

# DCC User Gateway Interface Design Specification

## Annex - Service Request Definitions 4 – Reading Service

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## 4 Reading Service (4 – RS)

This section sets out the full content of the DCC Reading Service by providing the overarching service content that includes: service request and response message types, data content items and User access roles.

Service Name	Reading	Service Id	4
Service Objective	<p>To enable a DCC Service User to retrieve an entry from:</p> <ul style="list-style-type: none"> <li>the Billing Data Log</li> <li>the Daily Read Log</li> <li>Daily Consumption Log</li> <li>the Network Data Log</li> <li>the Profile Data Log</li> <li>the Average RMS Profile Data Log</li> <li>Prepayment configuration and register values</li> <li>Average RMS Over Voltage Counter</li> <li>Average RMS Under Voltage Counter</li> <li>Cumulative and Historical Value Store</li> <li>Maximum Demand Active Energy Import Value</li> <li>Maximum Demand (Configurable Time) Active Energy Import Value</li> <li>Maximum Demand Active Energy Export Value</li> </ul> <p>or, to read the import or export register values at a point in time, of a specific device associated to a specified device ID, such that the DCC Service User can obtain Electricity or Gas Smart Metering Equipment consumption and usage details and confirm that the operation has either completed or receive the reason for its failure.</p> <p>NB – where a Service Request response returns a Log or data structure, parts of the data may be classified as sensitive data.</p>		
Business Context Statement	<p>The DCC Service User requires the ability to be able to read and obtain Electricity or Gas meter register or log details at a specified device ID. The device may be an Electricity Smart Meter or Gas Smart Meter / Gas Proxy Function.</p>		
User Roles	<p>The following user roles have access to the list of service requests which make up the Reading Service:</p> <ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Electricity Export Supplier (EES)</li> <li>Gas Import Supplier (GIS)</li> <li>Electricity Network Operator (ENO)</li> <li>Gas Network Operator (GNO)</li> <li>Other User (OU)</li> </ul>		

Table 1 Overview of Reading Service

The mapping between the Reading Services and the Devices they apply to is defined as follows:

Service Reference	Service Reference Variant	Name	Business Target ID
4.1	4.1.1	Read Instantaneous Import Registers	ESME, GPF, GSME
4.1	4.1.2	Read Instantaneous Import TOU Matrices	ESME, GPF, GSME
4.1	4.1.3	Read Instantaneous Import TOU With Blocks Matrices	ESME
4.1	4.1.4	Read Instantaneous Import Block Counters	GPF, GSME
4.2	4.2	Read Instantaneous Export Registers	ESME
4.3	4.3	Read Instantaneous Prepay Values	ESME, GPF, GSME
4.4	4.4.2	Retrieve Change Of Mode / Tariff Triggered Billing Data Log	ESME, GPF, GSME
4.4	4.4.3	Retrieve Billing Calendar Triggered Billing Data Log	ESME, GPF, GSME
4.4	4.4.4	Retrieve Billing Data Log (Payment Based Debt Payments)	ESME, GPF, GSME
4.4	4.4.5	Retrieve Billing Data Log (Prepayment Credits)	ESME, GPF, GSME
4.6	4.6.1	Retrieve Import Daily Read Log	ESME, GPF, GSME
4.6	4.6.2	Retrieve Export Daily Read Log	ESME
4.8	4.8.1	Read Active Import Profile Data	ESME, GPF, GSME
4.8	4.8.2	Read Reactive Import Profile Data	ESME
4.8	4.8.3	Read Export Profile Data	ESME
4.10	4.10	Read Network Data	ESME, GSME
4.11	4.11.1	Read Tariff (Primary Element)	ESME, GPF, GSME
4.11	4.11.2	Read Tariff (Secondary Element)	ESME (Twin Element)
4.12	4.12.1	Read Maximum Demand Import Registers	ESME
4.12	4.12.2	Read Maximum Demand Export Registers	ESME
4.13	4.13	Read Prepayment Configuration	ESME, GPF, GSME
4.14	4.14	Read Prepayment Daily Read Log	ESME, GPF, GSME
4.15	4.15	Read Load Limit Data	ESME
4.16	4.16	Read Active Power Import	ESME
4.17	4.17	Retrieve Daily Consumption Log	ESME, GPF
4.18	4.18	Read Meter Balance	ESME, GPF, GSME

**Table 2 RS - Service Requests / Devices**

For each of the RS Service Requests supported by the DCC User Gateway, this section details:

- the reference to the appropriate section of the XML Schema (see XML Schema – document 3 of this documentation set)
- the structure of each Service Request and Response with examples (if specific to the Service Request)

- if applicable, Service Request specific Validation and Response Codes

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.1 Read Instantaneous Import Registers (4.1)

### SMETS2 or later

This Service Request maps to three Electricity and three Gas GBCS Use Cases and each Use Case requires its own Request ID.

Therefore the 4.1 Service Request has been broken into four parts: 4.1.1 (Registers) – applicable to Electricity and Gas, 4.1.2 (TOU Matrices) – applicable to Electricity and Gas, 4.1.3 (TOU with Blocks Matrices) – applicable to Electricity and 4.1.4 (Block Counters) – applicable to Gas.

### SMETS1

This Service Request maps to Service Reference Variant 4.1.1 (Registers) – applicable to Electricity and Gas, 4.1.2 (TOU Matrices) – applicable to Electricity and Gas, 4.1.3 (TOU with Blocks Matrices) – applicable to Electricity and 4.1.4 (Block Counters) – applicable to Gas.

### 4.1.1 Read Instantaneous Import Registers (4.1.1)

Service Request Name	ReadInstantaneousImportRegisters
Service Reference	4.1
Service Request Variant Name	ReadInstantaneousImportRegisters
Service Reference Variant	4.1.1
Service Request Objective	To enable a DCC Service User to read the instantaneous import energy register on an ESME or GPF / GSME.
Business Context Statement	The DCC Service User requires an immediate view of the current import register read values on an Electricity Smart Meter or Gas Proxy Function / Smart Meter, e.g. to respond to a customer telephone enquiry
User Role Access	<ul style="list-style-type: none"><li>• Electricity Import Supplier (EIS)</li><li>• Gas Import Supplier (GIS)</li><li>• Electricity Network Operator (ENO)</li><li>• Gas Network Operator (GNO)</li></ul>
Security Classification	Non-critical and sensitive (the request is non-sensitive and the device response register content is sensitive) SMETS2 or later: GBCS XREF: SME.C.NC

Service Request Narrative (SMETS2 or later)	<div>1. The data items being read in this Service Request as defined by SMETS are the <i>Active Import Register</i>, <i>Secondary Active Import Register</i> and <i>Reactive Import Register</i> for the ESME and the <i>Consumption Register</i> for the GSME. All of these registers record cumulative Consumption on the device.</div> <div>2. For reading the instantaneous import energy registers values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</div> <div>3. This Service Request returns all the Import Energy Registers available at the ESME or GPF/GSME. It isn't possible to request a subset of them.</div> <div>4. This Service Request if targeted to Gas Devices (GPF/GSME) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents. This means that any subsequent sequenced command could not be sent by the DCC as the success of the preceding Service Request cannot be established.</div> <div>5. Because this Service Request is only available to KRP the GNO can only read Instantaneous Import Registers from the GPF. The GSME does not contain Security Credentials for the Gas Network Operator.</div>	
	GBCS Cross Reference	<div>Electricity</div> <div>Gas</div>
	GBCS Message Code	<div>0x0027</div> <div>0x0074</div>
	GBCS Use Case	<div>ECS17b</div> <div>GCS13a</div>
	GBCS Use Case Name	<div>Read ESME Energy Registers (Import Energy)</div> <div>Read GSME Consumption Register</div>
SMETS1 Applicability	<div>Yes</div> <div>Yes</div>	
Service Request Narrative (SMETS1)	<div>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</div> <div>1. Secondary element values are not applicable to SMETS1.</div> <div>Note that it remains true with SMETS1 Devices that this Service Request if targeted to Gas Devices (GPF/GSME) cannot be part of a Sequence, even though the treatment of sensitive data in responses is not the same for SMETS1 Devices.</div>	

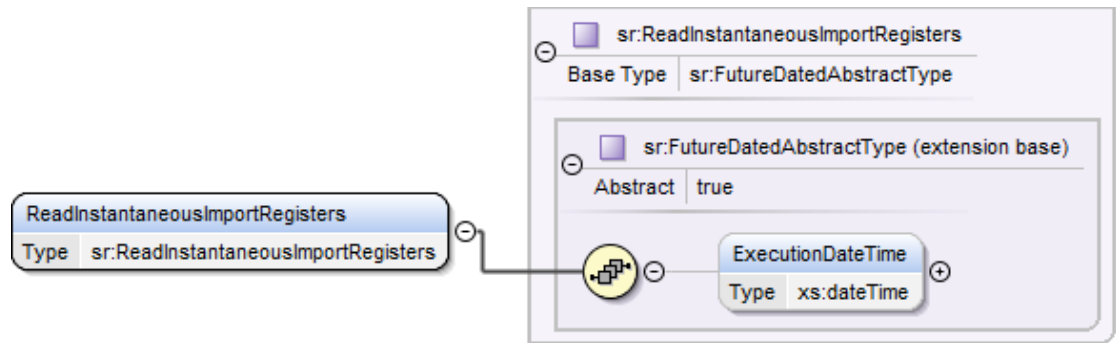
**Table 3 Read Instantaneous Import Registers Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.1.1.1 Service Request

##### 4.1.1.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadInstantaneousImportRegisters XML element defines this Service Request and only contains the Execution Date Time for Future Dated Requests.



**Figure 1 Read Instantaneous Import Registers Service Request Structure**

##### 4.1.1.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the device. <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	N/A	UTC Date-Time	Non-Sensitive

**Table 4 Read Instantaneous Import Registers Service Request Data Items**

##### 4.1.1.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

**Table 5 Read Instantaneous Import Registers Modes of Operation**

##### 4.1.1.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 6 Read Instantaneous Import Registers Command Variant Values**

#### 4.1.1.1.5 Validation

This Service Request specific validation is as follows (see Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time validation):

Validation Check	Process	Response Code
Is the Service Request valid?	Check that if the Business Target ID Device Type is GSME the DCC Service User Role is GIS	E040101

**Table 7 Read Instantaneous Import Registers Service Request Validation**

#### 4.1.1.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadInstantaneousImportRegisters/>
```

**Figure 2 Sample Read Instantaneous Import Registers Service Request Format**

#### 4.1.1.2 Responses

The response messages for a "Read Instantaneous Import Registers" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

##### 4.1.1.2.1 Unsuccessful Response

The Response Codes specific to this Service Request are:

Response Code	Response Code Name	Response Code Type	Description
E040101	Failed Validation – Device Type / User Role mismatch	Error	The Gas Network Operator can only read Instantaneous Import Registers from the GPF and not the GSME.

**Table 8 Failed Read Instantaneous Import Registers Service Request Response Codes**

#### 4.1.1.2.2 Parse Output / SMETS1 Response Format

##### 4.1.1.2.2.1 Format – ReadInstantaneousImportRegistersRsp

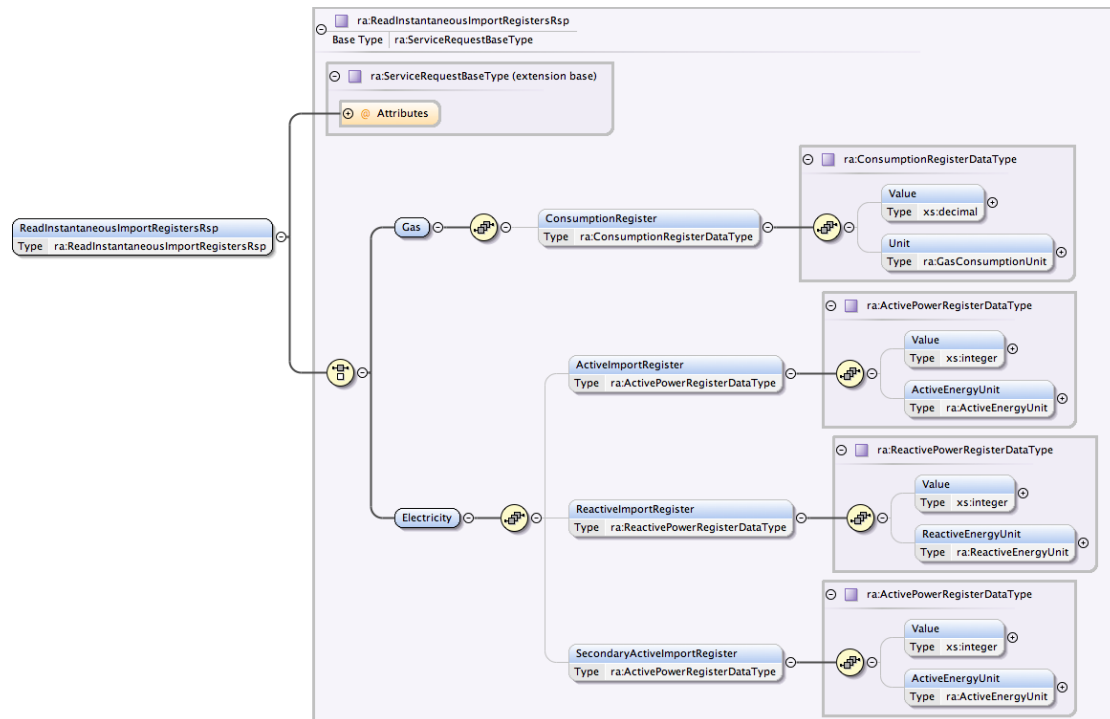


Figure 3 - Read Instantaneous Import Registers Parse Response / SMETS1 Response Structure

#### 4.1.1.2.2.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0027	0074
GBCS Use Case Number (for information only - not in header)	ECS17b	GCS13a
GBCS Use Case Name (for information only - not in header)	Read ESME Energy Registers (Import Energy)	Read GSME Consumption Register
SupplementaryRemotePartyID	Not present	Not present
SupplementaryRemotePartyCounter	Not present	Not present
SupplementaryOriginatorCounter	Not present	Not present
Timestamp	Present	Present <sup>1</sup>

Table 9 - Read Instantaneous Import Registers Parse/ SMETS1 Response Header Data Items

<sup>1</sup> (SMETS2 only) Includes IsFromGSME and ClockStatus as described in Annex 18.

#### 4.1.1.2.2.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Consumption Register	Gas Only				

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Value	The total gas imported Parse Response: Note that the Multiplier (value of 1) and Divisor (value of 1000) values have been automatically applied by the P&C software.	xs:decimal	None	m <sup>3</sup>	Sensitive
Unit	Unit of measure – m <sup>3</sup>	xs:string	m <sup>3</sup>	N/A	Sensitive
<b>ActiveImport Register</b>	Electricity Only				
Value	The active energy imported, as measured by the measuring element(s)	xs:integer	None	Wh	Sensitive
ActiveEnergyUnit	Unit of measure – Wh	xs:string	Wh	N/A	Sensitive
<b>ReactiveImport Register</b>	Electricity Only				
Value	The reactive energy imported, as measured by the measuring element	xs:integer	None	varh	Sensitive
ReactiveEnergyUnit	Unit of measure – varh	xs:string	varh	N/A	Sensitive
<b>SecondaryActiveImportRegister</b>	Electricity Only Optional N/A to SMETS1				
Value	The active energy imported, as measured by the secondary measuring element	xs:integer	None	Wh	Sensitive
ActiveEnergyUnit	Unit of measure – wh	xs:string	Wh	N/A	Sensitive

**Table 10 - Read Instantaneous Import Registers Parse Response / SMETS1 Response Body Data Items**

#### 4.1.1.2.2.4 Sample Response

