

**Request for Proposal Number 267365**

<b>Issued by:</b> Battelle Battelle Boulevard, K6-49 P.O. Box 999 Richland, WA 99352-0999 USA	<b>Ship To address:</b> <b>Lines 1 &amp; 2</b> PO#: TBD Battelle for US DOE 790 6th Street Richland, WA 99354 United States  <b>Lines 3 &amp; 4</b> PO#: TBD Aquila Technologies for US DOE 8401 Washington Place NE Albuquerque, NM 87113
<b>Contracts Specialist:</b> Name: Aimee Mendoza Telephone Number: 509/371-6702 Fax Number: 509/375-4589 Email: <a href="mailto:aimee.mendoza@pnnl.gov">aimee.mendoza@pnnl.gov</a>	<b>Anticipated Freight Terms:</b> DOM FOB-Dest. Collect
<b>Proposal Due Date:</b> April 28, 2014	<b>Required Delivery Date:</b> See Line Items
<b>Payment Terms:</b> Net 30	<b>Anticipated Contract Type:</b> Fixed Unit Price

<b>Offer</b> We offer to sell the items (or alternate items as specified) at the prices indicated, on the terms and conditions stated and the referenced General Provisions which will be a part of any resulting contract.		
<b>Offeror shall sign and return with the submitted response</b>		
Firm Name	Telephone Number	Fax Number
Offer Date	Email Address	
Name	Title	
Signature		

This is a Request for Proposal for fiber optic seals. The Contractor may bid on the wired fiber optic seals, the wireless fiber optic seals or both the wired and wireless seals. Proposals should be initially submitted on the most favorable price and technical terms which can be offered because of the possibility that award will be made without discussion of proposal received.

Questions regarding this RFP shall be submitted in writing by e-mail to Aimee Mendoza at [aimee.mendoza@pnnl.gov](mailto:aimee.mendoza@pnnl.gov). Verbal questions will **NOT** be accepted. Questions will be answered by posting answers on PNNL's Solicitations page (<https://ebs.pnnl.gov/advertised.aspx>); accordingly, questions shall **NOT** contain proprietary or classified information. Battelle does not guarantee that questions received after April 18<sup>th</sup>, 2014 4:00pm PST will be answered.

In response to this request, a quotation with all information requested shall be provided. Quotations shall include unit and total prices for meeting the stated required delivery date. If unable to meet stated date, offer best delivery date.

The initial delivery will be for Line items 1 and 2; three (3) wired fiber optic seals and three (3) wireless fiber optic seals, respectively, with complete documentation and training material for testing and evaluation. Once these articles have been accepted the additional line items will be authorized in writing by the Battelle Contract Specialist.

The Contractor is requested to provide pricing for three (3) options. These priced options are critical to the programs need of providing a low-cost tamper device. Battelle, reserves the right to exercise the options at its sole discretion.

The Contractor is also requested to provide their warranty documentation. At a minimum it's requested that an equipment warranty be provided for one (1) year from initial use (date of shipment to a GTRI partner site) not to exceed 24 months from the manufacture date.

### Line Items

Item	Material/Description	Quantity	Delivery Date	Unit of Measure	Fixed Unit Price	Total Price
1	Wired Fiber Optic Seals for the GTRI RMS – for Evaluation & Testing	3	5/30/2014	EA		
2	Wireless Fiber Optic Seals for the GTRI RMS – For Evaluation & Testing	3	5/30/2014	EA		
3	Wired Fiber Optic Seals for the GTRI RMS	880	9/30/2014 - 8/30/2015*	EA		
4	Wireless Fiber Optic Seals for the GTRI RMS	5	9/30/2014	EA		

\*75 seals per month for 11 months, and 55 seals the final month.

### Priced Options

#### Option 1 – Prices good thru September 30, 2015

##### Wired Fiber Optic Seals

Quantity	Unit of Measure	Price Per Unit
1-100	EA	
100 - 499	EA	
500+	EA	

##### Wireless Fiber Optic Seals

Quantity	Unit of Measure	Price Per Unit
1-100	EA	

#### Option 2 – Prices good thru September 30, 2016

**Wired Fiber Optic Seals**

<b>Quantity</b>	<b>Unit of Measure</b>	<b>Price Per Unit</b>
1-100	EA	
100 - 499	EA	
500+	EA	

**Wireless Fiber Optic Seals**

<b>Quantity</b>	<b>Unit of Measure</b>	<b>Price Per Unit</b>
1-100	EA	

**Option 3** – Prices good thru September 30, 2017**Wired Fiber Optic Seals**

<b>Quantity</b>	<b>Unit of Measure</b>	<b>Price Per Unit</b>
1-100	EA	
100 - 499	EA	
500+	EA	

**Wireless Fiber Optic Seals**

<b>Quantity</b>	<b>Unit of Measure</b>	<b>Price Per Unit</b>
1-100	EA	

**Technical Specifications**

The enclosed Technical Specification outlines the requirements for this solicitation.

