator may appoint a secretary with the prior written permission of the parties. The fees of the sole arbitrator and of the secretary shall be shared equally by each of the parties. Notwithstanding the above, the arbitrator shall be authorized to require any party to pay the whole or part of the fees, costs and expenses. In such case, payments shall be made in accordance with the award and the award shall be final and shall not be subject to appeal.
7. This section does not apply in respect of the interpretation or application of constitutional, administrative, criminal or tax law or other law as may be determined and agreed upon by the parties. Except with respect to the laws expressly listed herein, if no agreement is reached regarding this article's application with respect to other areas of law, then the matter shall be subject to binding arbitration.
8. The parties understand that the Procurement Ombudsman appointed pursuant to subsection 22.1(1) of the *Department of Public Works and Government Services Act* will, on request, and consent of the parties, to participate in an alternative dispute resolution process to resolve any dispute between the parties respecting the interpretation or application of a term and condition of this contract and their consent to bear the cost of such process, provide to the parties a proposal for an alternative dispute resolution process to resolve their dispute. The Procurement Ombudsman will also review a complaint filed by the Contractor respecting administration of this contract if the requirements of subsection 22.2(1) of the *Department of Public Works and Government Services Act* and Sections 15 and 16 of the *Procurement Ombudsman Regulations* have been met, and the interpretation and application of the terms and conditions and the scope of the work of this contract are not in dispute. The Office of the Procurement Ombudsman may be contacted by telephone at 1-866-734-5169 or by e-mail at boa.opo@boa.opo.gc.ca.



15. A9014C — Specific Person(s)

The Contractor must provide the services of the following person(s) to perform the Work as stated in the Contract: _____ (insert name(s) of person(s)).

16. A2000C – Foreign Nationals (Canadian Contractor)

The Contractor must comply with Canadian immigration requirements applicable to foreign nationals entering Canada to work temporarily in fulfillment of the Contract. If the Contractor wishes to hire a foreign national to work in Canada to fulfill the Contract, the Contractor should immediately contact the nearest Service Canada regional office to enquire about Citizenship and Immigration Canada's requirements to issue a temporary work permit to a foreign national. The Contractor is responsible for all costs incurred as a result of non-compliance with immigration requirements.

17. A2001C – Foreign Nationals (Foreign Contractor)

The Contractor must comply with Canadian immigration legislation applicable to foreign nationals entering Canada to work temporarily in fulfillment of the Contract. If the Contractor wishes to hire a foreign national to work in Canada to fulfill the Contract, the Contractor should immediately contact the nearest Canadian Embassy, Consulate or High Commission in the Contractor's country to obtain instructions, information on Citizenship and Immigration Canada's requirements and any required documents. The Contractor is responsible to ensure that foreign nationals have the required information, documents and authorizations before performing any work under the Contract in Canada. The Contractor is responsible for all costs incurred as a result of non-compliance with immigration requirements.



Annex A – Statement of Work

1.0 Background

At present, irradiated pressure tube material properties are determined using industry test procedures that have not been standardized by standards organizations such as the American Society for Testing and Materials (ASTM) or the Canadian Standards Association (CSA). Results generated from the present test procedures are being used in the development of CSA Standard N285.8. The results are also being used to validate newly developed structural integrity methodologies intended by industry to support licensing submissions.

CSA Standard N285.4 requires pressure tube surveillance material tests; however, the results are not being generated through the application of publically reviewed standards. CNSC staff has assessed the need to standardize test procedures for irradiated pressure tubes, including pressure tube conditioning and pre-conditioning. Expertise is also being sought to facilitate the development of standardized test procedures under CSA or ASTM.

2.0 Objectives

The objective of this project is to facilitate the standardization of testing procedures for irradiated Zr-2.5Nb pressure tube material by proposing modifications to the applicable CSA or ASTM standards, or independent development of new standards or standard appendixes under CSA or ASTM.

3.0 Scope of Work

The scope of work includes:

- 3.1 Reviewing the ASTM Standard Test Method for Measurement of Fracture Toughness, document E-1820, and assessing its applicability to small curved compact tension specimen testing of irradiated Zr-2.5Nb pressure tube material utilized by the Canadian nuclear industry. The assessment is to provide a path forward to account for the latest theoretical understanding and advances in testing equipment.
- 3.2 Facilitating the standardization of testing procedures for Zr-2.5Nb pressure tube material by proposing modifications to applicable CSA or ASTM standards, or developing new draft standards or draft standard appendixes under CSA or ASTM.

The new draft standards or draft standard appendixes are to address:

- a) as-received irradiated Zr-2.5Nb pressure tube materials; and
- b) irradiated Zr-2.5Nb pressure tube materials subjected to elevated hydrogen concentrations. Both subjects of interest are to address fracture toughness properties analysis at room temperature and elevated temperatures (e.g. 300 degree Celsius).

4.0 Tasks to be Performed

- 4.1 Review the ASTM Standard Test Method for Measurement of Fracture Toughness, E-1820, and assess its applicability to small curved compact tension specimen testing of irradiated Zr-2.5Nb pressure tube material utilized by the Canadian nuclear industry. The assessment is to provide a path forward to account for the latest theoretical understanding and advances in testing equipment.