```
<ra:ReadInstantaneousImportRegistersRsp MessageSuccess="true">
  <ra:Electricity>
    <ra:ActiveImportRegister>
      <ra:Value>10</ra:Value>
      <ra:ActiveEnergyUnit>Wh</ra:ActiveEnergyUnit>
    </ra:ActiveImportRegister>
    <ra:ReactiveImportRegister>
      <ra:Value>20</ra:Value>
      <ra:ReactiveEnergyUnit>varh</ra:ReactiveEnergyUnit>
    </ra:ReactiveImportRegister>
    <ra:SecondaryActiveImportRegister>1
      <ra:Value>30</ra:Value>
      <ra:ActiveEnergyUnit>Wh</ra:ActiveEnergyUnit>
    </ra:SecondaryActiveImportRegister>
  </ra:Electricity>
</ra:ReadInstantaneousImportRegistersRsp>
```

**Figure 4 - Read Instantaneous Import Registers Parse Response Sample**

<sup>1</sup> N/A to SMETS1

#### 4.1.2 Read Instantaneous Import TOU Matrices (4.1.2)

Service Request Name	ReadInstantaneousImportRegisters
Service Reference	4.1
Service Request Variant Name	ReadInstantaneousImportTOUMatrices
Service Reference Variant	4.1.2
Service Request Objective	To enable a DCC Service User to obtain an instantaneous import TOU (time of use) matrix read on an Electricity Smart Meter or Gas Proxy Function / Gas Smart Meter.
Business Context Statement	The DCC Service User requires an immediate view of the current import TOU matrix read values on an Electricity Smart Meter or Gas Proxy Function / Smart Meter, e.g. to respond to a customer telephone enquiry
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> <li>Electricity Network Operator (ENO)</li> <li>Gas Network Operator (GNO)</li> </ul>
Security Classification	<p>Non-critical and sensitive (the request is non-sensitive and the device response matrix content is sensitive)</p> <p>SMETS2 or later:</p> <p>GBCS XREF: <i>SME.C.NC</i></p>
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>The data items being read in this Service Request as defined by SMETS are the <i>Tariff TOU Register Matrix</i>, and <i>Secondary Tariff TOU Register Matrix</i> for the ESME and the <i>Tariff TOU Register Matrix</i> for the GSME. <p>ESME <i>Tariff TOU Register Matrix</i> is defined in SMETS as a 1 x 48 matrix for storing Tariff Registers for Time-of-use Pricing</p> <p>ESME <i>Secondary Tariff TOU Register Matrix</i> is defined in SMETS as a 1 x 4 matrix for storing Tariff Registers for Time-of-use Pricing relating to supply via the secondary measuring element of the Electricity Meter.</p> <p>GSME <i>Tariff TOU Register Matrix</i> is defined in SMETS as a 1 x 4 matrix for storing Tariff Registers for Time-of-use Pricing</p> </li> <li>This Service Request returns all the Import TOU Matrices available at the Meter / Gas Proxy Function in full. It isn't possible to request a subset of them.</li> <li>This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents. This means that any subsequent sequenced command could not be sent by the DCC</li> </ol>

	<p>as the success of the preceding Service Request cannot be established.</p> <p>4. For reading the instantaneous import TOU matrices values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</p> <p>5. Because this Service Request is only available to KRP the GNO can only read Instantaneous Import TOU Matrices from the GPF. The GSME does not contain Security Credentials for the Gas Network Operator.</p>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0029	0x00B6
GBCS Use Case	ECS17d	GCS13c
GBCS Use Case Name	Read ESME Energy Register (TOU)	Read GSME Register (TOU)
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <p>1. Secondary element values are not applicable to SMETS1.</p> <p>Note that it remains true with SMETS1 Devices that this Service Request if targeted to Gas Devices (GPF/GSME) cannot be part of a Sequence, even though the treatment of sensitive data in responses is not the same for SMETS1 Devices.</p>	

**Table 11 Read Instantaneous Import TOU Matrices Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.1.2.1 Service Request

##### 4.1.2.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadInstantaneousImportTOUMatrices XML element defines this Service Request and it only contains the Execution Date Time for Future Dated Requests.

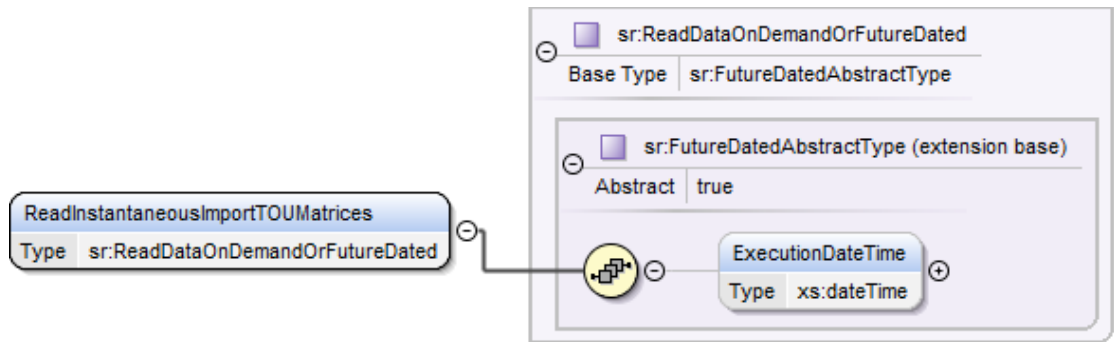


Figure 5 Read Instantaneous Import TOU Matrices Service Request Structure

#### 4.1.2.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the device. <ul style="list-style-type: none"> <li>Date-time in the future that is either <math>\leq</math> current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	N/A	UTC Date-Time	Non-Sensitive

Table 12 Read Instantaneous Import TOU Matrices Service Request Data Items

#### 4.1.2.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

Table 13 Read Instantaneous Import TOU Matrices Modes of Operation

#### 4.1.2.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 14 Read Instantaneous Import TOU Matrices Command Variant Values

#### 4.1.2.1.5 Validation

This Service Request specific validation is as follows (see Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time validation):

Validation Check	Process	Response Code
Is the Service Request valid?	Check that if the Business Target ID Device Type is GSME the DCC Service User Role is GIS	E040101

Table 15 Read Instantaneous Import TOU Matrices Service Request Validation

#### 4.1.2.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

<ReadInstantaneousImportTOUMatrices/>

Figure 6 Sample Read Instantaneous Import TOU Matrices Service Request Format

#### 4.1.2.2 Responses

The response messages for a “Read Instantaneous Import TOU Matrices” request follow the generic format for all “Device” response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

##### 4.1.2.2.1 Unsuccessful Response

The Response Codes specific to this Service Request are:

Response Code	Response Code Name	Response Code Type	Description
E040101	Failed Validation – Device Type / User Role mismatch	Error	The Gas Network Operator can only read Instantaneous Import Registers from the GPF and not the GSME

Table 16 Failed Read Instantaneous Import TOU Matrices Service Request Response Codes

##### 4.1.2.2.2 Parse Output / SMETS1 Response Format

##### 4.1.2.2.2.1 Format - ReadInstantaneousImportTOUMatricesRsp

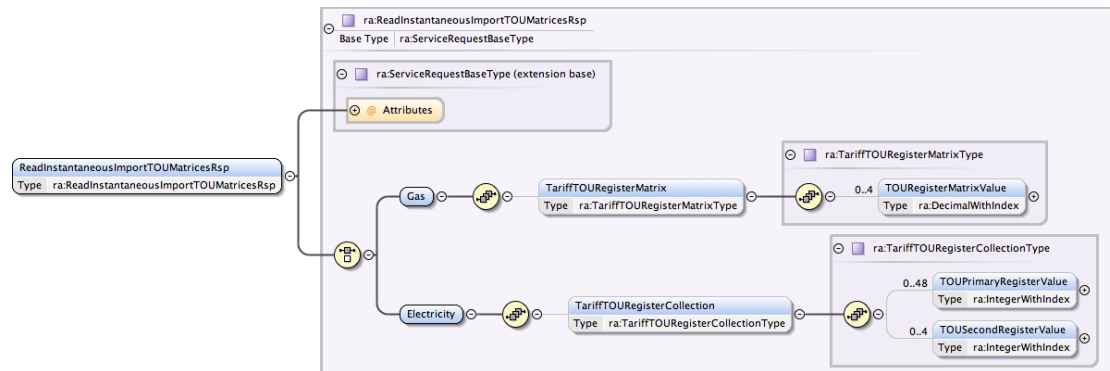


Figure 7 - Read Instantaneous Import TOU Matrices Parse Response / SMETS1 Response Structure

#### 4.1.2.2.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0029	00B6
GBCS Use Case Number (for information only - not in header)	ECS17d	GCS13c
GBCS Use Case Name (for information only - not in header)	Read ESME Energy Register (TOU)	Read GSME Register (TOU)
SupplementaryRemotePartyID	Not Present	Not Present
SupplementaryRemotePartyCounter	Not Present	Not Present
SupplementaryOriginatorCounter	Not Present	Not Present
Timestamp	Present	Present <sup>1</sup>

Table 17 - Read Instantaneous Import TOU Matrices Parse/ SMETS1 Response Header Data Items

<sup>1</sup> (SMETS2 only) Includes IsFromGSME and ClockStatus as described in Annex 18.

#### 4.1.2.2.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
TOURegisterMatrix Value	Accumulated consumption for each TOU rate register (max 4). Gas Only Parse Response: Note that the Multiplier (value of 1) and Divisor (value of 1000) values have been automatically applied by the P&C software.	xs:DecimalWithIndex	None	M <sup>3</sup>	Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
TOUPrimaryRegisterValue	Tariff Registers for Time-of-use Pricing for the primary element (max 48). Electricity Only	ra:IntegerWithIndex	None	Wh	Sensitive
TOUSecondRegisterValue	Tariff Registers for Time-of-use Pricing for the secondary element (max 4) Electricity Only Optional N/A to SMETS1	ra:IntegerWithIndex	None	Wh	Sensitive

**Table 18 - Read Instantaneous Import TOU Matrices Parse Response / SMETS1 Response Body Data Items**

#### 4.1.2.2.4 Sample Response body

```
<ra:ReadInstantaneousImportTOUMatricesRsp MessageSuccess="true">
  <ra:Gas>
    <ra:TariffTOURegisterMatrix>
      <ra:TOURegisterMatrixValue index="1">10.1</ra:TOURegisterMatrixValue>
      <ra:TOURegisterMatrixValue index="2">20.2</ra:TOURegisterMatrixValue>
      <ra:TOURegisterMatrixValue index="3">30.3</ra:TOURegisterMatrixValue>
      <ra:TOURegisterMatrixValue index="4">40.4</ra:TOURegisterMatrixValue>
    </ra:TariffTOURegisterMatrix>
  </ra:Gas>
</ra:ReadInstantaneousImportTOUMatricesRsp>
```

**Figure 8 - Read Instantaneous Import TOU Matrices Parse Response Sample**

### 4.1.3 Read Instantaneous Import TOU With Blocks Matrices (4.1.3)

Service Request Name	ReadInstantaneousImportRegisters
Service Reference	4.1
Service Request Variant Name	ReadInstantaneousImportTOUWithBlocksMatrices
Service Reference Variant	4.1.3
Service Request Objective	To enable a DCC Service User to read the instantaneous import TOU with Block Register matrix read on an Electricity Smart Meter.
Business Context Statement	The DCC Service User requires an immediate view of the current import TOU with Blocks matrix read values on an Electricity Smart Meter, e.g. to respond to a customer telephone enquiry
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Electricity Network Operator (ENO)</li> </ul>
Security Classification	Non-critical and sensitive (the request is non-sensitive and the device response matrix content is sensitive) SMETS2 or later: GBCS XREF: SME.C.NC

Service Request Narrative (SMETS2 or later)	<p>1. The data items being read in this Service Request, as defined by SMETS, are the <i>Tariff TOU Block Register Matrix</i> and <i>Tariff Block Counter Matrix</i> for the ESME.</p> <p><i>Tariff TOU Block Register Matrix</i>, as defined in SMETS, is a 4 x 8 matrix for storing Tariff Registers for Time-of-use with Block Pricing.</p> <p><i>Tariff Block Counter Matrix</i>, as defined in SMETS, is a 4 x 8 matrix for storing Block Counters for Block Pricing.</p> <p>2. This Service Request returns all the Import TOU with Blocks Matrices available at the Meter in full. It isn't possible to request a subset of them.</p>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x002A	N/A
GBCS Use Case	ECS17e	N/A
GBCS Use Case Name	Read ESME Energy Register (TOU with Blocks)	N/A
SMETS1 Applicability	Yes	N/A
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <p>1. In any SMETS1 Response, the DCC shall set each of the integer values in the "RegisterMatrixTOUValue" to the relevant Unsupported Value (see section 19.9), since SMETS1 does not require an ESME to support such registers.</p>	

**Table 19 Read Instantaneous Import TOU With Blocks Matrices Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.1.3.1 Service Request

##### 4.1.3.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadInstantaneousImportTOUWithBlocksMatrices XML element defines this Service Request and it only contains the Execution Date Time for Future Dated Requests.

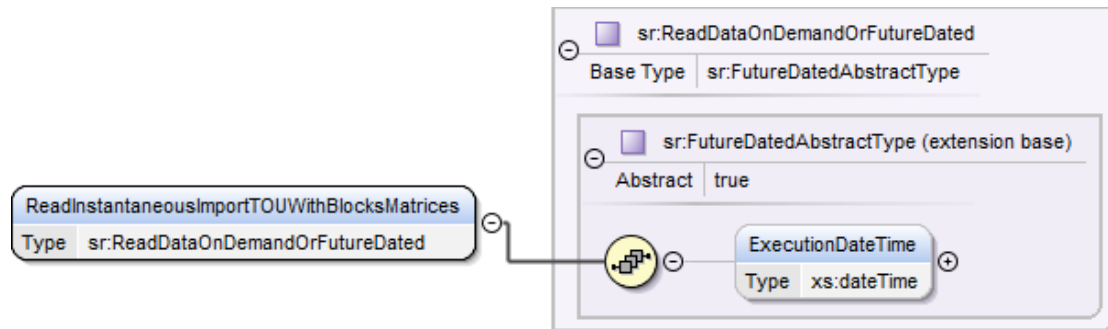


Figure 9 Read Instantaneous Import TOU With Blocks Matrices Service Request Structure

#### 4.1.3.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the device. <ul style="list-style-type: none"> <li>Date-time in the future that is either <math>\leq</math> current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	N/A	UTC Date-Time	Non-Sensitive

Table 20 Read Instantaneous Import TOU With Block Matrices Service Request Data Items

#### 4.1.3.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

Table 21 Read Instantaneous Import TOU With Blocks Matrices Modes of Operation

#### 4.1.3.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 22 Read Instantaneous Import TOU With Blocks Matrices Command Variant Values

#### 4.1.3.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time validation.

#### 4.1.3.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadInstantaneousImportTOUWithBlocksMatrices/>
```

**Figure 10 Sample Read Instantaneous Import TOU With Blocks Matrices Service Request Format**

#### 4.1.3.2 Responses

The response messages for a “Read Instantaneous Import TOU With Blocks Matrices” request follow the generic format for all “Device” response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

##### 4.1.3.2.1 Parse Output / SMETS1 Response Format

##### 4.1.3.2.1.1 Format - ReadInstantaneousImportTOUWithBlocksMatricesRsp

Data in this response is organised as two sets of 8 values, one each for the block primary registers and the block counter registers, within a repeating group of up to 4 Tariff Blocks.