**Contract Contents**

Each proposal submitted shall include a statement of acceptance for the following General Provisions:

- The Fixed Price General Provisions for Commercial Items - Supplies/Services, Form A-409.11-CI dated October 2013, apply and may be viewed at <http://www.pnnl.gov/contracts/contractdocuments.aspx>.
- The General Provisions Supplement Nuclear Hazards Indemnity Agreement and Price-Anderson Amendments Act, Form A-309-NHI/PAAA, also applies and may be viewed at <http://www.pnnl.gov/contracts/documents/generalprovisions.asp>.

**Performance Schedule**

Offerors shall note that any resulting contract shall include the following provision for submittal of a Performance Schedule:

"Contractor shall provide a performance schedule identifying major production milestones and deliverables to accomplish the requirements of this contract. Contractor shall submit the contract award and provide written, electronic status reports by the 15th of each succeeding month. If at any time the Contractor has reason to believe that a production milestone or delivery date may not be met, Contractor shall immediately notify the Battelle Contracts Representative in writing, outlining the milestone or delivery date in jeopardy, the reasons, and steps the Contractor will take to recover the schedule in order to meet delivery requirements."

**Battelle Contracts Representative**

The Battelle Contracts Representative, Aimee Mendoza, is the sole point of contact for any communications or questions regarding this acquisition.

**Applicable Tax**

Contractor and its Subcontractors shall be responsible for all state and local transactional taxes related to taxable materials and services consumed in the performance of this contract if contract is not awarded directly with the site operator.

**Solicitation Provisions**

In addition to the requirements outlined herein, the Solicitation Provisions, Form A-609-SP (November 2013), available at <http://www.pnnl.gov/contracts/contractdocuments.aspx> apply to this Request for Proposal.

**Submission of Proposals**

Proposals should be prepared simply and economically, and provide a straightforward, concise delineation of the information required to be furnished. Emphasis should be on completeness and clarity. Elaborate brochures or other presentations are neither required nor desired.

**Each proposal submitted should include:**

- A. Completed Representation- Commercial form found at:  
<http://www.pnnl.gov/contracts/contractdocuments.aspx>
- ⊕ The NAICS code for section A.1 of the Representations and Certifications is 334290
  - ⊕ The size standard for section A.2 is 750 Employees. (If a manufacturing NAICS code is used, a wholesale trade or retail trade business concern submitting an offer or quote is categorized as a "nonmanufacturer" and deemed small if it has 500 or fewer employees and meets the requirements of 13 CFR 121.406)
- B. A price offer with all information requested herein including the completed Certificate of Established Catalog or Market Price Form located at <http://www.pnnl.gov/contracts/contractdocuments.aspx>.
- C. If this proposal is for primarily for goods submit a Technical Proposal prepared in a manner consistent with the attached Specification dated April 3, 2014. The Technical Proposal shall definitively indicate compliance, paragraph by paragraph, with the requirements outlined in the Specification and shall be supported by cross-referenced documentation as necessary. Any technical areas not being met MUST be clearly identified.

In addition, the following shipping information shall be provided:

1. Origin Zip codes
  2. Recommended carrier
  3. Number, weight, and dimensions of each handling unit (pallet, crate, cardboard box, drum, etc).
- D. A Small Business Subcontracting Plan in accordance with the General Provision 52.219-9 (if applicable)  
Proposals shall be delivered to Battelle on or before April 28, 2014 and shall be valid for a minimum of 60 days.