4.2 Based on the above review, answer the following questions:

- a) Can one apply the ASTM Standard Test Method for Measurement of Fracture Toughness, E1820, to test irradiated Zr-2.5Nb pressure tube material at room and elevated temperatures (e.g. 300 degree Celsius)?
- b) What are the major areas for improvement or development? Include a description with rationale of the following:
 - i. What areas of the aforementioned standard would need to be modified to suit irradiated Zr-2.5Nb pressure tube material testing on small curved compact tension specimens?
 - ii. What areas of the aforementioned standard would need to be modified to suit irradiated Zr-2.5Nb pressure tube material testing to account for the latest theoretical understanding and advances in testing equipment?
- c) How should one proceed with standardizing the testing of irradiated small curved compact tension Zr-2.5Nb specimens?

4.3 Review and summarize international practice in the following areas:

- a) Fracture toughness tests on small sub-size specimens;
- b) Use of the curved compact toughness specimens (CCTS) in fracture toughness tests;
- c) State-of-art instrumentation and data acquisition systems; and
- d) Methods for calculation and verification of the fracture toughness parameters from the test data.

4.4 Develop two (2) draft standards or draft standard appendixes under CSA or ASTM for determination of fracture toughness properties of irradiated Zr-2.5Nb pressure tube material in as-received and elevated hydrogen concentration conditions for room and elevated temperatures (e.g. 300 degree Celsius).

5.0 Deliverables

All deliverables are to be submitted to the Project Authority.

5.1 Start-up Meeting

- Date: Within two (2) weeks of contract award
- Location: The CNSC Head Office, Ottawa OR via Tele/Videoconference
- Purpose: To discuss and clarify the proposed approach, work plan and schedule to ensure achievement of the contract objectives. The contractor shall make a presentation with the above purpose in mind.

5.2 Progress Meetings

- Dates: Bi-monthly
- Location(s): Tele/Videoconference
- Purpose: To assess the degree to which the agreed project objectives are being achieved as planned and thus to facilitate timely adjustments (if necessary) to ensure the project success.



5.3 Work Plan

Due Date: One (1) months after contract award

Copies: One electronic copy via email to the Project Authority

Format and style requirements: To be specified by the Project Authority. The font Times New Roman 12 is to be used.

5.4 Progress Report

Due Date: Six (6) months after contract award

Copies: One electronic copy via email to the Project Authority

Format and style requirements: To be specified by the Project Authority. The font Times New Roman 12 is to be used.

5.5 Subject Matter Expert Findings Report

This report shall address tasks 4.1, 4.2 and 4.3.

Due Date: Twelve (12) months after contract award

Copies: One electronic copy via email to the Project Authority

Format and style requirements: To be specified by the Project Authority. The font Times New Roman 12 is to be used.

5.6 Progress Report

This report is intended to address progress made on task 4.4.

Due Date: Eighteen (18) months after contract award

Copies: One electronic copy via email to the Project Authority

Format and style requirements: To be specified by the Project Authority. The font Times New Roman 12 is to be used.

5.7 Draft Standard or Draft Standard Appendix # 1

This draft standards or draft standard appendix, under CSA or ASTM, shall address the determination of fracture toughness properties of irradiated Zr-2.5Nb pressure tube material in an as-received condition at room and elevated temperatures (e.g. 300 degree Celsius).

Due Date: Twenty-Four (24) months after contract award

Copies: One electronic copy via email to the Project Authority

Format & style requirements:

The format and style requirements shall be consistent with CSA or ASTM standards, as applicable. The electronic copy must be provided in a format readable by Word 2010 with minor formatting changes. Any electronic files that cannot be read or require major formatting changes when opened are not acceptable and may be returned to the contractor for correction.



5.8 Draft Testing Standard or Draft Standard Appendix # 2

This draft standard or draft standard appendix under CSA or ASTM, shall address the determination of fracture toughness properties of irradiated Zr-2.5Nb pressure tube material in an elevated hydrogen concentration condition at room and elevated temperatures (e.g. 300 degree Celsius).

Due Date: Twenty-Four (24) months after contract award

Copies: One electronic copy via email to the Project Authority

Format & style requirements:

Same as the format and style requirements for Deliverable 5.7.

5.9 Presentation

Due Date: Twenty-Five (25) months after contract award

Location: The CNSC Head Office, Ottawa

Purpose: To present the project findings, conclusions and recommendations documented in the Draft Report to the CNSC Commission.



Annex B – Basis of Payment

1.0 Basis of Payment – Firm Price – Deliverables

1.1 Deliverables Schedule

In consideration of the contractor satisfactorily completing all of its obligations under the contract, the contractor will be paid the following firm all inclusive price in accordance with the following deliverable schedule. Customs duties, travel cost are included and Applicable Taxes are extra.

Deliverables	Delivery date	Firm price (percentage based)
Work Plan (Deliverable 5.3)	One (1) month after contract award	
Progress Report (Deliverable 5.4)	Six (6) months after contract award	13%
Subject Matter Expert Findings Report (Deliverable 5.5)	Twelve (12) months after contract award	19%
Progress Report (del. 5.6)	Eighteen (18) months after contract award	19%
Draft Standard or Draft Standard Appendix # 1 (Deliverable 5.7)	Twenty-Four (24) months after contract award	
Draft Standard or Draft Standard Appendix # 2 (Deliverable 5.8)	Twenty-Four (24) months after contract award	
Presentation (Deliverable 5.9)	Twenty-Five (25) months after contract award	49%
Total firm price		\$

1.2 Limitation of Price (C6000C – 2011-05-16)

Canada will not pay the Contractor for any design changes, modifications or interpretations of the work unless they have been approved, in writing, by the contracting authority before their incorporation into the work.