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## SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

### Comments - Commentaires

### Vendor/Firm Name and Address

Raison sociale et adresse du  
fournisseur/de l'entrepreneur

### Issuing Office - Bureau de distribution

Electrical & Electronics Products Division  
L'Esplanade Laurier  
East Tower, 4th floor,  
Ottawa  
Ontario  
K1A 0S5

<b>Title - Sujet</b> Surge Protective Devices 240V	
<b>Solicitation No. - N° de l'invitation</b> 08283-210015/A	<b>Amendment No. - N° modif.</b> 003
<b>Client Reference No. - N° de référence du client</b> 08283-210015	<b>Date</b> 2021-09-16
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$HN-478-80282	
<b>File No. - N° de dossier</b> hn478.08283-210015	<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> Eastern Daylight Saving Time EDT <b>on - le 2021-09-29</b> Heure Avancée de l'Est HAE	
<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> Brazeau, Sean	<b>Buyer Id - Id de l'acheteur</b> hn478
<b>Telephone No. - N° de téléphone</b> (343) 574-2814 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> Global Affairs Canada c/o BOYD MOVING & STORAGE LTD. 1255 Humber Place, Door 2A Ottawa, K1B 3W2	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b>	<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>

**Solicitation Amendment 003 is raised to address the following:**

1. To address questions submitted by potential bidders.
2. To amend Annex A – Statement of Requirement.
3. To amend Annex C – Mandatory Evaluation Criteria.

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**1. Questions and Answers.**

**Question 1.** Is this tender for units to be deployed all around the globe or only in North America?

If the answer is North America only: the specs are correct.

If the answer is around the globe, then a revision should be made to reflect a different voltage compatible with North American and all other foreign countries:

ITEM	Equipment Specifications
1.0	Power Surge Protective Device 240 V
	<ol style="list-style-type: none"><li>1. 2 PH split, 2 X 40mm 240V (2 X L-G), breaker.<ol style="list-style-type: none"><li>a. Phase-indication LEDs, remote relays –nominal voltage: 120/240V split phase.</li><li>b. Maximum continuous operating voltage (MCOV) (L-G): <b>300V</b>.</li><li>c. Nominal discharge current I (8/20µs) per UL 1449 3RD EDITION (L-G) N: 20KA</li><li>d. Voltage protection rating (VPR), in-line, per UL 1449 <b>4TH</b> EDITION (L-G): <b>1200V</b>.</li><li>e. Voltage protection rating (VPR), in-line, per UL 1449 <b>4TH</b> EDITION (L-L): <b>1200V</b>.</li><li>f. Maximum Surge Current I (8/20µs) NEMA LS-1 (L-G) MAX: 140KA</li><li>g. Maximum Lightning Current I (10/350µs) IEC 61643-1 (L-G) IMP: <b>12.5KA</b>.</li><li>h. Let through voltage level for surge current 10kA (8/20µs) (L-G): 435V</li></ol></li></ol>

	<ul style="list-style-type: none"><li>i. Long duration surge performance 500A square waveform 2MS IEEE C62.11: 250 HITS</li><li>j. Response time: &lt; 1 nanosecond.</li><li>k. Operating Temperature range must at a minimum include the full range of -40 degrees to +85 degrees Celsius.</li><li>l. Environnemental Protection: NEMA 4 - IP65.</li><li>m. Enclosure Dimensions must be from 10" X 8" X 6 1/2" up to 12" X 6" X 12".</li><li>n. NEMA L6-20 Male plug power cords to power source, and NEMA L6-20 Female plug to equipment power cords.</li><li>o. Must be listed to UL 1449 - 3RD EDITION (E316468).</li></ul>
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**Answer 1.** Must be deployed across the world. Specification required are:

1. 2 PH split, 2 X **40mm MOV** 240V (2 X L-G), **for in-line installation c/w breaker.**
  - a. Phase-indication LEDs, remote relays –nominal voltage: **240V** split phase.
  - b. Maximum continuous operating voltage (MCOV) (L-G): **300V.**
  - c. Nominal discharge current I (8/20µs) per **UL 1449 4TH** EDITION (L-G) : 20KA
  - d. Voltage protection rating (VPR), in-line, per UL 1449 **4TH** EDITION (L-G): **1000V.**
  - e. Voltage protection rating (VPR), in-line, per UL 1449 **4TH** EDITION (L-L): **2000V.**
  - f. Maximum Surge Current I (8/20µs) NEMA LS-1 (L-G) MAX: 140KA
  - g. **Impulse discharge current** (10/350µs) IEC 61643-11 (L-G) IMP: **12.5KA.**
  - h. **Temporary AC Overvoltage Withstand [Ut ] for 5s per IEC 61643-11 = 442V**

- i. Long duration surge performance 500A square waveform 2MS IEEE C62.11: 250 HITS
- j. Response time: < 1 nanosecond.
- k. Operating Temperature range must at a minimum include the full range of -40 degrees to +85 degrees Celsius.
- l. Environmental Protection: NEMA 4 - IP65.
- m. Enclosure Dimensions must be from 10" X 8" X 6 1/2" up to 12" X 6" X 12".
- n. NEMA L6-20 Male plug power cords to power source, and NEMA L6-20 Female plug to equipment power cords.
- o. Must be listed to UL 1449 - **4th EDITION** (E316468).

**Question 2.** For Mandatory M4, Must have a nominal discharge current I (8/20 $\mu$ s) per UL 1449 3RD EDITION (L-G) N of 20KA: The UL 1449 3 edition is an old certification. We are UL 1449 4 edition. Why ask for the old certification?

**Answer 2.** UL1449 4TH Edition required

**Question 3.** For Mandatories M5 & M6, Must have a voltage protection rating (VPR), in-line, per UL 1449 3RD EDITION (L-G) of 500V (M5) & Must have a voltage protection rating (VPR), in-line, per UL 1449 3RD EDITION (L-L) of 1000V (M6): VPR depends on the kA selected and the type of UL certification. Do you want a Type 3 or a Type 2 protector?

**Answer 3.** Type 2.

**Question 4.** For Mandatory M10, Must have a long duration surge performance 500A square waveform 2MS IEEE C62.11: 250 HITS: Why not ask for SCCR of 500A? The time of the square waveform is not indicated.

**Answer 4.** Must be able to demonstrate long duration surge performance 500A square waveform 2ms as per IEEE C62.11 : 250 hits without performance impact or degradation.

**Question 5.** For Mandatory Criteria M7, Must have a maximum surge current I (8/20 $\mu$ s) NEMA LS-1 (L-G) MAX of 140KA: UL Standard 1449, 4th edition, covers this test. Would you accept it as an equivalent because NEMA LS-1 is dated 1994? Companies no longer work with standards from earlier than 2016.

**Answer 5.** Yes, it is acceptable.

**Question 6.** For Mandatory Criteria M9, *Must have a let through voltage level for surge current 10kA (8/20 $\mu$ s) (L-G) of 435V*: This is redundant because it is the very definition of VPR. Can I simply meet the VPR requirement?

**Answer 6.** M9 replaced with: Temporary AC Overvoltage Withstand [Ut ] for 5s per IEC 61643-11 = 442V.

**Question 7.** For Mandatory Criteria M11, *Must have a response time of < 1 nanosecond*: The response time of 1 nanosecond is often improperly tested. Do you require one nanosecond with 6 inches of wire or directly from the varistor?

