



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

Réception des soumissions - TPSGC / Bid Receiving -  
PWGSC

Voir dans le document/

See herein

NA

Québec

NA

**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**

TPSGC/PWGSC  
601-1550, Avenue d'Estimauville  
Québec  
Québec  
G1J 0C7

<b>Title - Sujet</b> Electrical Power Data Loggers	
<b>Solicitation No. - N° de l'invitation</b> 23332-201000/A	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> 23332-201000	<b>Date</b> 2020-06-26
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$QCL-053-17928	
<b>File No. - N° de dossier</b> QCL-0-43002 (053)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2020-07-28</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Heure Avancée de l'Est HAE
<b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Godin, Joanne	<b>Buyer Id - Id de l'acheteur</b> qcl053
<b>Telephone No. - N° de téléphone</b> (581) 397-6683 ( )	<b>FAX No. - N° de FAX</b> (418) 648-2209
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**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>

## **AMENDMENT 001 TO THE SOLICITATION Electrical Power Data Loggers (EPDL)**

**PLEASE NOTE THAT THE CLOSING DATE OF THE TENDER NOTICE HAS BEEN DELAYED TO  
JULY 28, 2020, AT 14:00 EDT.**

### **SECTION A – QUESTIONS AND ANSWERS**

#### **Question 1**

In sections 4.2.3, 4.2.4 and 4.2.5 it is mentioned that the items should be calibrated. Is the NIST Calibration sufficient?

#### **Answer 1**

Yes, the NIST Calibration is sufficient. See the change in section B.

#### **Question 2**

In Annex B, is it possible to indicate included for certain lines. For example, the price of article 3 will be included in price of article 1. Is it acceptable?

#### **Answer 2**

Yes, this is acceptable.

#### **Question 3**

The size of this data logger as mentioned in the Requirements is length maximum 260mm and width maximum 160mm (horizontal mount). Could you please clarify if it could be width maximum 260mm and length maximum 160mm (vertical mount)?

#### **Answer 3**

Yes, the maximum width could be 260 mm and the maximum length 160 mm. As long as the depth of the logger is respected (maximum 45 mm). The data logger can be dimensioned for horizontal or vertical mount. See the change in section B.

#### **Question 4**

By submitting this bid as the Contractor, we are only supplying the EPDL and the items as outlined in the bid documents. We are not also required to also provide installation service as well, is that correct?

#### **Answer 4**

Exactly. The bid is only for the EPDL and items as outlined in the bid documents. Installation service is not required.

## **SECTION B – MODIFICATIONS**

**Please take note of the following changes to this tender notice.**

### **Change 1**

**INSERT:**

#### **Part 2 – Bidder Instructions**

##### **2.5 Bid Challenge and Recourse Mechanisms**

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
  - Office of the Procurement Ombudsman (OPO)
  - Canadian International Trade Tribunal (CITT)
- (c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.

#### **Part 6 – Resulting Contract Clauses**

##### **6.12 Dispute Resolution**

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "[Dispute Resolution](#)".

Solicitation No. - N° de l'invitation  
23332-201000/A  
Client Ref. No. - N° de réf. du client  
23332-201000

Amd. No. - N° de la modif.  
001  
File No. - N° du dossier  
QCL-0-43002

Buyer ID - Id de l'acheteur  
QCL053  
CCC No./N° CCC - FMS No./N° VME

---

**Change 2**

Replace ANNEX "A" – REQUIREMENT with the amended version attached to this document.

**Change 3**

Replace ANNEX "B" – BASIS OF PAYMENT with the amended version attached to this document.

**Change 4**

Replace ANNEX "C" – MANDATORY TECHNICAL CRITERIA with the amended version attached to this document.