Block 1  
    Register Matrix 1  
    Register Matrix 2  
    :  
    Register Matrix 8  
    Counter Matrix 1  
    Counter Matrix 2  
    :  
    Counter Matrix 8  
Block 2  
    Register Matrix 1  
    etc.

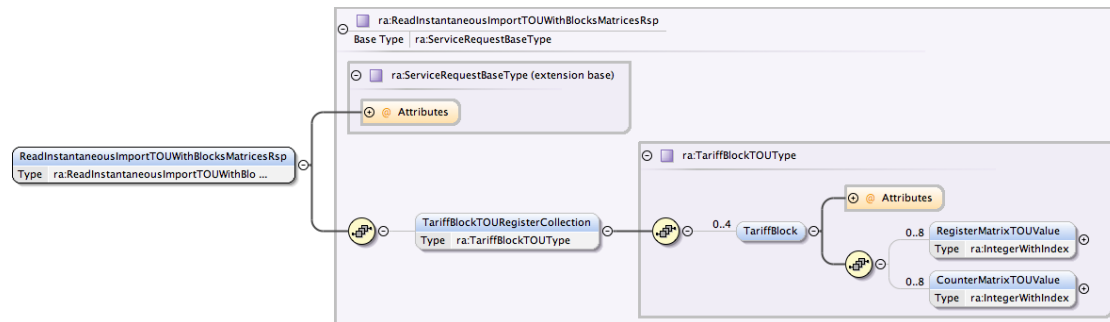


Figure 11 - Read Instantaneous Import TOU With Blocks Matrices Parse Response / SMETS1 Response Structure

#### 4.1.3.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	002A
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS17e</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read ESME Energy Register (TOU with Blocks)</i>
SupplementaryRemotePartyID	Not Present
SupplementaryRemotePartyCounter	Not Present
SupplementaryOriginatorCounter	Not Present
Timestamp	Present

Table 23 - Read Instantaneous Import TOU With Blocks Matrices Parse/ SMETS1 Response Header Data Items

#### 4.1.3.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
RegisterMatrixTOU Value <sup>1</sup>	Tariff Registers for Time-of-use with Block Pricing. SMETS1: In any SMETS1 Response, the DCC shall set each of the integer values in the "RegisterMatrixTOUValue" to the relevant Unsupported Value (see section 19.9), since SMETS1 does not require an ESME to support such registers.	ra:IntegerWithIndex	None	Wh	Sensitive
CounterMatrixTOU Value <sup>1</sup>	Tariff Registers for Time-of-use with Block Pricing.	ra:IntegerWithIndex	None	Wh	Sensitive

Table 24 - Read Instantaneous Import TOU With Blocks Matrices Parse Response / SMETS1 Response Body Data Items

<sup>1</sup>Maximum 8

#### 4.1.3.2.1.4 Sample Response body

```
<ra:ReadInstantaneousImportTOUWithBlocksMatricesRsp MessageSuccess="true">
  <ra:TariffBlockTOURegisterCollection>
    <ra:TariffBlock index="1">
      <ra:RegisterMatrixTOUValue index="1">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="2">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="3">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="4">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="5">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="6">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="7">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="8">0</ra:RegisterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="1">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="2">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="3">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="4">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="5">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="6">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="7">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="8">0</ra:CounterMatrixTOUValue>
    </ra:TariffBlock>
    <ra:TariffBlock index="2">
      <ra:RegisterMatrixTOUValue index="1">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="2">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="3">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="4">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="5">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="6">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="7">0</ra:RegisterMatrixTOUValue>
      <ra:RegisterMatrixTOUValue index="8">0</ra:RegisterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="1">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="2">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="3">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="4">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="5">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="6">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="7">0</ra:CounterMatrixTOUValue>
      <ra:CounterMatrixTOUValue index="8">0</ra:CounterMatrixTOUValue>
    </ra:TariffBlock>
  </ra:TariffBlockTOURegisterCollection>
</ra:ReadInstantaneousImportTOUWithBlocksMatricesRsp>
```

Figure 12 - Read Instantaneous Import TOU With Blocks Matrices Parse Response Sample

#### 4.1.4 Read Instantaneous Import Block Counters (4.1.4)

Service Request Name	ReadInstantaneousImportRegisters
Service Reference	4.1
Service Request Variant Name	ReadInstantaneousImportBlockCounters
Service Reference Variant	4.1.4
Service Request Objective	To enable a DCC Service User to read the Gas Smart Meter instantaneous import Block Counters matrix held on a Gas Proxy Function / Smart Meter.

Business Context Statement	The DCC Service User requires an immediate view of the current import Block Counters matrix read values on a Gas Proxy Function / Smart Meter, e.g. to respond to a customer telephone enquiry	
User Role Access	<ul style="list-style-type: none"> <li>Gas Import Supplier (GIS)</li> </ul>	
Security Classification	<p>Non-critical and sensitive (the request is non-sensitive and the device response matrix content is sensitive)</p> <p>SMETS2 or later:</p> <p>GBCS XREF: <i>SME.C.NC</i></p>	
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>The data item being read in this Service Request, as defined by SMETS, is the <i>Tariff Block Counter Matrix</i> for the GSME.  Tariff Block Counter Matrix, as defined in SMETS, is a 4 x 1 matrix for storing Block Counters for Block Pricing.</li> <li>This Service Request returns all the Block Counter Matrix values available at the Meter in full. It isn't possible to request a subset of them.</li> <li>This Service Request can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents. This means that any subsequent sequenced command could not be sent by the DCC as the success of the preceding Service Request cannot be established.</li> <li>For reading the instantaneous import block counter register values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	N/A	0x00B8
GBCS Use Case	N/A	GCS13b
GBCS Use Case Name	N/A	Read GSME Block Counters
SMETS1 Applicability	N/A	Yes
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <p>Note that it remains true with SMETS1 Devices that this Service Request if targeted to Gas Devices (GPF/GSME) cannot be part of a Sequence, even though the treatment of sensitive data in responses is not the same for SMETS1 Devices.</p>	

Table 25 Read Instantaneous Import Block Counters Service Request

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.1.4.1 Service Request

##### 4.1.4.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadInstantaneousImportBlockCounters XML element defines this Service Request and it only contains the Execution Date Time for Future Dated Requests.

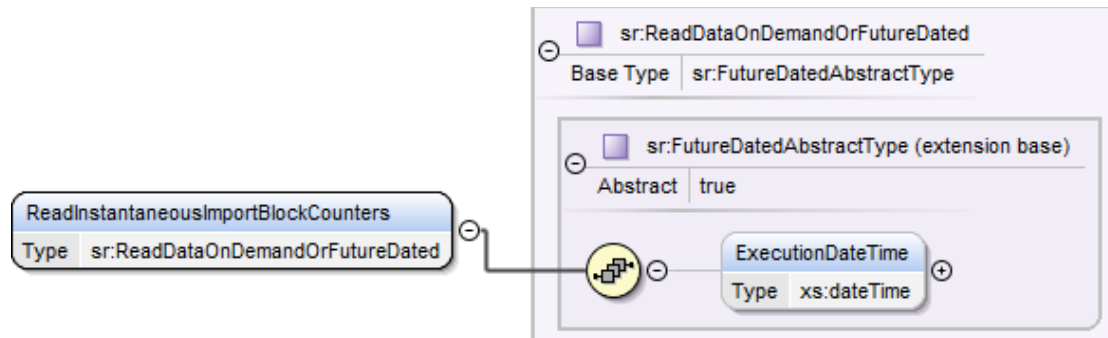


Figure 13 Read Instantaneous Import Block Counters Service Request Structure

##### 4.1.4.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the device. <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	N/A	UTC Date-Time	Non-Sensitive

Table 26 Read Instantaneous Import Block Counters Service Request Data Items

##### 4.1.4.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

Table 27 Read Instantaneous Import Block Counters Modes of Operation

##### 4.1.4.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 28 Read Instantaneous Import Block Counters Command Variant Values**

#### 4.1.4.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time validation.

#### 4.1.4.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadInstantaneousImportBlockCounters/>
```

**Figure 14 Sample Read Instantaneous Import Block Counters Service Request Format**

#### 4.1.4.2 Responses

The response messages for a "Read Instantaneous Import Block Counters" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

#### 4.1.4.2.1 Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below. Parse Output / SMETS1 Response Format

##### 4.1.4.2.1.1 Format - ReadInstantaneousImportBlockCountersRsp

The Tariff Block Counter Values are presented as a group of up to four values, repeating within the ImportBlockCounters group. Since GBCS only defines a value and no identifier, the parse response includes an "index" attribute against each value (defined as part of the "DecimalWithIndex" type) to differentiate them. Please see the sample in section 4.1.4.2.1.4 below for an example.

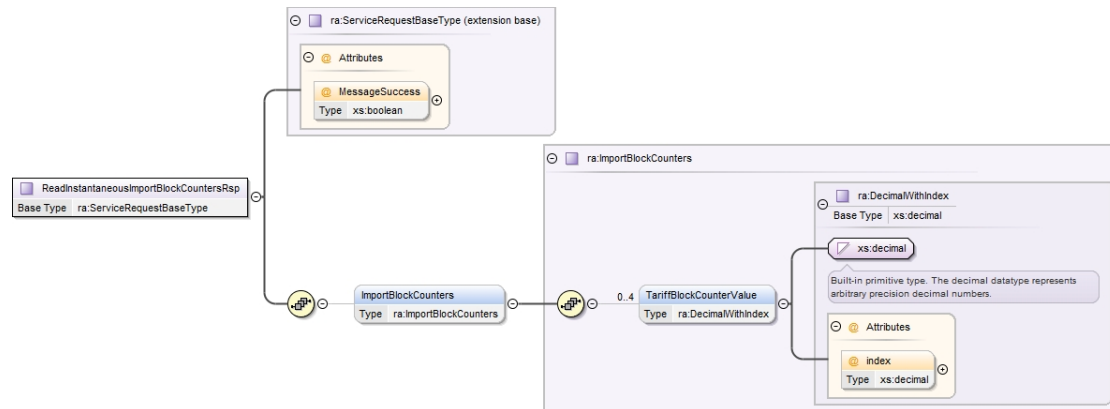


Figure 15 - Read Instantaneous Import Block Counters Parse Response / SMETS1 Response Structure

#### 4.1.4.2.1.2 Specific Header Data Items

Data Item	Gas Response
GBCSHexadecimalMessageCode	00B8
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>GCS13b</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read GSME Block Counters</i>
SupplementaryRemotePartyID	Not Present
SupplementaryRemotePartyCounter	Not Present
SupplementaryOriginatorCounter	Not Present
Timestamp	Present <sup>1</sup>

Table 29 - Read Instantaneous Import Block Counters Parse Response Header Data Items

<sup>1</sup> (SMETS2 only) Includes IsFromGSME and ClockStatus as described in Annex 18.

#### 4.1.4.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
TariffBlockCounterValue <sup>1</sup>	Accumulated consumption within each block (max 4). Parse Response: Note that the Multiplier (value of 1) and Divisor (value of 1000) values have been automatically applied by the P&C software.	ra:DecimalWithIndex	None	m <sup>3</sup>	Sensitive

Table 30 - Read Instantaneous Import Block Counters Parse Response / SMETS1 Response Body Data Items

<sup>1</sup>Maximum 4

#### 4.1.4.2.1.4 Sample Response

```
<ra:ReadInstantaneousImportBlockCountersRsp MessageSuccess="true">
  <ra:ImportBlockCounters>
    <ra:TariffBlockCounterValue index="1">10.1</ra:TariffBlockCounterValue>
    <ra:TariffBlockCounterValue index="2">20.2</ra:TariffBlockCounterValue>
    <ra:TariffBlockCounterValue index="3">30.3</ra:TariffBlockCounterValue>
    <ra:TariffBlockCounterValue index="4">40.4</ra:TariffBlockCounterValue>
  </ra:ImportBlockCounters>
</ra:ReadInstantaneousImportBlockCountersRsp>
```

Figure 16 - Read Instantaneous Import Block Counters Parse Response Sample

## 4.2 Read Instantaneous Export Registers (4.2)

Service Request Name	ReadInstantaneousExportRegisters	
Service Reference	4.2	
Service Request Variant Name	ReadInstantaneousExportRegisters	
Service Reference Variant	4.2	
Service Request Objective	To enable a DCC Service User to read the instantaneous export register values on an Electricity Smart Meter.	
Business Context Statement	The DCC Service User requires an immediate view of the current export register read values on an Electricity Smart Meter, e.g. to respond to a customer telephone enquiry.	
User Role Access	<ul style="list-style-type: none"> <li>Electricity Export Supplier (EES)</li> <li>Electricity Network Operator (ENO)</li> </ul>	
Security Classification	Non-critical and non-sensitive SMETS2 or later: GBCS XREF: <i>SME.C.NC</i>	
Service Request Narrative (SMETS2 or later)	<p><i>The data items being read in this Service Request, as defined by SMETS, are the Active Export Register and Reactive Export Register for the ESME.</i></p> <p><i>Active Export Register</i>, as defined by SMETS, is the register recording the cumulative Active Energy Exported.</p> <p><i>Reactive Export Register</i>, as defined by SMETS, is the register recording the cumulative Reactive Energy Exported.</p> <p>This Service Request returns all the Export Registers available at the Meter. It isn't possible to request a subset of them.</p>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0026	N/A

GBCS Use Case	ECS17a	N/A
GBCS Use Case Name	Read ESME Energy Registers (Export Energy)	N/A
SMETS1 Applicability	Yes	N/A
Service Request Narrative (SMETS1)	The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices.	

Table 31 Read Instantaneous Export Registers Service Request

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.2.1 Service Request

### 4.2.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadInstantaneousExportRegisters XML element defines this Service Request and it only contains the Execution Date Time for Future Dated Requests.

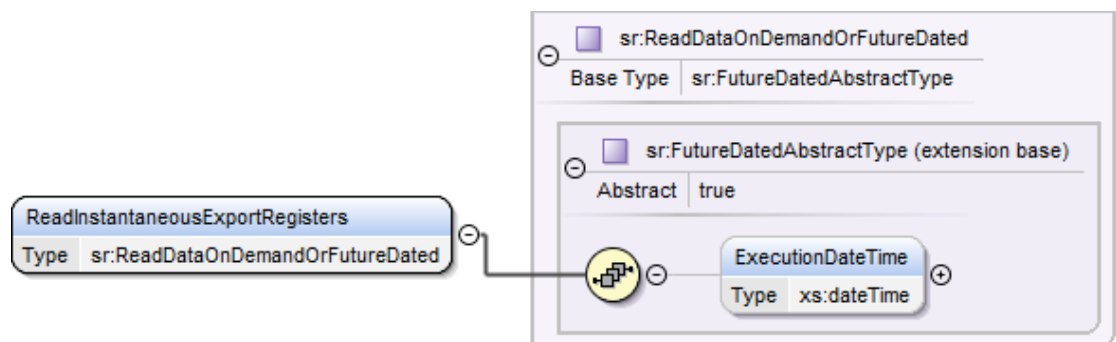


Figure 17 Read Instantaneous Export Registers Service Request Structure

### 4.2.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the device. <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	N/A	UTC Date-Time	Non-Sensitive

Table 32 Read Instantaneous Export Registers Service Request Data Items

### 4.2.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

Table 33 Read Instantaneous Export Registers Modes of Operation

#### 4.2.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 34 Read Instantaneous Export Registers Command Variant Values

#### 4.2.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time validation.

#### 4.2.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadInstantaneousExportRegisters/>
```

Figure 18 Sample Read Instantaneous Export Registers Service Request Format

### 4.2.2 Responses

The response messages for a "Read Instantaneous Export Registers" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) – GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response.