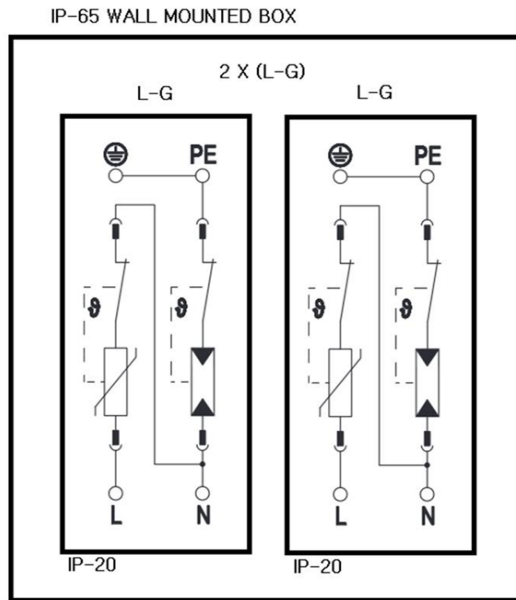
**Answer 7.** 1 nanosecond directly from the varistor.

**Question 8.** For Mandatory Criteria M15, *Must have NEMA L6-20 Male plug power cords to power source, and NEMA L6-20 Female plug to equipment power cords*: Many types of surge protectors do not have plug sockets because they are directly connected to the electrical panel. You did not specify the type of SPD. Which type do you require: 1, 2 or 3? Thank you!

**Answer 8.** TYPE 2, designed for direct connection with no fuse. Only one protector per breaker is accepted.

**Question 9.** ANNEX C – Item M1: Must have 2 PH split, 2 X 40mm 240V (2 X L-G), breaker.

- What type of breaker do you need?
- Is it modular rail mounted or external wall mounted?
- What is your UPS main voltage?
- What is the earthing system? TT or TN-S, TN-C-S
- Could you please explain more and clarify about 2xL-G?
- Could you please clarify if the desired system is something like the below schematic diagram?



**Answer 9.**

- Standard double pole breaker
- Wall mounted in a NEMA 4 or IP65 box.
- 240V unit must be able / compatible & certified to be used in all countries around the world: 208V (L-L), 220V (L-L), 230V (L-L OR L-N), 240V (L-L OR L-N)
- TT
- 2 surge protecting device (40mm MOV), each connected line-to-ground for worldwide application: 208V (L-L), 220V (L-L), 230V (L-L or L-N), 240V (L-L or L-N).
- Acceptable as long as MOVs are 40mm/140KA each. Multiple small MOVs in parallel to achieve 140KA per phase are not accepted.

**Question 10.** ANNEX C – Item M6: Must have a voltage protection rating (VPR), in-line, per UL 1449 3<sup>RD</sup> EDITION (L-L) of 1000V.

- According to the M1 it mentioned 2xL-G. Why we have L-L in this item?

**Answer 10.** Provide the information published for both measurement: L-L & L-G

**Question 11.** ANNEX C – Item M13 and M14

- Would it be acceptable if we offer IP20 in an IP65 enclosure?

**Answer 11.** No. IP65 or NEMA 4 will be accepted.

**Question 12.** ANNEX C – Item M10: Must have a long duration surge performance 500A square waveform 2MS IEEE C62.11: 250 HITS

- Would it be acceptable to offer a product which is TUV certified by external CTI report IEC 61643-11?

**Answer 12.** No. The IEC 61643-11 does not include this performance test.

**Question 13.** ANNEX C – Item M9: Must have a let through voltage level for surge current 10kA (8/20µs) (L-G) of 435V

- Would it be acceptable if we offer 12.5kA (8/20) of 550V?

**Answer 13.** Please see Answer 6.

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2. At pages 16 of 25 of the Solicitation; Annex “A” – Statement of Requirement

**Delete:** Annex A in its entirety

**Insert:** Annex “A” - Statement of Requirement (see herein).

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3. At page 22 of 25 of the Solicitation; Annex “C” - Mandatory Technical Criteria

**Delete:** Annex C in its entirety

**Insert:** Annex “C” - Mandatory Evaluation Criteria. (see herein).

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**ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED**

## **ANNEX "A" – STATEMENT OF REQUIREMENT**

### **1. Purpose**

- 1.1. The Department of Global Affairs Canada (GAC) has a requirement for the supply and delivery of power surge protective devices (SPDs) to Ottawa, Ontario.