---

**ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.**

## **ANNEX "A" – REQUIREMENT amendment 001**

### **1. TITLE**

ELECTRICAL POWER DATA LOGGER EQUIPMENT FOR THE HALIFAX-CLASS FRIGATE PLATFORM

### **2. BACKGROUND**

Defence Research and Development Canada (DRDC) Atlantic, seeks to develop energy initiatives and technologies with the specific goal of increasing energy efficiency while decreasing the energy intensity of Royal Canadian Navy (RCN) platforms. The DRDC "Ship Exploitation of Energy Data (SPEED)" project activity aims to do this through understanding baseline energy use, developing and validating ship energy models, and enabling energy efficient operations by applying data analytics to ship platform power and energy data. SPEED is a collaborative project between various ministries to leverage the knowledge and experience from the Department of National Defence (DND), Natural Resources Canada (NRCan), the National Research Council (NRC) and the Naval Engineering Test Establishment (NETE). As such, the NRCan, CanmetENERGY Research lab in Varennes, with their knowledge and expertise in energy audits and energy modeling has been tasked by DRDC Atlantic to develop an energy metering plan and procure the required electrical meters to conduct an energy audit of an RCN ship platform to support the eventual development and validation of an energy model. The electrical metering is necessary to derive a rigorous and authoritative understanding of the electrical load distribution on the Halifax-Class frigate platform through electrical load measurements. As a result, NRCan is seeking a commercial off the shelf electrical power data loggers, and accessories, for data collection during ship operations.

### **3. ACRONYMS**

AC	Alternating Current
DRDC	Defence Research and Development Canada
EPDL	Electrical Power Data Logger
RCN	Royal Canadian Navy
RMS	Root Mean Square
SOR	Statement of Requirement
SPEED	Ship Platform Exploitation of Energy Datasets
TA	Technical Authority
NIST	<a href="#">National Institute of Standards and Technology</a>

## 4. REQUIREMENTS

### 4.1 Electrical Power Data Loggers (EPDL)

**Required quantity: 69**

The Contractor must provide the requirement with the following specifications:

Specifications	Value
Measurement Parameters	V, I, VA, VAR, W, Wh, VAh, VARh, Power Factor, Frequency
Accuracy of measurement parameters	Single Phase RMS V @50/60Hz: $\pm 0.2\%$ Reading $\pm 0.2$ V Phase to Phase RMS V @ 50/60 Hz: $\pm 0.2\%$ Reading $\pm 0.4$ V Amperage: $\pm 1\%$ Active Power (P): $\pm 0.5\%$ Reading, $\pm 0.005\%$ Nominal P Reactive Power (Q): $\pm 1\%$ Reading, $\pm 0.01\%$ Nominal Q Apparent Power (S): $\pm 0.5\%$ Reading, $\pm 0.005\%$ Nominal S Power Factor: $\pm 0.05$ Active Energy (EP): $\pm 0.5\%$ Reading Reactive Energy (EQ): $\pm 2\%$ Reading Apparent Energy (ES): $\pm 0.5\%$ Reading Frequency: $\pm 0.1$ Hz
Voltage Range	0-1,000V (1000V CAT III and 600V CAT IV);single phase and 3-phase systems
Amperage Range	0-10,000A AC
Data interval	User selectable measurement intervals from 1 second to 60 minutes
Time-stamp	Real-time clock for time stamped data
Mount type	Magnetic
Physical dimensions (does not include power adaptor, current probe leads or potential probe leads)	-The EPDL will be mounted on the top part of the electrical panel to be measured The EPDL will be installed within the enclosure of the panel -Due to confined space and orientation (see 6. Physical dimensions of a typical electrical panel), physical dimensions of the EPDL must be: <u>-Maximum 260 mm X 160 mm (length by width OR width by length) X maximum 45 mm depth (protrusion from the face of the electrical panel).</u>
Data memory	On-board and/or swappable SD- or SDHC-card memory storage Minimum 8 GB memory capacity
Data format	ASCII or CSV
Communication	USB or Ethernet port
EPDL Power	Power provided by adapter (see 4.2.7) with battery backup (minimum 30 minute storage capacity)
Configuration, data collection and viewing interface	Data collection, logger configuration and data viewing must be done through a stand-alone software program compatible with Windows 7 and newer Windows operating systems.
Installation	Standalone unit which can be installed within electrical panel with minimal modification, self-protected (does not require addition of breakers to panels), does not require to bring or produce different voltage within the panel, does not require design of a power supply