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.2.2.1 Parse Output / SMETS1 Response Format

##### 4.2.2.1.1 Format - ReadInstantaneousExportRegistersRsp

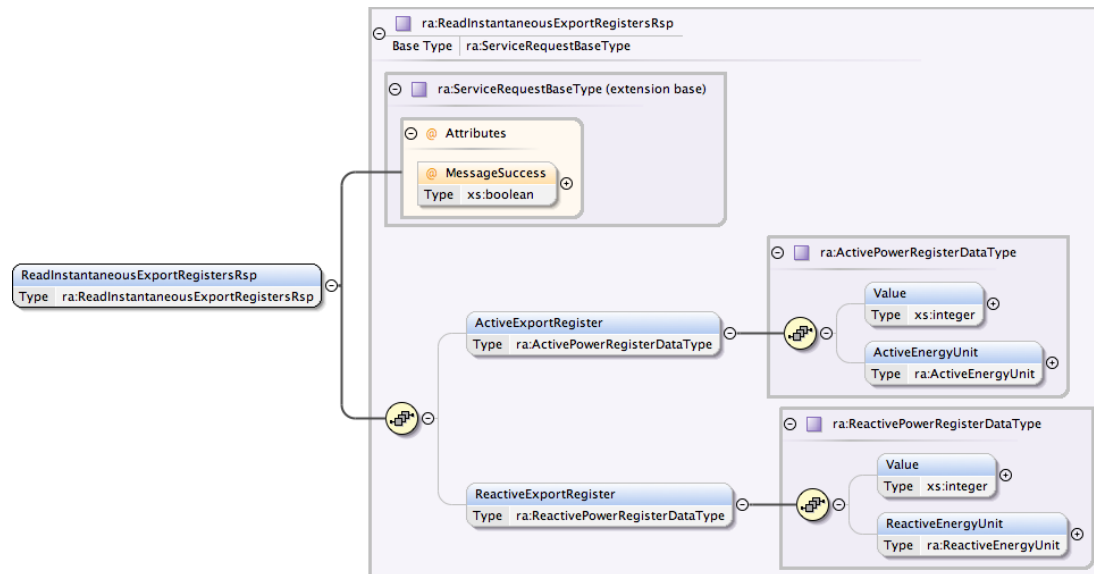


Figure 19 - Read Instantaneous Export Registers Parse Response / SMETS1 Response Structure

#### 4.2.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	0026
GBCS Use Case Number (for information only - not in header)	ECS17a
GBCS Use Case Name (for information only - not in header)	Read ESME Energy Registers (Export Energy)
SupplementaryRemotePartyID	Present where originator is a URP
SupplementaryRemotePartyCounter	Present where originator is a URP
SupplementaryOriginatorCounter	Not present
Timestamp	Present

Table 35 - Read Instantaneous Export Registers Parse/ SMETS1 Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.2.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Units	Sensitivity
<b>ActiveExportRegister</b>				
Value	The register recording the active energy exported, as measured by the measuring element	xs:integer	Wh	Non-sensitive

Data Item	Description / Valid Set	Type	Units	Sensitivity
ActiveEnergyUnit	Unit of measure - Wh	xs:string	N/A	Non-sensitive
ReactiveExportRegister				
Value	The register recording the cumulative Reactive Energy Exported.	xs:integer	varh	Non-sensitive
ReactiveEnergyUnit	Unit of measure – varh	xs:string	N/A	Non-sensitive

**Table 36 - Read Instantaneous Export Registers Parse Response / SMETS1 Response Body Data Items**

#### 4.2.2.1.4 Sample Response

```
<ra:ReadInstantaneousExportRegistersRsp MessageSuccess="true">
  <ra:ActiveExportRegister>
    <ra:Value>100</ra:Value>
    <ra:ActiveEnergyUnit>Wh</ra:ActiveEnergyUnit>
  </ra:ActiveExportRegister>
  <ra:ReactiveExportRegister>
    <ra:Value>20</ra:Value>
    <ra:ReactiveEnergyUnit>varh</ra:ReactiveEnergyUnit>
  </ra:ReactiveExportRegister>
</ra:ReadInstantaneousExportRegistersRsp>
```

**Figure 20 - Read Instantaneous Export Registers Parse Response Sample**

### 4.3 Read Instantaneous Prepay Values (4.3)

Service Request Name	ReadInstantaneousPrepayValues
Service Reference	4.3
Service Request Variant Name	ReadInstantaneousPrepayValues
Service Reference Variant	4.3
Service Request Objective	To enable a DCC Service User to read instantaneous prepayment register values on an Electricity Smart Meter or Gas Smart Meter.
Business Context Statement	The DCC Service User requires an immediate view of the current prepayment values on an electricity Smart Meter / Gas Proxy Function, e.g. to respond to a customer telephone enquiry. •
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>

Security Classification	Non-critical, Request is non-sensitive, Response non-debt data is non-sensitive and Response debt data is sensitive  SMETS2 or later:  GBCS XREF: <i>SME.C.NC</i>	
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>The data items being read in this Service Request, as defined by SMETS are ;   <i>Meter Balance</i>  <i>Emergency Credit Balance</i>  <i>Accumulated Debt Register</i>  <i>Payment Debt Register</i>  <i>Debt To Clear</i>  <i>Time Debt Registers [1...2]</i> </li> <li>This Service Request returns all the Prepayment Registers available at the meter / Gas Proxy Function. It isn't possible to request a subset of them.</li> <li>This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents. This means that any subsequent sequenced command could not be sent by the DCC as the success of the preceding Service Request cannot be established.</li> <li>When reading the read instantaneous prepayment register values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x002D	0x0075
GBCS Use Case	ECS19	GCS14
GBCS Use Case Name	Read ESME Prepayment Registers	Read GSME Prepayment Register(s)
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices.</p> <p>Note that it remains true with SMETS1 Devices that this Service Request if targeted to Gas Devices (GPF/GSME) cannot be part of a Sequence, even though the treatment of sensitive data in responses is not the same for SMETS1 Devices.</p>	

**Table 37 Read Instantaneous Prepay Values Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.3.1 Service Request

### 4.3.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadInstantaneousPrepayValues XML element defines this Service Request and it only contains the Execution Date Time for Future Dated Requests.

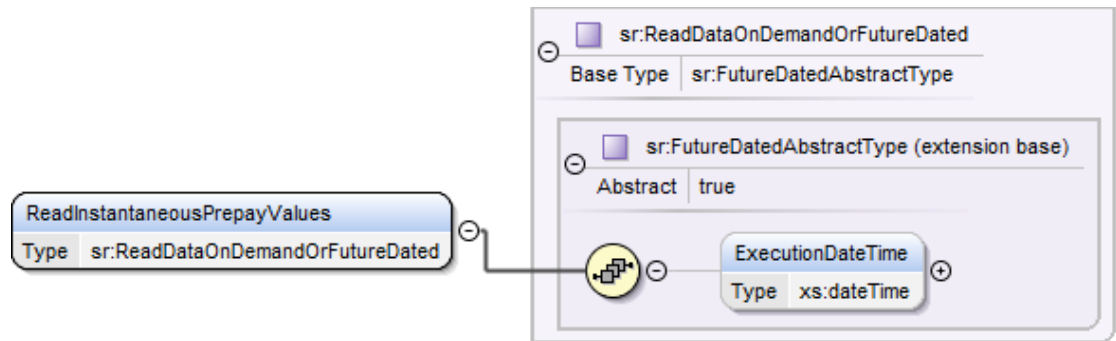


Figure 21 Read Instantaneous Prepay Values Service Request Structure

### 4.3.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the device. <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	N/A	UTC Date-Time	Non-Sensitive

Table 38 Read Instantaneous Import Prepay Values Service Request Data Items

### 4.3.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

Table 39 Read Instantaneous Prepay Values Modes of Operation

### 4.3.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS1	Yes	No	No	No	No	No	No	No

Table 40 Read Instantaneous Prepay Values Command Variant Values

#### 4.3.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time validation.

#### 4.3.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

<ReadInstantaneousPrepayValues/>

Figure 22 Sample Read Instantaneous Prepay Values Service Request Format

### 4.3.2 Responses

The response messages for a "Read Instantaneous Prepay Values" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.3.2.1 Parse Output / SMETS1 Response Format

##### 4.3.2.1.1 Format - ReadInstantaneousPrepayValuesRsp

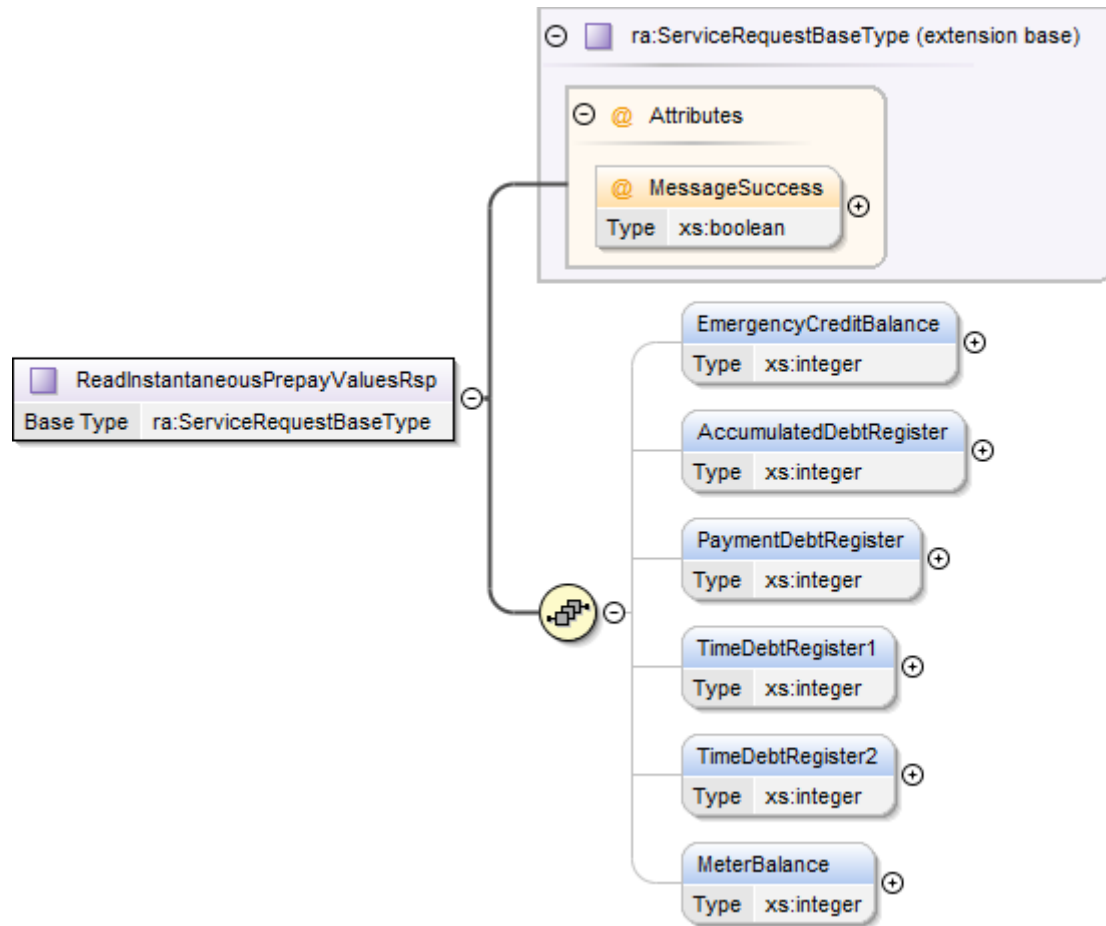


Figure 23 - Read Instantaneous Prepay Values Parse Response / SMETS1 Response Structure

#### 4.3.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	002D	0075
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS19</i>	<i>GCS14</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read ESME Prepayment Registers</i>	<i>Read GSME Prepayment Register(s)</i>
SupplementaryRemotePartyID	Not Present	Not Present
SupplementaryRemotePartyCounter	Not Present	Not Present
SupplementaryOriginatorCounter	Not Present	Not Present
Timestamp	Present	Present <sup>1</sup>

Table 41 - Read Instantaneous Prepay Values Parse Response Header Data Items

<sup>1</sup> (SMETS2 only) Includes IsFromGSME and ClockStatus as described in Annex 18.

#### 4.3.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
EmergencyCreditBalance	Amount of emergency credit remaining	xs:integer	None	1000 <sup>th</sup> pence / cent	ESME - Sensitive GSME – Non-Sensitive
AccumulatedDebtRegister	Debt accumulated on the meter for time based charges (standing charge and time based debt recovery) but only used whilst EmergencyCredit is in use, and where SuspendDebtEmergency.value = true	xs:integer	None	1000 <sup>th</sup> pence / cent	ESME - Sensitive GSME – Non-Sensitive
PaymentDebtRegister	The remaining payment-based debt to be recovered	xs:integer	None	1000 <sup>th</sup> pence / cent	ESME - Sensitive GSME – Sensitive
TimeDebtRegister1	Amount remaining to be recovered through time based debt recovery using DebtRecoveryRate[1..2]	xs:integer	None	1000 <sup>th</sup> pence / cent	ESME - Sensitive GSME – Sensitive
TimeDebtRegister2	Amount remaining to be recovered through time based debt recovery using DebtRecoveryRate[1..2]	xs:integer	None	1000 <sup>th</sup> pence / cent	ESME – Sensitive GSME – Sensitive
MeterBalance	Credit available to the consumer	xs:integer	None	1000 <sup>th</sup> pence / cent	ESME – Sensitive GSME – Non-Sensitive

Table 42 - Read Instantaneous Prepay Values Parse Response / SMETS1 Response Body Data Items

#### 4.3.2.1.4 Sample Response body

```
<ra:ReadInstantaneousPrepayValuesRsp MessageSuccess="true">
  <ra:EmergencyCreditBalance>10</ra:EmergencyCreditBalance>
  <ra:AccumulatedDebtRegister>20</ra:AccumulatedDebtRegister>
  <ra:PaymentDebtRegister>10</ra:PaymentDebtRegister>
  <ra:TimeDebtRegister1>30</ra:TimeDebtRegister1>
  <ra:TimeDebtRegister2>40</ra:TimeDebtRegister2>
  <ra:MeterBalance>100</ra:MeterBalance>
</ra:ReadInstantaneousPrepayValuesRsp>
```

Figure 24 - Read Instantaneous Prepayment Values Parse Response Sample

## 4.4 Retrieve Billing Data Log (4.4)

### SMETS2 or later

This Service Request maps to four Electricity and four GBCS Use Cases and each Use Case requires its own Request ID.