### **2. Background**

- 2.1. The Chancery Electronic Security System (CESS) Uninterruptible Power Supply (UPS) project was put in place to protect UPS equipment from power surges/fluctuations and help extend the life of the equipment. This system was specifically designed for GAC in 2012 to protect their UPS systems worldwide.

In many foreign countries electricity is unstable/unreliable. An external surge suppressor is necessary to protect the UPS equipment against high energy transient susceptible to disturb/destroy the UPS, which would risk a complete and catastrophic critical load loss. An external fuseless Surge Protective Device (SPD) is able to absorb a temporary surge current of 60kA (60,000 amps). If the surge is higher or is sustained, the SPD protects assets/load at all cost and short-circuits and opens upstream breaker. Doing so, the UPS will go on battery, initiate proper graceful shutdown procedures and facilitates recovery. Being external, the SPD box can be manually unplugged and UPS plugged directly into the wall receptacle to restart the process.

A unique SPD system to operate in-line between Utility & UPS systems without any fusing/thermal protection makes the systems able to truly absorb and protect without degradation.

### **3. Deliverables**

The Contractor must supply and deliver the following deliverables:

#### **3.1. Table 1: Initial Deliverables**



ITEM	DESCRIPTION	UNIT	QTY
1.0	Power Surge Protective Devices - 240v (including a 10 year warranty on each device)	EA	55

### 3.2. Table 2: Optional Deliverables

ITEM	DESCRIPTION	UNIT	QTY
1.0	Additional Power Surge Protective Devices - 240v (including a 10 year warranty on each device)  Units to be provided between April 2022 and March 2023 in support of wider deployment to all missions.	EA	Up to 100

## 4. Delivery Destination

Destination	Contact
BOYD MOVING & STORAGE LTD. 1255 Humber Place, Door 2A Ottawa, K1B 3W2	<u><a href="#">(Contact name and details to be provided at contract award)</a></u>

## 5. Equipment Specifications

### 5.1. Table 3: Applicable Standards

ITEM	Applicable Standards
1.0	UL 1449 4TH EDITION (E316468)
2.0	IEC 61643-1
3.0	NEMA LS-1
4.0	NEMA 4 - IP65
5.0	NEMA L6-20
6.0	IEEE C62.11

### 5.2. Table 4: Equipment Specifications

ITEM	Equipment Specifications
1.0	Power Surge Protective Device 240 V 2 PH split, 2 X 40mm MOV 240V (2 X L-G), for in-line installation c/w breaker.

- a. Phase-indication LEDs, remote relays –nominal voltage: 240V split phase.
- b. Maximum continuous operating voltage (MCOV) (L-G): 300V.
- c. Nominal discharge current I (8/20µs) per UL 1449 4TH EDITION (L-G) : 20KA
- d. Voltage protection rating (VPR), in-line, per UL 1449 4TH EDITION (L-G): 1000V.
- e. Voltage protection rating (VPR), in-line, per UL 1449 4TH EDITION (L-L): 2000V.
- f. Maximum Surge Current I (8/20µs) NEMA LS-1 (L-G) MAX: 140KA
- g. Impulse discharge current (10/350µs) IEC 61643-11 (L-G) IMP: 12.5KA.
- h. Temporary AC Overvoltage Withstand [Ut ] for 5s per IEC 61643-11 = 442V
- i. Long duration surge performance 500A square waveform 2MS IEEE C62.11: 250 HITS
- j. Response time: < 1 nanosecond.
- k. Operating Temperature range must at a minimum include the full range of -40 degrees to +85 degrees Celsius.
- l. Environmental Protection: NEMA 4 - IP65.
- m. Enclosure Dimensions must be from 10" X 8" X 6 1/2" up to 12" X 6" X 12".
- n. NEMA L6-20 Male plug power cords to power source, and NEMA L6-20 Female plug to equipment power cords.
- O. Must be listed to UL 1449 - 4th EDITION (E316468).