Compliance	IEC 61010-1 and IEC 61010-2-030 Canadian Electrical Association Standards
Operating temperature range and relative humidity (RH)	10°C to 50°C up to 85% RH
Storage temperature range	-20°C to 50°C

#### 4.2 Accessories

The Contractor must provide the following accessories with the following specifications:

Item	Description	Required quantity
4.2.1	CD, DVD or USB including on each one of them the Operation and Technical Manuals of the electrical power data loggers, in Adobe PDF format, in English.	6
4.2.2	CD, DVD or USB including on each one of them the EPDL software of the electrical power data loggers, in English.	6
4.2.3	Flexible current probe with clamping diameter of <u>maximum 70mm (2.75 inches)</u> (calibrated). Current probe lead length of at least 3 m (10 ft). (200mA to 3,000A range, 10,000A peak).	207 (69 three-phase circuits*)
4.2.4	Flexible current probe with clamping diameter of <u>maximum 197 mm (7.75 inches)</u> (calibrated). Current probe lead length of at least 3 m (10 ft). (200mA to 10,000A range, 12,000A peak).	<b>Total: 12</b> (4 three-phase circuits*)
4.2.5	Flexible current probe with clamping diameter of <u>maximum 292 mm (11.5 inches)</u> (calibrated). Current probe lead length of at least 3 m (10 ft). (200mA to 10,000A range, 12,000A peak).	<b>Total: 6</b> (2 three-phase circuits*)
4.2.6	Potential Probes which are each identified by a colour marker with a lead length of at least 3 m (10 ft) and with Alligator Clip {Rated for 600 V CAT IV, 10A} 4 colours per set: 4.2.6.1 Cable with alligator clip and black colour marker (69) 4.2.6.2 Cable with alligator clip and blue colour marker (69) 4.2.6.3 Cable with alligator clip and red colour marker (69) 4.2.6.4 Cable with alligator clip and white colour marker (69)	<b>69 Sets of 4 cables</b>
4.2.7	EPDL Power adapter** with the following range of use: 110 to 277 Vac Phase to Neutral 110 to 480 Vac Phase to Phase Maximum input voltage: Permanent 530 Vac, Transient: 550 Vac Minimum input : 85 V	69

\* One current probe per phase, 3 phases per circuit must have a current probe.

\*\*Power adapter is required in order to accommodate powering the EPDL from phase power versus an external supply.

#### **4.3 Additional deliverables**

Additional deliverables to be provided upon delivery:

ITEM	NIST* Calibration Assembly Pairing	QTY
4.3.1	-1 x EPDL -3 x maximum <u>70 mm (2.75 inch)</u> diameter current probe (Item 4.2.3) -4 x potential probe (Item 4.2.6) -1 x power adapter (Item 4.2.7)	63 NIST* Calibration Certificates for this type of assembly
4.3.2	6 additional sets of three current probes with a maximum diameter of <u>70 mm (2.75 inches)</u> (Item 4.2.3)	6 NIST* calibration certificates for this type of set
4.3.3	-1 x EPDL -3 x maximum <u>197 mm (7.75 inch)</u> diameter current probe (Item 4.2.4) -4 x potential probe (Item 4.2.6) -1 x power adapter (Item 4.2.7)	4 NIST* Calibration Certificates for this type of assembly
4.2.4	-1 x EPDL -3 x maximum <u>292 mm (11.5 inch)</u> diameter current probe (ref 4.2.5) -4 x potential probe (Item 4.2.6) -1 x power adapter (Item 4.2.7)	2 NIST* Calibration Certificates for this type of assembly