Therefore the 4.4 Service Request has been broken into four parts: 4.4.2 (Electricity and Gas Change of Mode / Tariff Triggered), 4.4.3 (Electricity and Gas Billing Calendar Triggered), 4.4.4 (Electricity and Gas Payment Debt) and 4.4.5 (Electricity and Gas Prepayment Credits).

The following table maps the Service Requests to the SMETS data items defined on each device, the SMETS reference is given in brackets after the name.

	Service Request	4.4.2	4.4.3	4.4.4	4.4.5

		GBCS Use Case	ECS20b	GCS15b	ECS20c	GCS15c	ECS20a	GCS15d	ECS20d	GCS15e
Gas	Billing data log (4.6.5.3)									
	12 entries	Tariff TOU Register Matrix (4.6.5.20)		y		y				
		Consumption Register (4.6.5.4)		y		y				
		Tariff Block Counter Matrix (4.6.5.19)		y		y				
	if in Prepayment Mode									
	5 entries	Value of prepayment credits								y
	5 entries	Debt adjustments (4.5.3.5)								
	10 entries	Payment-based debt payments						y		
	12 entries	Meter balance (4.6.5.11)		y		y				
		Emergency credit balance (4.6.5.8)		y		y				
		Accumulated debt register (4.6.5.1)		y		y				
		Payment debt register (4.6.5.13)		y		y				
		Time debt registers [1..2] (4.6.5.21)		y		y				
Electricity - single element	Billing data log (5.7.5.10)									
	12 entries	Tariff TOU Register Matrix (5.7.5.34)	y		y					
		Tariff TOU Block Register Matrix (5.7.5.35)	y		y					
		Active import register (5.7.5.3)	y		y					
	if in Prepayment Mode									
	5 entries	Value of prepayment credits							y	
	5 entries	Debt adjustments (5.6.3.5)								
	10 entries	Payment-based debt payments					y			
	12 entries	Meter balance (5.7.5.22)	y		y					
		Emergency credit balance (5.7.5.15)	y		y					
		Accumulated debt register (5.7.5.1)	y		y					
		Payment debt register (5.7.5.23)	y		y					
		Time debt registers [1..2] (5.7.5.36)	y		y					
Electricity - twin element	Billing data log (5.13.2.3)									
	12 entries	Tariff TOU Register Matrix (5.7.5.34)	y		y					
		Secondary Tariff TOU Register Matrix (5.13.2.10)	y		y					
		Tariff TOU Block Register Matrix (5.7.5.35)	y		y					
		Active import register (5.7.5.3)	y		y					
		Secondary Active import register (5.13.2.11)	y		y					

Table 43 Service Requests to read Billing Data Log

This Service Request maps to Service Reference Variant 4.4.2 (Electricity and Gas Change of Mode / Tariff Triggered), 4.4.3 (Electricity and Gas Billing Calendar Triggered), 4.4.4 (Electricity and Gas Payment Debt) and 4.4.5 (Electricity and Gas Prepayment Credits).

This section has been intentionally left blank as there is no Service Reference Variant 4.4.1.

Service Request Name	RetrieveBillingDataLog
Service Reference	4.4
Service Request Variant Name	RetrieveCoMOrTariffTriggeredBillingDataLog
Service Reference Variant	4.4.2
Service Request Objective	To enable a DCC Service User to read a data set stored in the Billing Data Log (Change of Mode or Tariff Triggered) of an Electricity Smart Meter or Gas Proxy Function / Smart Meter on an ad-hoc basis for a specified date range.
Business Context Statement	This Service Request Variant provides the mechanism to read the Change of Mode / Tariff Triggered Billing Data Log on an ad-hoc basis.
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>
Security Classification	<p>Non-critical and sensitive (the request is non-sensitive and the device response Billing Data Log content is sensitive)</p> <p>SMETS2 or later:</p> <p>GBCS <i>XREF: SME.C.NC</i></p>
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>The Service Request sender needs to be the Registered Import Supplier for the entire date-time period for which the Billing Data Log is requested. This could be the 'current' or the 'old' Registered Import Supplier. If the sender is not authorised to</li> </ol>

	read data for the entire period requested, an error will be returned.	
	2. Because this Service Request returns Sensitive data, URPs (i.e. the 'old' Registered Supplier), have to include in the Request the Public Security Credentials they want the Device to sign the Response with.	
	3. This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents.	
	4. This Service Request returns Billing Log Data relating to an ESME operating in either Credit or Prepayment Mode where Billing Data Log entries have been recorded as a result of a change in Device Configuration e.g. change of mode or tariff. Specific data items returned include the values of the Active Import register, Tariff TOU Register Matrix, Tariff TOU Block register Matrix, Meter Balance, Emergency Credit Balance, Accumulated Debt register, payment Debt register and Time Debt registers [1..2], for a Single element ESME variant and in addition the values of the Secondary Active Import register and Secondary Tariff TOU register Matrix for a Twin element ESME variant as defined by SMETS.	
	5. If the device is a GSME in Prepayment Mode, then the values for Meter Balance, Emergency Credit Balance, Accumulated Debt register, payment Debt register and Time Debt registers [1..2] are also returned.	
	6. For reading the Billing Data Log values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.	
	7. Only the registered GIS may successfully request RetrieveCoMOrTariffTriggeredBillingDataLog data from the GSME direct, all previously registered GIS Users must target the Service Request to the GPF.	
	8. Due to variable device implementation, DSP adds one second to the end time to ensure that results will always include the end time of the period required. However, this means that if the intention is to exclude the end time then the DCC Service User should subtract two seconds from the end time of the period to ensure exclusivity. For example:	
	<ul style="list-style-type: none"><li>• To ensure inclusive, use 20/11/2018 00:00:00,</li><li>• To ensure exclusive, use 19/11/2018 23:59:58</li></ul>	
	GBCS Cross Reference	Electricity
GBCS Message Code	0x002F	0x00C3
GBCS Use Case	ECS20b	GCS15b

GBCS Use Case Name	Read ESME Billing Data Log (change of mode / tariff triggered exc export)	Read GSME Billing Data Log (change of mode / tariff triggered)
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <ol style="list-style-type: none"> <li>Where the Device does not record, on change of mode or change of tariff, the ConsumptionRegister (Gas) or ActiveImportRegisterConsumption (Electricity) values in such log entries, the S1SP shall set the corresponding values in the SMETS1 Response to the relevant Unsupported Values (see section 19.9).</li> <li>For a SMETS1 ESME the DCC shall populate the TariffTOUBlock[1..4]RegisterMatrixValue values with the Tariff Block Counter Matrix values from the Billing Data Log (with their SMETS1 meanings).</li> <li>SMETS1 does not require the recording of additional prepayment values to the timetable set out in the Billing Calendar so it may not be provided in SMETS1 Responses.</li> <li>Provision of Public Security Credentials for the Device to sign the Response with is not applicable to SMETS1 Devices. The DCC Data Systems will not validate whether this data item has been included in a SMETS1 Service Request.</li> <li>Secondary element values are not applicable to SMETS1.</li> <li>Guidance note: In certain circumstances when requesting readings from SMETS1 Devices, the Device may still be busy with previous operations when the read request is received, causing the Device to fail to return expected data. DCC recommends that a delay of at least 5 minutes is made before any reading request is made to the Device if this reading request is part of a larger number of orchestrated Service Requests, e.g. after a tariff update. This problem has been noticed with SRV 4.4.2, though it could apply to any SMETS1 read request.</li> </ol> <p>Note that it remains true with SMETS1 Devices that this Service Request if targeted to Gas Devices (GPF/GSME) cannot be part of a Sequence, even though the treatment of sensitive data in responses is not the same for SMETS1 Devices.</p>	

**Table 44 Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.4.2.1 Service Request

##### 4.4.2.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its RetrieveCoMOrTariffTriggeredBillingDataLog XML element defines this Service Request and contains the date-time period for which the log is to be read on the device, for URPs the Key

Agreement Public Security Credentials and, for Future Dated Requests, the Execution Date Time.

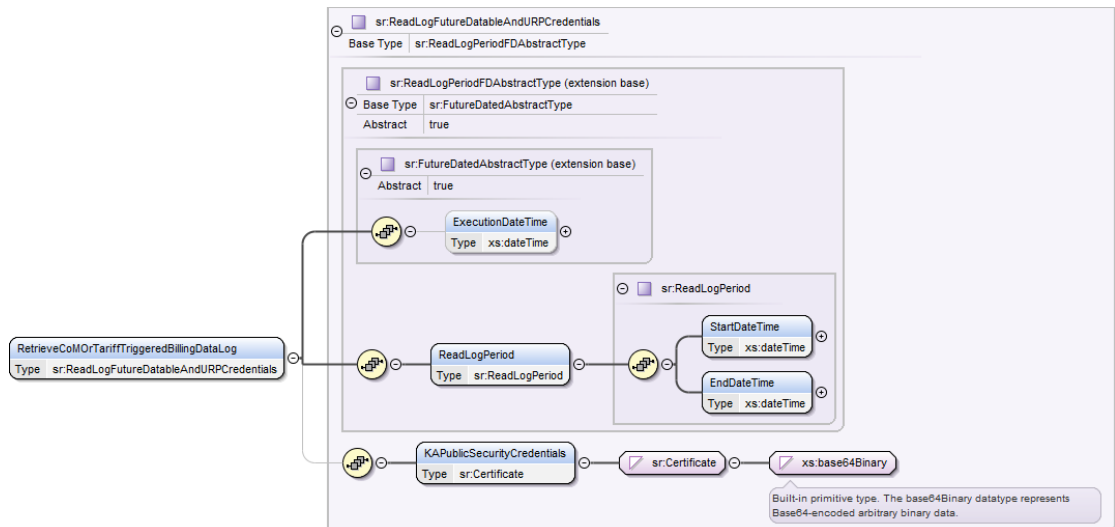


Figure 25 Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Service Request Structure

#### 4.4.2.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Old Registered Supplier)	sr:Certificate (xs:base64Binary)	SMETS2 or later Service: (Registered Supplier: N/A Old Registered Supplier <sup>1</sup> : Yes) SMETS1 Service: N/A	None	N/A	Non-Sensitive

Table 45 Retrieve Debt And Credit Billing Data Log Service Request Data Items

<sup>1</sup> Mandatory for SMETS2 or later Service and User Roles EIS and GIS that were registered parties (KRPs) to the Device for the required time period, but they no longer are

#### 4.4.2.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

**Table 46 Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Modes of Operation**

#### 4.4.2.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 47 Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Command Variant Values**

#### 4.4.2.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for:

- SMETS2 or later: Execution Date Time, Read Log Period, Key Agreement Public Security Credentials and Device Applicability validation.
- SMETS1: Execution Date Time, Read Log Period and Device Applicability validation.