Proposals are preferred to be submitted via Email to [aimee.mendoza@pnnl.gov](mailto:aimee.mendoza@pnnl.gov) with a subject line that includes the words "Proposal to RFP 267365". Proposals may also be submitted via facsimile at the Fax Number provided herein or by hard copy to the above address. All transmittals must reference "Proposal to 267365". Proposals submitted by overnight mail must be mailed to:

Battelle, Pacific Northwest Division  
ATTN: Aimee Mendoza, K6-49

P.O. Box 999  
Richland, WA 99352

**Contract Award** (cl 600 -- Aug 2012)

Battelle may evaluate proposals received in response to this solicitation without discussion (initial proposals should contain the offeror's best price and technical terms). Contract award, if any, will be made to the responsive, responsible offeror whose evaluated proposal provides the lowest price after satisfying all the technical requirements of this solicitation.

Battelle may:

- A. reject any or all proposals;
- B. request clarification of minor irregularities, informalities or apparent clerical mistakes;
- C. waive minor irregularities, informalities or apparent clerical mistakes in offers received
- D. accept any item or combination of items, unless doing so is precluded by a restrictive limitation in the solicitation or the proposal;
- E. award multiple contracts as a result of this solicitation;
- F. reject a proposal as non-responsive if the prices proposed are materially unbalanced between line items or sub-line items. A proposal is materially unbalanced when it is based on prices significantly less than prices for some items and prices which are significantly overstated in relation to prices for other items, and if there is a reasonable doubt that the proposal will result in the lowest overall price to Battelle even though it may be the lowest evaluated proposal, or if it is so unbalanced as to be tantamount to allowing an advance payment;
- G. conduct site visits to the home or field offices of offerors determined to be in the competitive range (offerors will be notified with the date and time of arrival, an outline of the duration of the visit and any assistant/information required);
- H. require oral presentations from any or all offerors, determined to be in the competitive range (offerors will be notified of the time and place for such presentation);
- I. request oral and/or written discussions;
- J. determine a competitive range, including all proposals that are judged to have a reasonable chance of being selected for award, and negotiate with all offerors within it. (In the event a competitive range is determined, it will be based solely on Battelle's judgment, and Best and Final Offers will be requested at the conclusion of negotiations); or
- K. negotiate only with a single offeror to further reduce the price paid if, in the judgment of Battelle after a review of the technical and price offers, only one offeror has a reasonable chance of being selected for award.

Funding is fully obligated for this action. However, contract award is subject to Availability of Funds at the time of award.