## ANNEX “C” – MANDATORY EVALUATION CRITERIA

### 1. Instructions to Bidders:

In their bid submission, Bidders must demonstrate how they meet all requirements detailed in the Requirement at Annex “A” and address clearly and in sufficient depth all points that are subject to evaluation criteria listed below, against which the bid will be evaluated. Bidders should demonstrate their capability and describe their approach in a thorough, concise and clear manner for carrying out the work.

The Bidder must provide proof and/or verification of the Mandatory Evaluation Criteria identified herein through supporting documentation, as applicable. Bidders are required to provide a page reference number by each compliant requirement that refers to the supplied literature; if left blank, it may be evaluated as not met. It is the Bidder's responsibility to ensure that the submitted supporting documentation provides detail to prove that the proposed good(s) meet the requirements of the mandatory criteria.

**If published supporting documents or certifications are not available, Bidders should prepare a written narrative complete with a detailed explanation of how its bid demonstrates technical compliance.**

Canada will not evaluate information such as references to website addresses where additional information can be found, or technical manuals, or brochures not submitted with the bid. To be considered responsive, proposals must meet all of the mandatory criteria specified in the solicitation document.

### 2. Table 1 - Mandatory Technical Evaluation Criteria:

Item	Mandatory Technical Criteria	Cross Reference Paragraph / Page # in Bidder's Proposal
The power surge protective devices proposed by the Bidder:		
<u>M1</u>	Must have 2 PH split, 2 X 40mm MOV 240V (2 X L-G), for in-line installation c/w breaker.	
<u>M2</u>	Must have phase-indication LEDs, remote relays –nominal voltage: 240V split phase.	
<u>M3</u>	Must have a maximum continuous operating voltage (MCOV) (L-G): 300V.	
<u>M4</u>	Must have a nominal discharge current I (8/20µs) per UL 1449 4TH EDITION (L-G) : 20KA	

<u>M5</u>	Must have a voltage protection rating (VPR), in-line, per UL 1449 4TH EDITION (L-G) of 1000V.	
<u>M6</u>	Must have a voltage protection rating (VPR), in-line, per UL 1449 4TH EDITION (L-L) of 2000V.	
<u>M7</u>	Must have a maximum surge current I (8/20µs) NEMA LS-1 (L-G) MAX of 140KA	
<u>M8</u>	Must have a impulse discharge current (10/350µs) IEC 61643-11 (L-G) IMP: 12.5KA.	
<u>M9</u>	Must have Temporary AC Overvoltage Withstand [Ut ] for 5s per IEC 61643-11 = 442V	
<u>M10</u>	Must have a long duration surge performance 500A square waveform 2MS IEEE C62.11: 250 HITS	
<u>M11</u>	Must have a response time of < 1 nanosecond.	
<u>M12</u>	Must have an operating temperature range which at a minimum includes the full range of -40 degrees to +85 degrees Celsius.	
<u>M13</u>	Must have environmental protection rated to NEMA 4 - IP65.	
<u>M14</u>	Must have enclosure dimensions which fall within the range of 10" X 8" X 6 1/2" up to no more than 12"X6"X12".	
<u>M15</u>	Must have NEMA L6-20 Male plug power cords to power source, and NEMA L6-20 Female plug to equipment power cords.	
<u>M16</u>	Must be listed to UL 1449 – 4TH EDITION (E316468).	

**3. Table 2 – Other Mandatory Criteria:**

Item	Description	Cross Reference Paragraph / Page # in Bidder's Proposal
<u>M17</u>	The Bidder must identify in their proposal the make and model of the power surge protective devices proposed to fulfill the deliverables.	