#### 4.4.2.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<RetrieveCoMTariffTriggeredBillingDataLog>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</RetrieveCoMTariffTriggeredBillingDataLog>
```

**Figure 26 Sample Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Service Request Format**

#### 4.4.2.2 Responses

The response messages for a "Retrieve Change Of Mode Or Tariff Triggered Billing Data Log" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery

- Parse Output / SMETS1 Response

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.4.2.2.1 Parse Output / SMETS1 Response Format

##### 4.4.2.2.1.1 Format - RetrieveCoMOrTariffTriggeredBillingDataLogRsp

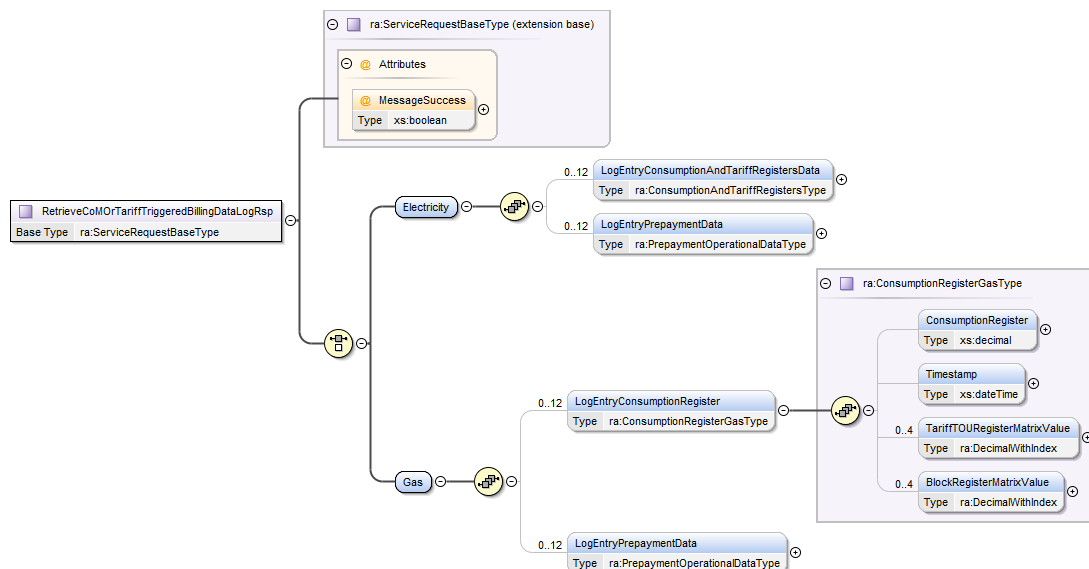
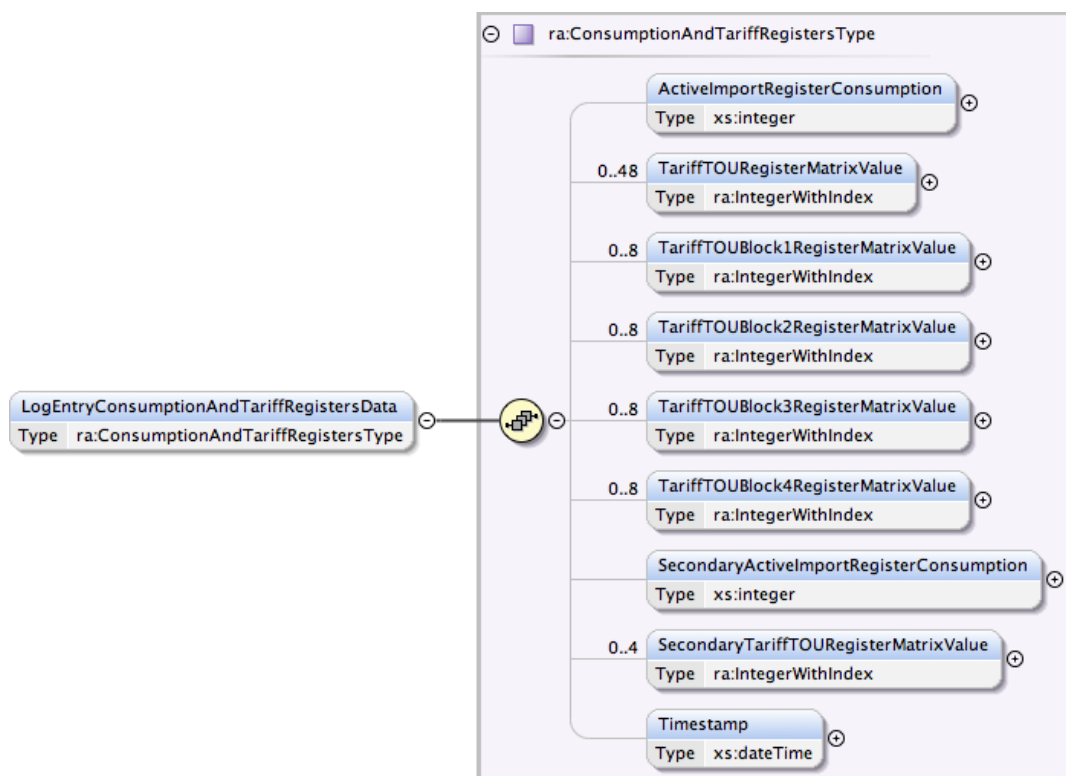
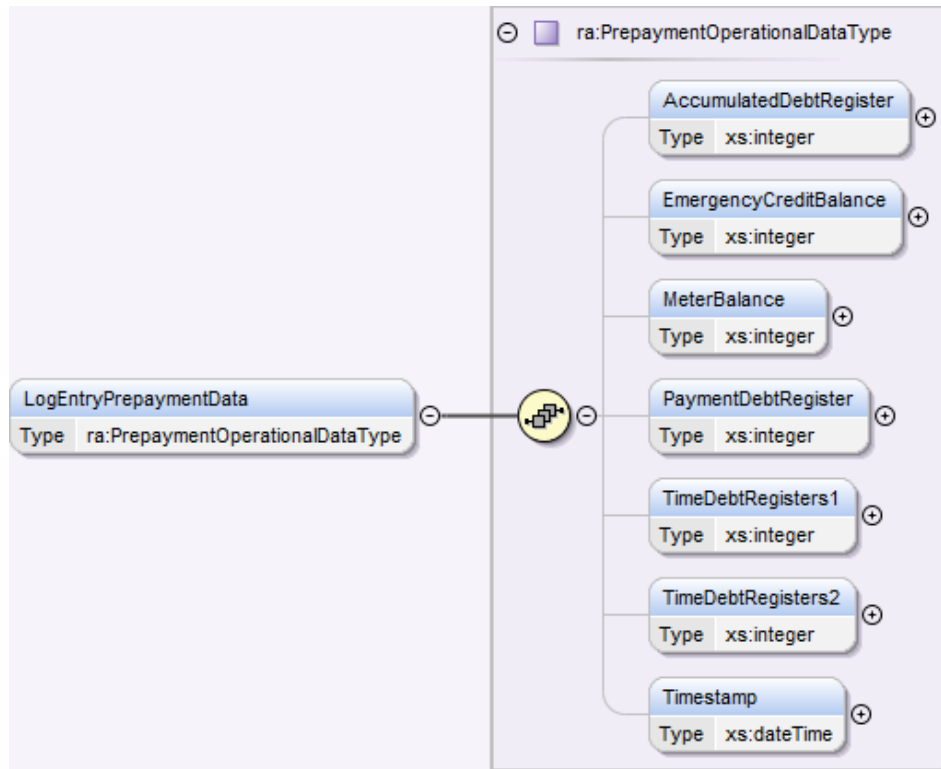


Figure 27 - Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Parse Response / SMETS1 Response Structure



**Figure 28 - Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Parse Response / SMETS1 Response - LogEntryConsumptionAndTariffRegistersData Structure**



**Figure 29 - Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Parse Response / SMETS1 Response - LogEntryPrepaymentData Structure**

#### 4.4.2.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	002F	00C3
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS20b</i>	<i>GCS15b</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read ESME Billing Data Log (change of mode / tariff triggered exc export)</i>	<i>Read GSME Billing Data Log (change of mode / tariff triggered)</i>
SupplementaryRemotePartyID	Present where originator is a URP	Present where originator is a URP
SupplementaryRemotePartyCounter	Present where originator is a URP	Present where originator is a URP
SupplementaryOriginatorCounter	Present where originator is a URP	Present where originator is a URP
Timestamp	Not Present	Not Present

**Table 48- Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Parse/ SMETS1 Response Header Data Items**

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.4.2.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LogEntryConsumptionAndTariffRegistersData <sup>1</sup>	Array of Consumption and Tariff Registers Data Electricity Only	ra: ConsumptionAndTariffRegistersType (see section 4.4.2.2.1.4)	None	N/A	Sensitive
LogEntryConsumptionRegister <sup>1</sup>	Array of Consumption register data Gas Only	ra: ConsumptionRegisterGasType (see section 4.4.2.2.1.5)	None	N/A	Sensitive
LogEntryPrepaymentData <sup>1</sup>	Array of Prepayment Data SMETS1: SMETS1 Devices are not required to record this prepayment data so it may not be provided in SMETS1 Responses.	ra: PrepaymentOperationalDataType (see section 4.14.2.1.4)	None	N/A	Sensitive

Table 49- Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Parse Response / SMETS1 Response Body Data Items

<sup>1</sup> Maximum 12

#### 4.4.2.2.1.4 ConsumptionAndTariffRegistersType Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
ActiveImportRegisterConsumption	The register recording the cumulative Active Energy Imported. SMETS1: Where the Device does not record this value on change of mode or change of tariff, the DCC shall set the value to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter.	xs:integer	None	Wh	Sensitive
TariffTOURegisterMatrixValue <sup>1</sup>	Tariff Registers for Time-of-use Pricing.	ra: IntegerWithIndex	None	Wh	Sensitive
TariffTOUBlock1RegisterMatrixValue <sup>2</sup>	Tariff Registers for Time –of-use with Block Pricing. SMETS1: This value shall be populated by Tariff Block Counter Matrix values from the SMETS1 Device's Billing Data Log.	ra: IntegerWithIndex	None	Wh	Sensitive
TariffTOUBlock2RegisterMatrixValue <sup>2</sup>	Tariff Registers for Time –of-use with Block Pricing. SMETS1: This value shall be populated by Tariff Block Counter Matrix values from the SMETS1 Device's Billing Data Log.	ra: IntegerWithIndex	None	Wh	Sensitive
TariffTOUBlock3RegisterMatrixValue <sup>2</sup>	Tariff Registers for Time –of-use with Block Pricing. SMETS1: This value shall be populated by Tariff Block Counter Matrix values from the SMETS1 Device's Billing Data Log.	ra: IntegerWithIndex	None	Wh	Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
TariffTOUBlock4RegisterMatrixValue <sup>2</sup>	Tariff Registers for Time-of-use with Block Pricing. SMETS1: This value shall be populated by Tariff TOU Block Register Matrix values where supported by Tariff Block Counter Matrix values from the SMETS1 Device's Billing Data Log.	ra: IntegerWithIndex	None	Wh	Sensitive
SecondaryActiveImportRegisterConsumption	The register recording the cumulative Active Energy Imported via the secondary measuring element of the Electricity Meter. Optional. Only present if ESME variant = "B" twin element. N/A to SMETS1	xs:integer	None	Wh	Sensitive
SecondaryTariffTOURegisterMatrixValue <sup>3</sup>	Secondary measurement element Tariff Registers for Time-of-use Pricing. Optional. Only present if ESME variant = "B" twin element. N/A to SMETS1	ra: IntegerWithIndex	None	Wh	Sensitive
Timestamp	Time when the snapshot was taken.	xs:dateTime	None	N/A	Sensitive

**Table 50 - Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Parse Response / SMETS1 Response – ConsumptionAndTariffRegistersType Specific Data Items**

<sup>1</sup> Maximum 48

<sup>2</sup> Maximum 8

<sup>3</sup> Maximum 4

#### 4.4.2.2.1.5 ConsumptionRegisterGasType Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
ConsumptionRegister	Consumption Register data Parse Response: Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS SMETS1: Where the Device does not record this value on change of mode or change of tariff, the DCC shall set the value to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter.	xs:decimal	None	m <sup>3</sup>	Sensitive
Timestamp	Time when the snapshot was taken. (Note that this item is not correctly defined in GBCS 0.8.1 and may not be populated)	xs:dateTime	None	N/A	Sensitive
TariffTOURegisterMatrixValue	A 1 x 4 matrix for storing Tariff Registers for Time-of-use Pricing. Parse Response: Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS	ra: DecimalWithIndex	None	m <sup>3</sup>	Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
BlockRegisterMatrix Value	A 4 x 1 matrix for storing Block Counters for Block Pricing Parse Response: Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS	ra: DecimalWithIndex	None	m <sup>3</sup>	Sensitive

**Table 51- Retrieve Change of Mode or Tariff Triggered Billing Data Log Parse Response / SMETS1 Response – ConsumptionRegisterGasType Specific Data Items**

#### 4.4.2.2.1.6 Sample Response

```
<ra:RetrieveCoMOrTariffTriggeredBillingDataLogRsp MessageSuccess="true">
  <ra:Electricity>
    <ra:LogEntryConsumptionAndTariffRegistersData>
      <ra:ActiveImportRegisterConsumption>0</ra:ActiveImportRegisterConsumption>
      <ra:TariffTOURegisterMatrixValue index="1">0</ra:TariffTOURegisterMatrixValue>
      <ra:TariffTOURegisterMatrixValue index="2">0</ra:TariffTOURegisterMatrixValue>
      <ra:TariffTOUBlock1RegisterMatrixValue index="1">0</ra:TariffTOUBlock1RegisterMatrixValue>
      <ra:TariffTOUBlock1RegisterMatrixValue index="2">0</ra:TariffTOUBlock1RegisterMatrixValue>
      <ra:TariffTOUBlock2RegisterMatrixValue index="1">0</ra:TariffTOUBlock2RegisterMatrixValue>
      <ra:TariffTOUBlock2RegisterMatrixValue index="2">0</ra:TariffTOUBlock2RegisterMatrixValue>
      <ra:TariffTOUBlock3RegisterMatrixValue index="1">0</ra:TariffTOUBlock3RegisterMatrixValue>
      <ra:TariffTOUBlock3RegisterMatrixValue index="2">0</ra:TariffTOUBlock3RegisterMatrixValue>
      <ra:TariffTOUBlock4RegisterMatrixValue index="1">0</ra:TariffTOUBlock4RegisterMatrixValue>
      <ra:TariffTOUBlock4RegisterMatrixValue index="2">0</ra:TariffTOUBlock4RegisterMatrixValue>
      <ra:SecondaryActiveImportRegisterConsumption>0</ra:SecondaryActiveImportRegisterConsumption>1
      <ra:SecondaryTariffTOURegisterMatrixValue index="1">0</ra:SecondaryTariffTOURegisterMatrixValue>1
      <ra:SecondaryTariffTOURegisterMatrixValue index="2">0</ra:SecondaryTariffTOURegisterMatrixValue>1
      <ra:Timestamp>2014-08-24T00:01:02.00</ra:Timestamp>
    </ra:LogEntryConsumptionAndTariffRegistersData>
    <ra:LogEntryPrepaymentData>
      <ra:AccumulatedDebtRegister>250000</ra:AccumulatedDebtRegister>
      <ra:EmergencyCreditBalance>100000</ra:EmergencyCreditBalance>
      <ra:MeterBalance>123000</ra:MeterBalance>
      <ra:PaymentDebtRegister>500</ra:PaymentDebtRegister>
      <ra:TimeDebtRegisters1>70</ra:TimeDebtRegisters1>
      <ra:TimeDebtRegisters2>80</ra:TimeDebtRegisters2>
      <ra:Timestamp>2014-08-24T00:01:02.00</ra:Timestamp>
    </ra:LogEntryPrepaymentData>
  </ra:Electricity>
</ra:RetrieveCoMOrTariffTriggeredBillingDataLogRsp>
```

**Figure 30 - Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Parse Response Sample – Electricity**

<sup>1</sup> N/A to SMETS1