# **Battelle**

## Optic Fiber Seal Technical Requirements

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April 3, 2014

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*for the*  
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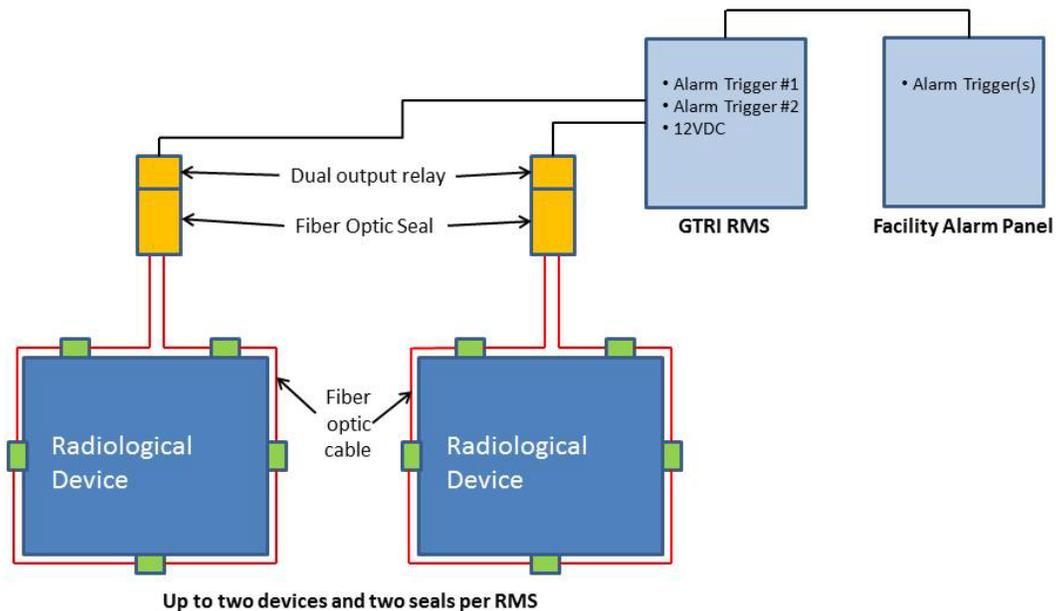
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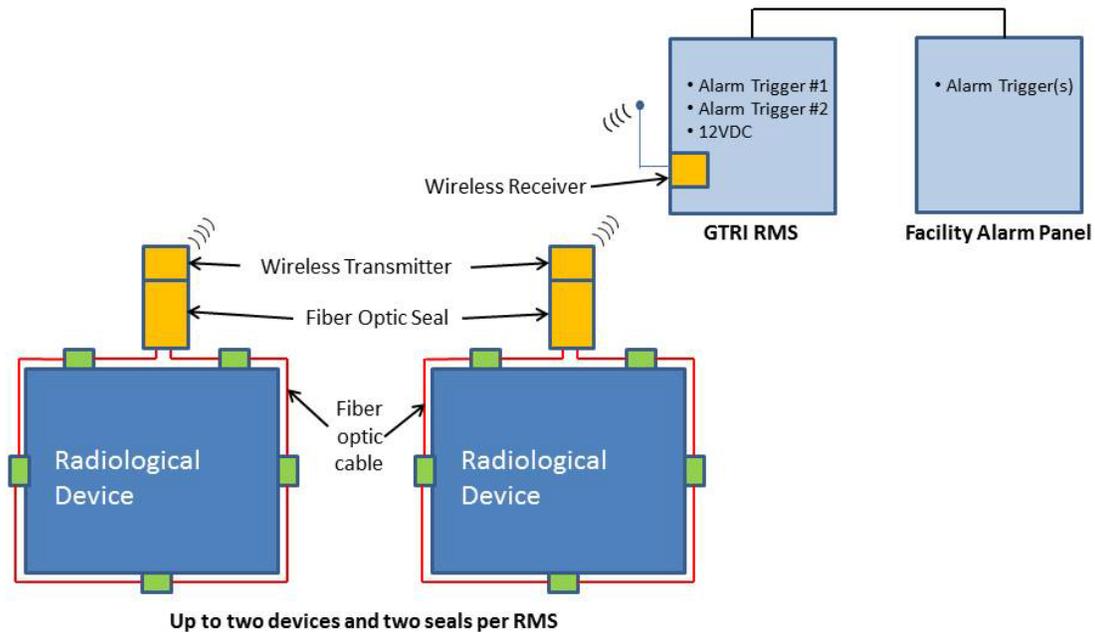


# 1.0 Background

Various technologies are available for security seals. A seal wire or optical fiber is wrapped around an asset so that the seal cable must be disconnected or broken to gain access. The continuity of the wire or fiber is monitored by a sensor that triggers an alarm when the seal cable is cut. Pacific Northwest National Laboratory (PNNL) intends to purchase commercially available fiber optic seals to support program needs related to security and safeguards. As shown in Figures 1.1 and 1.2, this device shall have two options: 1) tethered, where the alarm output is transmitted via electrical wiring to the Global Threat Reduction Initiative (GTRI) Remote Monitoring System (RMS) and the Facility Alarm Panel (see Figure 1.1) or 2) wireless, where the alarm communication with the GTRI RMS is wireless, which may be 433Mhz or Bluetooth (see Figure 1.2). To mitigate insider threat, this seal system and components combined with the GTRI RMS shall always be operational and shall not be turned off without alarms.



**Figure 1.1.** Tethered Fiber Optic Seal Configuration



**Figure 1.2.** Wireless Fiber Optic Seal Configuration

To meet program needs, this procurement seeks commercially available, low-cost fiber optic seals. Tethered fiber optic seals will meet most needs, but a wireless version is desired for special cases. Requirements for each item are provided below.

## 2.0 Fiber Optic Seal

### 2.1 Operating Conditions

- 2.1.1** The fiber optic seal will be used in hospitals, industrial settings, and research institutions where securing and safeguarding material and equipment are necessary. This device will have two options: 1) tethered, where the optical components connect to the GTRI RMS and the Facility Alarm Panel via electrical wiring (see Figure 1.1) or 2) wireless, where the seal communicates with the GTRI RMS through a 433 MHz wireless communication pathway (see Figure 1.2).
- 2.1.2** When used in conjunction with the GTRI RMS, the core system and key components are always operational and cannot be turned off without an alarm to mitigate an insider threat.