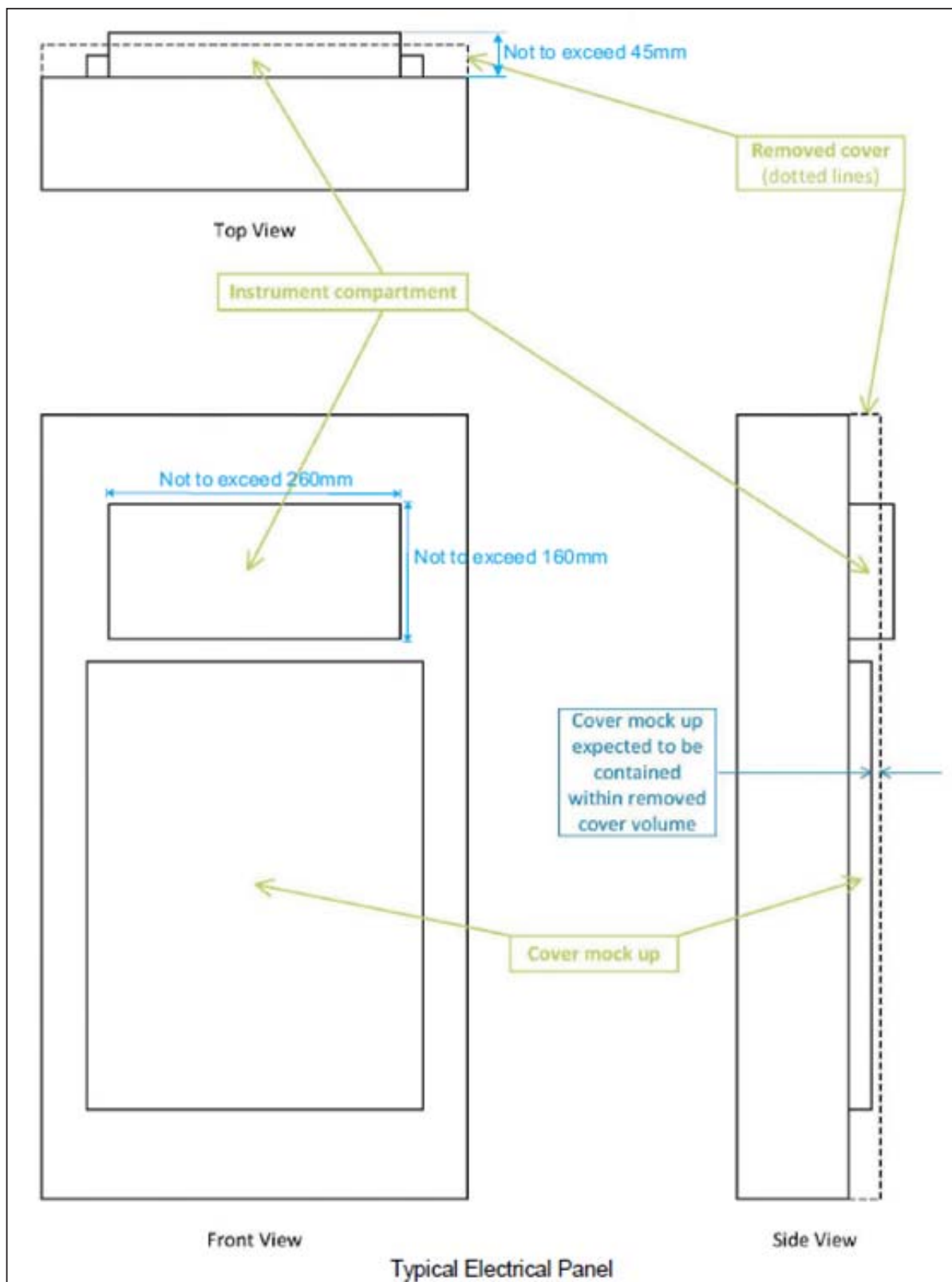
\*NIST : "National Institute of Standards and Technology"

#### **5. DELIVERY LOCATION**

Natural Resources Canada  
Government of Canada  
1615 boul Lionel-Boulet,  
Varenes, QC J3X 1P7  
Canada