```
<ra:RetrieveCoMoRTariffTriggeredBillingDataLogRsp MessageSuccess="true">
  <ra:Gas>
    <ra:LogEntryConsumptionRegister>
      <ra:ConsumptionRegister>2</ra:ConsumptionRegister>
      <ra:Timestamp>2014-08-24T00:01:02.00</ra:Timestamp>
      <ra:BlockRegisterMatrixValue index="1">14</ra:BlockRegisterMatrixValue>
      <ra:BlockRegisterMatrixValue index="2">30</ra:BlockRegisterMatrixValue>
    </ra:LogEntryConsumptionRegister>
    <ra:LogEntryPrepaymentData>
      <ra:AccumulatedDebtRegister>250000</ra:AccumulatedDebtRegister>
      <ra:EmergencyCreditBalance>100000</ra:EmergencyCreditBalance>
      <ra:MeterBalance>123000</ra:MeterBalance>
      <ra:PaymentDebtRegister>500</ra:PaymentDebtRegister>
      <ra:TimeDebtRegisters1>70</ra:TimeDebtRegisters1>
      <ra:TimeDebtRegisters2>80</ra:TimeDebtRegisters2>
      <ra:Timestamp>2014-08-24T00:01:02.00</ra:Timestamp>
    </ra:LogEntryPrepaymentData>
  </ra:Gas>
</ra:RetrieveCoMoRTariffTriggeredBillingDataLogRsp>
```

Figure 31 - Retrieve Change Of Mode Or Tariff Triggered Billing Data Log Parse Response Sample - Gas

#### 4.4.3 Retrieve Billing Calendar Triggered Billing Data Log (4.4.3)

Service Request Name	RetrieveBillingDataLog
Service Reference	4.4
Service Request Variant Name	RetrieveBillingCalendarTriggeredBillingDataLog
Service Reference Variant	4.4.3
Service Request Objective	To enable a DCC Service User to read a data set stored in the Billing Data Log (Billing Calendar Triggered) of an Electricity Smart Meter or Gas Proxy Function / Smart Meter on an ad-hoc basis for a specified date range.
Business Context Statement	<p>Scheduled (Billing Calendar triggered) Billing Data Log reads are configured via Service Request 6.8 (see Annex section 6.8) and handled by the Electricity Smart Meter under SMETS2, with (SMETS2 or later) a Device Alert being sent to the supplier automatically each time data is written to the Billing Data Log.</p> <p>Service Request Variant 4.4.3 provides the mechanism to read the Billing Calendar Billing Data Log on an ad-hoc basis.</p>
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>
Security Classification	<p>Non-critical and sensitive (the request is non-sensitive and the device response Billing Data Log content is sensitive)</p> <p>SMETS2 or later:</p> <p>GBCS XREF: SME.C.NC</p>

<b>Service Request Narrative (SMETS2 or later)</b>	<ol style="list-style-type: none"> <li>1. The Service Request sender needs to be the Registered Import Supplier for the entire date-time period for which the Billing Data Log is requested. This could be the 'current' or the 'old' Registered Import Supplier. If the sender is not authorised to read data for the entire period requested, an error will be returned.</li> <li>2. Because this Service Request returns Sensitive data, URPs (i.e. the 'old' Registered Supplier), have to include in the Request the Public Security Credentials they want the Device to sign the Response with.</li> <li>3. This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents.</li> <li>4. Returns Billing Log Data relating to an ESME operating in either Credit or Prepayment Mode where Billing Data Log entries have been recorded as a result of a billing calendar entry into the Billing Data Log. Specific data items returned include values of the Active Import register, Tariff TOU Register Matrix and Tariff TOU Block register Matrix for a Single element ESME variant and in addition the values of then Secondary Active Import register and Secondary Tariff TOU register Matrix for a Twin element ESME variant as defined by SMETS.</li> <li>5. Returns Billing Log Data relating to a GSME operating in either Credit or Prepayment Mode where Billing Data Log entries have been recorded as a result of a billing calendar entry into the Billing Data Log. Specific data items returned include the values of the Consumption Register, Tariff TOU Register Matrix and Tariff Block Counter Matrix as defined by SMETS.</li> <li>6. For reading the Billing Data Log values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</li> <li>7. Only the registered GIS may successfully request RetrieveBillingCalendarTriggeredBillingDataLog data from the GSME direct, all previously registered GIS Users must target the Service Request to the GPF.</li> <li>9. Due to variable device implementation, DSP adds one second to the end time to ensure that results will always include the end time of the period required. However, this means that if the intention is to exclude the end time then the DCC Service User should subtract two seconds from the end time of the period to ensure exclusivity. For example: <ul style="list-style-type: none"> <li>• To ensure inclusive, use 20/11/2018 00:00:00,</li> <li>• To ensure exclusive, use 19/11/2018 23:59:58</li> </ul> </li> </ol>	
<b>GBCS Cross Reference</b>	Electricity	Gas
<b>GBCS Message Code</b>	0x0030	0x0076

GBCS Use Case	ECS20c	GCS15c
GBCS Use Case Name	Read ESME Billing Data Log (billing calendar triggered exc export)	Read GSME Billing Data Log (billing calendar triggered)
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <ol style="list-style-type: none"> <li>Where the Device does not record, on change of mode or change of tariff, the ConsumptionRegister (Gas) or ActiveImportRegisterConsumption (Electricity) values in such log entries, the S1SP shall set the corresponding values in the SMETS1 Response to the relevant Unsupported Values (see section 19.9).</li> <li>For a SMETS1 ESME the DCC shall populate the TariffTOUBlock[1..4]RegisterMatrixValue values with the Tariff Block Counter Matrix values from the Billing Data Log (with their SMETS1 meanings).</li> <li>SMETS1 does not require the recording of additional prepayment values to the timetable set out in the Billing Calendar so it may not be provided in SMETS1 Responses.</li> <li>Provision of Public Security Credentials for the Device to sign the Response with is not applicable to SMETS1 Devices. The DCC Data Systems will not validate whether this data item has been included in a SMETS1 Service Request.</li> <li>Secondary element values are not applicable to SMETS1.</li> </ol> <p>Note that it remains true with SMETS1 Devices that this Service Request if targeted to Gas Devices (GPF/GSME) cannot be part of a Sequence, even though the treatment of sensitive data in responses is not the same for SMETS1 Devices.</p>	

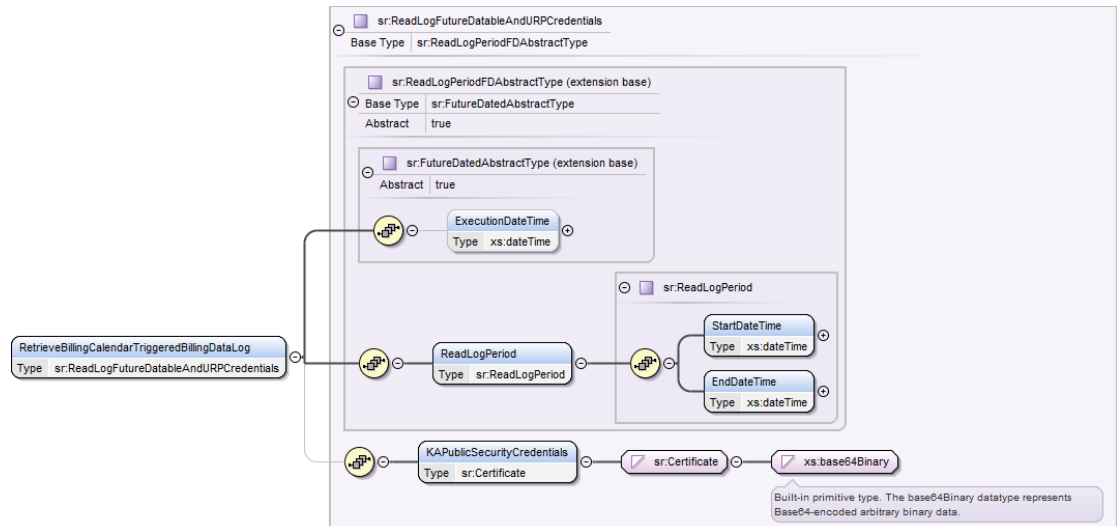
**Table 52 Retrieve Billing Calendar Triggered Billing Data Log Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.4.3.1 Service Request

##### 4.4.3.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its RetrieveBillingCalendarTriggeredBillingDataLog XML element defines this Service Request and contains the date-time period for which the log is to be read on the device, for URPs the Key Agreement Public Security Credentials and, for Future Dated Requests, the Execution Date Time.



**Figure 32 Retrieve Billing Calendar Triggered Billing Data Log Service Request Structure**

#### 4.4.3.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Old Registered Supplier)	sr:Certificate (xs:base64Binary)	SMETS2 or later Service: (Registered Supplier: N/A Old Registered Supplier <sup>1</sup> : Yes) SMETS1 Service: N/A	None	N/A	Non-Sensitive

**Table 53 Retrieve Debt And Credit Billing Data Log Service Request Data Items**

<sup>1</sup> Mandatory for SMETS2 or later Service and User Roles EIS and GIS that were registered parties (KRPs) to the Device for the required time period, but they no longer are

#### 4.4.3.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

**Table 54 Retrieve Billing Calendar Triggered Billing Data Log Modes of Operation**

#### 4.4.3.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 55 Retrieve Billing Calendar Triggered Billing Data Log Command Variant Values**

#### 4.4.3.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for:

- SMETS2 or later: Execution Date Time, Read Log Period, Key Agreement Public Security Credentials and Device Applicability validation.
- SMETS1: Execution Date Time, Read Log Period and Device Applicability validation.

#### 4.4.3.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<RetrieveBillingCalendarTriggeredBillingDataLog>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</RetrieveBillingCalendarTriggeredBillingDataLog>
```

**Figure 33 Sample Retrieve Billing Calendar Triggered Billing Data Log Service Request Format**

#### 4.4.3.2 Responses

The response messages for a "Retrieve Billing Calendar Triggered Billing Data Log" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

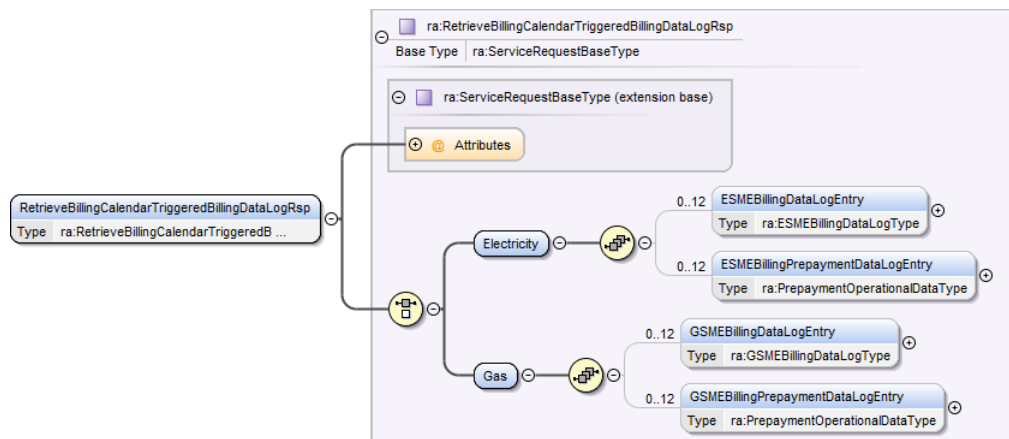
- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.4.3.2.1 Parse Output / SMETS1 Response Format

#### 4.4.3.2.1.1 Format - RetrieveBillingCalendarTriggeredBillingDataLogRsp



**Figure 34 - Retrieve Billing Calendar Triggered Billing Data Log Parse Response / SMETS1 Response Structure**

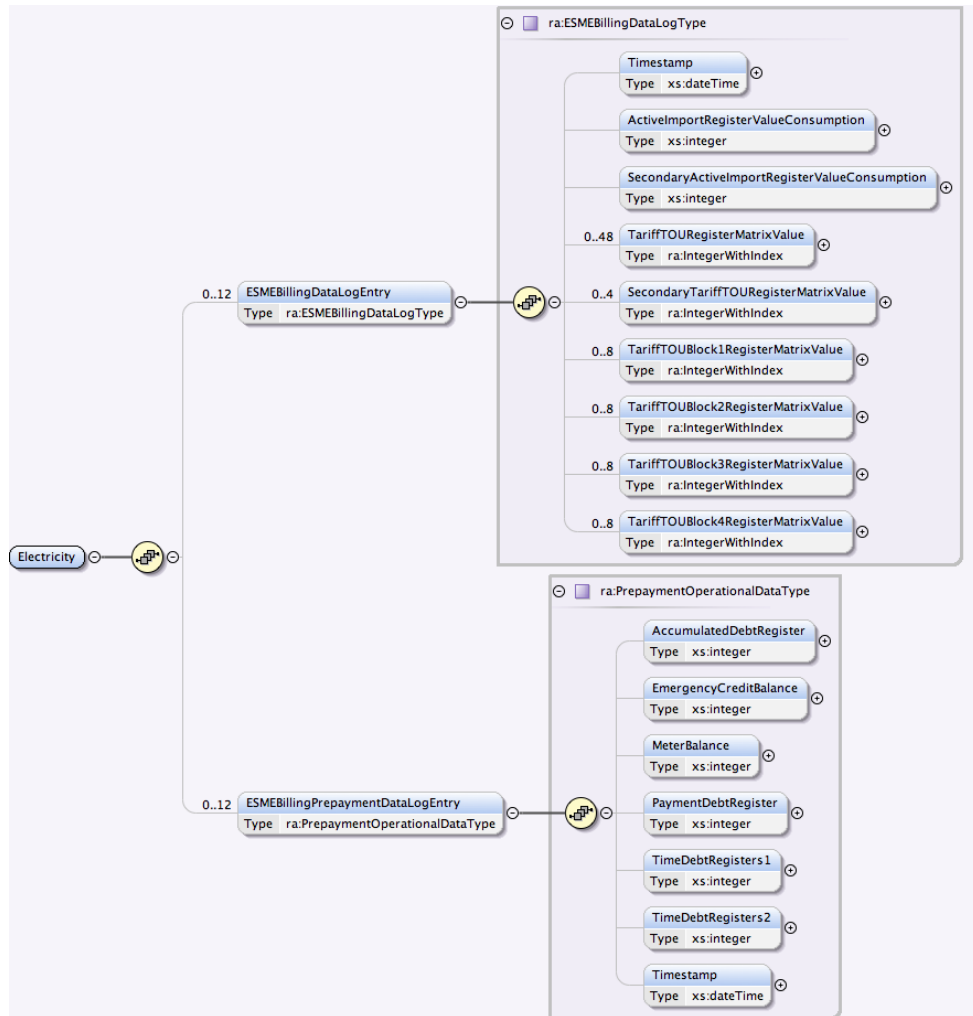


Figure 35 - Retrieve Billing Calendar Triggered Billing Data Log Parse Response / SMETS1 Response - Electricity Structure

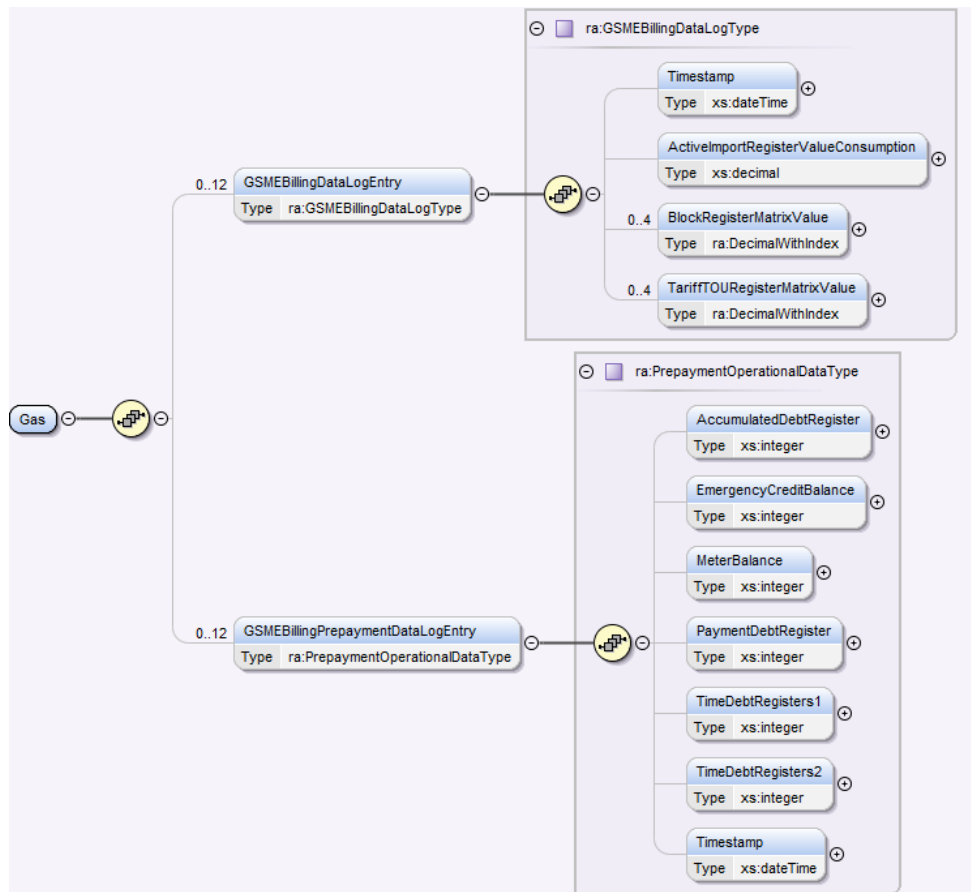


Figure 36 - Retrieve Billing Calendar Triggered Billing Data Log Parse Response / SMETS1 Response - Gas Structure

#### 4.4.3.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0030	0076
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS20c</i>	<i>GCS15c</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read ESME Billing Data Log (billing calendar triggered exc export)</i>	<i>Read GSME Billing Data Log (billing calendar triggered)</i>
SupplementaryRemotePartyID	Present where originator is a URP	Present where originator is a URP
SupplementaryRemotePartyCounter	Present where originator is a URP	Present where originator is a URP
SupplementaryOriginatorCounter	Present where originator is a URP	Present where originator is a URP
Timestamp	Not Present	Not Present

Table 56 - Retrieve Billing Calendar Triggered Billing Data Log Parse/ SMETS1 Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.4.3.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
ESMEBillingDataLogentry <sup>1</sup>	Electricity Smart Meter Billing Data Log Entry Electricity Only	ra:ESMEBillingDataLogType (see Annex 15 section 15.4.2.4)	None	N/A	Sensitive
ESMEBillingPrepaymentDataLogentry <sup>1</sup>	Electricity Smart Meter Billing Prepayment Data Log Entry Electricity Only SMETS1: SMETS1 Devices are not required to record this prepayment data so it may not be provided in SMETS1 Responses.	ra:PrepaymentOperationalDataType (see section 4.14.2.1.4)	None	N/A	Sensitive
GSMEBillingDataLogentry <sup>1</sup>	Gas Smart Meter Billing Data Log Entry Gas Only	ra:GSMEBillingDataLogType (see Annex 15 section 15.4.2.5)	None	N/A	Sensitive
GSMEBillingPrepaymentDataLogentry <sup>1</sup>	Gas Smart Meter Billing Data Prepayment Log Entry Gas Only SMETS1: SMETS1 Devices are not required to record this prepayment data so it may not be provided in SMETS1 Responses.	ra:PrepaymentOperationalDataType (see section 4.14.2.1.4)	None	N/A	Sensitive