**2.1.3** Operating Temperature: 20° F to 120° F (-7° C to 49° C)

**2.1.4** Operating Relative Humidity: 10 – 85% non-condensing

**2.1.5** Storage Conditions: -45° F to 145° F (-43° C to 63° C)

Relative Humidity: <80% RH (+/- 10 %) Altitude: <40,000ft

## **2.2 Installation**

**2.2.1** The fiber optic seal shall provide tamper detection of the seal enclosure.

**2.2.2** The vendor shall provide a description of the general procedure for installation and operation of the fiber optic seal. Installation procedures shall be simple enough for a standard field technician to accomplish with very little field equipment. For example, optical connectors and adhesives shall be accomplished with ease in the field. The vendor shall provide a comprehensive list of all required spare parts and consumables, including connectors and tooling used to prep fibers and adhesives for attachment hasp components.

**2.2.3** The vendor shall provide a comprehensive list of all required spare parts and consumables, including chemicals used to clean during surface installation.

**2.2.4** The vendor shall document the recommended maintenance procedures and schedule.

## **2.3 Tethered Configuration**

**2.3.1** The fiber optic seal shall operate on nominal 12VDC, maximum current 0.5 A.

**2.3.2** The fiber optic seal shall provide security features (modulated light or other method) to resist attempts to “spoof” the optical signal. Spoofing could involve feeding in an alternate light source.

**2.3.3** The fiber optic seal shall be compatible with (black) polyethylene jacketed plastic optical fiber cable, 1mm fiber diameter and 2.2mm jacket OD with a minimum bend radius of 25mm.

**2.3.4** The fiber optic seal shall support fiber loops up to 150 ft. in length, including up to 5 splice connections.

- 2.3.5 Size of the seal shall be minimized to the extent possible. The maximum dimensions should not exceed 3”X 3.5” X 1.5” and shall not exceed 3” X 5” X 1.5.”

## **2.4 Interconnect to GTRI Remote Monitoring System and Facility Alarm Panel**

- 2.4.1 The tethered fiber optic seal shall provide hardwire connections to a local monitoring system and shall provide a secondary output connection to an auxiliary alarm panel. These panels carry out the health monitoring and alarm function of the overall system.
- 2.4.2 This wired connection to two independent security systems shall be accomplished through a single-pole double-throw relay with a 12VDC Form C relay capable of providing two sets of dry contacts for alarm triggers.
- 2.4.3 This relay assembly shall be removable so that the tethered seal can be configured for a single or double output.

## **2.5 Seal State of Health and Alarms**

- 2.5.1 The fiber optic seal shall generate immediate alarm on fiber cut or disconnect (NO or NC contact selection).
- 2.5.2 The fiber optic seal shall generate immediate (alarm) notification on fiber reconnect/rearm.
- 2.5.3 The fiber optic seal shall provide visual indication of status, seal closed (OK) or open (alarm).
- 2.5.4 The fiber optic seal shall provide visual indication of power ON status.
- 2.5.5 The fiber optic seal shall provide supervision with immediate alarm on loss of power to unit and cutting or shorting of alarm trigger wires.

## **2.6 Wireless Configuration**

The wireless configuration shall meet all the requirements of the wired configuration plus the following.

- 2.6.1** The wireless fiber optic seal shall have a reliable communication over a range of up to 20 ft. in a cluttered environment. It may utilize 433 Mhz or Bluetooth.
- 2.6.2** All vendor-supplied electrical equipment shall meet Federal Communications Commission 47 CFR 15, 2004, Radio Frequency Devices Regulations. Type certification for devices is acceptable.
- 2.6.3** The wireless fiber optic seal with transmitter shall include battery power to operate a maximum of quarterly battery changes with annual changes preferred. Batteries shall be a standard, commonly available size.
- 2.6.4** The wireless fiber optic seal shall include a wireless receiver module to monitor the wireless transmitter. The wireless receiver shall operate on nominal 12VDC, maximum current 0.5 Amps. This receiver shall be housed in the GTRI RMS.
- 2.6.5** The overall seal shall provide visual indication of status on wireless seal unit—seal closed (OK) or open (alarm)—and also indicate low battery.

The seal/receiver shall provide alarm on low battery or loss of communication with the wireless seal. Communication with the wireless seal (State of Health) shall be monitored continuously and loss of communication reported as an alarm. The loss of communications *must* be detected and alarm shall trigger within 3 minutes.