#### **6. PHYSICAL DIMENSIONS OF A TYPICAL ELECTRICAL PANEL**





## ANNEX "B" – BASIS OF PAYMENT amendment 001

Art.	Description	Qty	UD	Firm Unit Price	Total Firm Price
1	Electrical Power Data Loggers (EPDL), in accordance with Annex "A" (Item 4.1):  Brand : _____  Model : _____	69	EACH	_____ \$	_____ \$
2	EPDL Power adapter, in accordance with Annex "A" (Item 4.2.7).	69	EACH	_____ \$	_____ \$
3	Flexible current probe with clamping diameter of maximum 70 mm (2.75 inches) in accordance with Annex "A" (Item 4.2.3).	207	EACH	_____ \$	_____ \$
4	Flexible current probe with clamping diameter of maximum 197 mm (7.75 inches), in accordance with Annex "A" (Item 4.2.4).	12	EACH	_____ \$	_____ \$
5	Flexible current probe with clamping diameter of maximum 292 mm (11.5 inches), in accordance with Annex "A" (Item 4.2.5).	6	EACH	_____ \$	_____ \$
6	Potential Probes which are each identified by a colour marker with and in accordance with Annex "A" (Item 4.2.6).	69	LOT/4 cables set	_____ \$	_____ \$
7	Operation and Technical Manuals of the electrical power data loggers, in accordance with Annex "A" (Item 4.2.1).	6	EACH	_____ \$	_____ \$
8	EPDL software of the electrical power data logger, in accordance with Annex "A" (Item 4.2.2).	6	EACH	_____ \$	_____ \$
9	NIST Calibration Certificates (Item 4.3.1)	63	EACH	_____ \$	_____ \$
10	NIST Calibration Certificates (Item 4.3.2)	6	EACH	_____ \$	_____ \$

Solicitation No. - N° de l'invitation  
23332-201000/A  
Client Ref. No. - N° de réf. du client  
23332-201000

Amd. No. - N° de la modif.  
001  
File No. - N° du dossier  
QCL-0-43002

Buyer ID - Id de l'acheteur  
QCL053  
CCC No./N° CCC - FMS No./N° VME

11	NIST Calibration Certificates (Item 4.3.3)	4	EACH	_____ \$	_____ \$
12	NIST Calibration Certificates (Item 4.3.4)	2	EACH	_____ \$	_____ \$
13	DDP (Quebec, Quebec, Canada), including customs duties, handling and the delivery	1	LOT	_____ \$	_____ \$
TOTAL BID PRICE (TBP) =					_____ \$
Note: Prices in Canadian dollars excluding sales Taxes.					

## ANNEX “C” – MANDATORY TECHNICAL CRITERIA amendment 001

At the closure date, bids will be evaluated on the following technical requirements at Annex “C” - Mandatory technical criteria.

**IMPORTANT: the bidder should clearly demonstrate how the proposed equipment complies to each mandatory technical criteria. Simply stating that the criteria are met is not sufficient.** Where it is necessary to refer to other documentation that is included in the proposal, bidders should include the precise location of the reference material including the title of the document, and the page and paragraph numbers. It is the bidder's responsibility to provide enough details to permit a complete evaluation.

Any proposal that does not clearly demonstrate compliance with each of the technical criteria listed in the Table of technical compliance will be considered non-responsive.

TABLE OF TECHNICAL COMPLIANCE	
Mandatory Technical Criteria :	
Bidder's Specifications (should indicate the reference to the technical documentation included in Bid or indicate the exact information)	
1.	<u>Physical dimensions</u>  Maximum 260 mm X 160 mm (length by width OR width by length) X maximum 45 mm depth (protrusion from the face of the electrical panel).
2.	<u>Voltage Range</u>  The Electrical Power Data Loggers (EPDL) must have a voltage range of: <ul style="list-style-type: none"><li>0-1,000V (1000V CAT III and 600V CAT IV); single phase and 3-phase systems</li></ul>
3.	<u>Amperage Range</u>  The Electrical Power Data Loggers (EPDL) must have an amperage range of: <ul style="list-style-type: none"><li>0-10,000A AC</li></ul>
4.	<u>Data Memory</u>  The Electrical Power Data Loggers (EPDL) must be equipped with: <ul style="list-style-type: none"><li>On-board and/or swappable SD- or SDHC-card memory storage</li><li>8 GB memory capacity</li></ul>