**Table 57 - Retrieve Billing Calendar Triggered Billing Data Log Parse Response / SMETS1 Response Body Data Items**

<sup>1</sup> Maximum 12

#### 4.4.3.2.1.4 Sample Response

```
<ra:RetrieveBillingCalendarTriggeredBillingDataLogRsp MessageSuccess="true">
  <ra:Electricity>
    <ra:ESMEBillingDataLogEntry>
      <ra:Timestamp>2014-05-04T18:12:51.00</ra:Timestamp>
      <ra:ActiveImportRegisterValueConsumption>2</ra:ActiveImportRegisterValueConsumption>
      <ra:TariffTOURegisterMatrixValue index="1">20</ra:TariffTOURegisterMatrixValue>
      <ra:TariffTOURegisterMatrixValue index="2">10</ra:TariffTOURegisterMatrixValue>
      <ra:TariffTOUBlock1RegisterMatrixValue index="1">5</ra:TariffTOUBlock1RegisterMatrixValue>
    </ra:ESMEBillingDataLogEntry>
    <ra:ESMEBillingPrepaymentDataLogEntry>
      <ra:AccumulatedDebtRegister>1</ra:AccumulatedDebtRegister>
      <ra:MeterBalance>2</ra:MeterBalance>
      <ra:PaymentDebtRegister>3</ra:PaymentDebtRegister>
      <ra:TimeDebtRegisters1>4</ra:TimeDebtRegisters1>
      <ra:TimeDebtRegisters2>5</ra:TimeDebtRegisters2>
      <ra:Timestamp>2014-05-04T18:12:51.00</ra:Timestamp>
    </ra:ESMEBillingPrepaymentDataLogEntry>
  </ra:Electricity>
</ra:RetrieveBillingCalendarTriggeredBillingDataLogRsp>
```

**Figure 37 - Retrieve Billing Calendar Triggered Billing Data Log Parse Response Sample – Electricity**

```
<ra:RetrieveBillingCalendarTriggeredBillingDataLogRsp MessageSuccess="true">
  <ra:Gas>
    <ra:GSMEBillingDataLogEntry>
      <ra:Timestamp>2014-05-04T18:12:51.00</ra:Timestamp>
      <ra:ActiveImportRegisterValueConsumption>2</ra:ActiveImportRegisterValueConsumption>
      <ra:BlockRegisterMatrixValue index="1">20</ra:BlockRegisterMatrixValue>
      <ra:TariffTOURRegisterMatrixValue index="2">10</ra:TariffTOURRegisterMatrixValue>
    </ra:GSMEBillingDataLogEntry>
    <ra:GSMEBillingPrepaymentDataLogEntry>
      <ra:AccumulatedDebtRegister>1</ra:AccumulatedDebtRegister>
      <ra:MeterBalance>2</ra:MeterBalance>
      <ra:PaymentDebtRegister>3</ra:PaymentDebtRegister>
      <ra:TimeDebtRegisters1>4</ra:TimeDebtRegisters1>
      <ra:TimeDebtRegisters2>5</ra:TimeDebtRegisters2>
      <ra:Timestamp>2014-05-04T18:12:51.00</ra:Timestamp>
    </ra:GSMEBillingPrepaymentDataLogEntry>
  </ra:Gas>
</ra:RetrieveBillingCalendarTriggeredBillingDataLogRsp>
```

Figure 38 - Retrieve Billing Calendar Triggered Billing Data Log Parse Response  
Sample - Gas

#### 4.4.4 Retrieve Billing Data Log (Payment Based Debt Payments) (4.4.4)

Service Request Name	RetrieveBillingDataLog
Service Reference	4.4
Service Request Variant Name	RetrieveBillingDataLog(PaymentBasedDebtPayments)
Service Reference Variant	4.4.4
Service Request Objective	To enable a DCC Service User to read a data set stored in the Billing Data Log (Payment Based Debt Payments) of an Electricity Smart Meter / Gas Proxy Function / Gas Smart Meter on an ad-hoc basis for a specified date range.
Business Context Statement	
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>
Security Classification	Non-critical and non-sensitive SMETS2 or later: GBCS XREF: SME.C.NC

Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"><li>1. The Service Request sender needs to be the Registered Import Supplier for the entire date-time period for which the Billing Data Log is requested. This could be the 'current' or the 'old' Registered Import Supplier. If the sender is not authorised to read data for the entire period requested, an error will be returned.</li><li>2. Returns Billing Log Data relating to an ESME or GSME operating in Prepayment Mode; specifically the value of prepayment based debt payments as defined by SMETS.</li><li>3. For reading the Billing Data Log values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</li><li>4. Due to variable device implementation, DSP adds one second to the end time to ensure that results will always include the end time of the period required. However, this means that if the intention is to exclude the end time then the DCC Service User should subtract two seconds from the end time of the period to ensure exclusivity. For example:<ul style="list-style-type: none"><li>• To ensure inclusive, use 20/11/2018 00:00:00,</li><li>• To ensure exclusive, use 19/11/2018 23:59:58</li></ul></li></ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x002E	0x00C4
GBCS Use Case	ECS20a	GCS15d
GBCS Use Case Name	Read ESME Billing Data Log (payment based debt payments)	Read GSME Billing Data Log (payment-based debt payments)
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices.	

**Table 58 Retrieve Billing Data Log (Payment Based Debt Payments) Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.4.4.1 Service Request

##### 4.4.4.1.1 Format - RetrieveBillingDataLogDebtPayments

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its RetrieveBillingDataLogDebtPayments XML element defines this Service Request and contains the date-time period for which the log is to be read on the device and, for Future Dated Requests, the Execution Date Time.

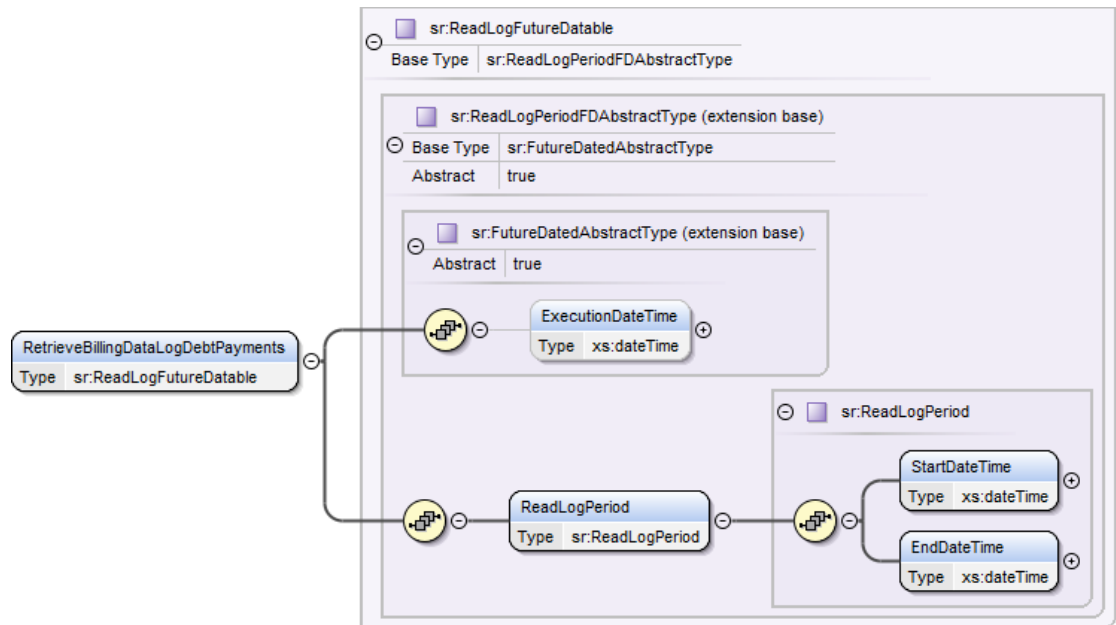


Figure 39 Retrieve Billing Data Log (Payment Based Debt Payments) Service Request Structure

#### 4.4.4.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either <math>\leq</math> current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

Table 59 Retrieve Billing Data Log (Payment Based Debt Payments) Service Request Data Items

#### 4.4.4.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

Table 60 Retrieve Billing Data Log (Payment Based Debt Payments) Modes of Operation

#### 4.4.4.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 61 Retrieve Billing Data Log (Payment Based Debt Payments) Command Variant Values**

#### 4.4.4.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time and Read Log Period validation.

#### 4.4.4.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<RetrieveBillingDataLogDebtPayments>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</RetrieveBillingDataLogDebtPayments>
```

**Figure 40 Sample Retrieve Billing Data Log (Payment Based Debt Payments) Service Request Format**

#### 4.4.4.2 Responses

The response messages for a “Retrieve Billing Data Log (Payment Based Debt Payments)” request follow the generic format for all “Device” response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.4.4.2.1 Parse Output / SMETS1 Response Format

##### 4.4.4.2.1.1 Format - RetrieveBillingDataLogDebtPaymentsRsp

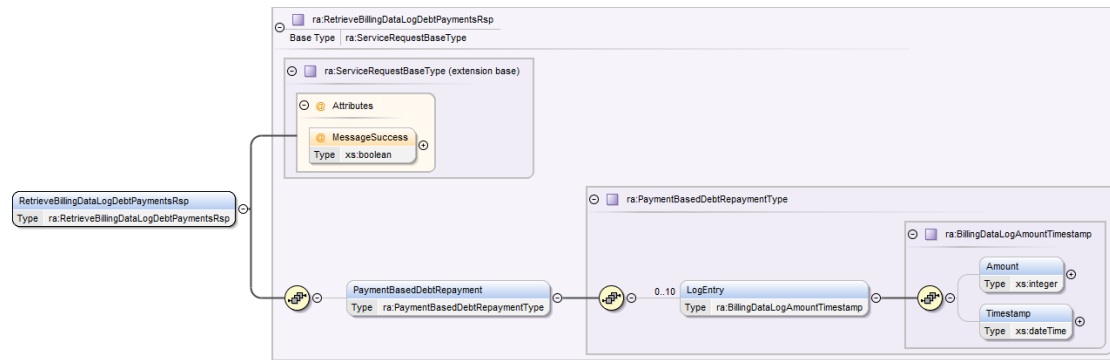


Figure 41 - Retrieve Billing Data Log (Payment Based Debt Payments) Parse Response / SMETS1 Response Structure

#### 4.4.4.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	002E	00C4
GBCS Use Case Number (for information only - not in header)	ECS20a	GCS15d
GBCS Use Case Name (for information only - not in header)	Read ESME Billing Data Log (payment based debt payments)	Read GSME Billing Data Log (payment-based debt payments)
SupplementaryRemotePartyID	Present where originator is a URP	Present where originator is a URP
SupplementaryRemotePartyCounter	Present where originator is a URP	Present where originator is a URP
SupplementaryOriginatorCounter	Not Present	Not Present
Timestamp	Not Present	Not Present

Table 62 - Retrieve Billing Data Log (Payment Based Debt Payments) Parse/ SMETS1 Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.4.4.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
PaymentBasedDebtRepayment	Array of amount of debt recovered as part of the Credit Added	ra:PaymentBasedDebtRepaymentType (see section 4.4.4.2.1.4)	None	N/A	Non-Sensitive

Table 63 - Retrieve Billing Data Log (Payment Based Debt Payments) Parse Response / SMETS1 Response Body Data Items

#### 4.4.4.2.1.4 PaymentBasedDebtRepayment Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LogEntry <sup>1</sup>	Amount of debt recovered as part of the credit added and time stamp of recovery	ra:BillingDataLogAmountTimestamp (see section 4.4.4.2.1.5)	None	N/A	Non-Sensitive

**Table 64 - Retrieve Billing Data Log (Payment Based Debt Payments) Parse Response / SMETS1 Response – PaymentBasedDebtRepayment Specific Data Items**

<sup>1</sup> Maximum 10

#### 4.4.4.2.1.5 BillingDataLogAmountTimestamp Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Amount	SR4.4.4 - PaymentBasedDebtRepayment : Amount of debt recovered as part of the credit added (max 10)  SR4.4.5 - Prepayment Credits: Amount of Prepayment Credit Added	xs:integer	None	1000th pence / cent	Non-Sensitive
Timestamp	SR4.4.4 - PaymentBasedDebtRepayment : Timestamp of recovery (max 10)  SR4.4.5 - Prepayment Credits: Timestamp of application	xs:dateTime	None	UTC Date-Time	Non-Sensitive

**Table 65 - Retrieve Billing Data Log (Payment Based Debt Payments) Parse Response / SMETS1 Response – BillingDataLogAmountTimestamp Specific Data Items**

#### 4.4.4.2.1.6 Sample Response body

```
<ra:RetrieveBillingDataLogDebtPaymentsRsp MessageSuccess="true">
  <ra:PaymentBasedDebtRepayment>
    <ra:LogEntry>
      <ra:Amount>10000</ra:Amount>
      <ra:Timestamp>2014-08-23T19:23:08.00</ra:Timestamp>
    </ra:LogEntry>
  </ra:PaymentBasedDebtRepayment>
</ra:RetrieveBillingDataLogDebtPaymentsRsp>
```

**Figure 42 - Retrieve Billing Data Log (Payment Based Debt Payments) Parse Response Sample**

### 4.4.5 Retrieve Billing Data Log (Prepayment Credits) (4.4.5)

Service Request Name	RetrieveBillingDataLog
Service Reference	4.4
Service Request Variant Name	RetrieveBillingDataLog(PrepaymentCredits)

Service Reference Variant	4.4.5	
Service Request Objective	To enable a DCC Service User to read a data set stored in the Billing Data Log (Prepayment Credits) of an Electricity Smart Meter / Gas Proxy Function / Gas Smart Meter on an ad-hoc basis for a specified date range.	
Business Context Statement		
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>	
Security Classification	Non-critical and non-sensitive SMETS2 or later: GBCS XREF: <i>SME.C.NC</i>	
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>The Service Request sender needs to be the Registered Import Supplier for the entire date-time period for which the Billing Data Log is requested. This could be the 'current' or the 'old' Registered Import Supplier. If the sender is not authorised to read data for the entire period requested, an error will be returned.</li> <li>Returns Billing Log Data relating to an ESME or GSME operating in Prepayment Mode; specifically the value of prepayment credits as defined by SMETS.</li> <li>For reading the Billing Data Log values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</li> <li>Due to variable device implementation, DSP adds one second to the end time to ensure that results will always include the end time of the period required. However, this means that if the intention is to exclude the end time then the DCC Service User should subtract two seconds from the end time of the period to ensure exclusivity. For example:               <ul style="list-style-type: none"> <li>To ensure inclusive, use 20/11/2018 00:00:00,</li> <li>To ensure exclusive, use 19/11/2018 23:59:58</li> </ul> </li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x00C9	0x00C5
GBCS Use Case	ECS20d	GCS15e
GBCS Use Case Name	Read ESME Billing Data Log (prepayment credits)	Read GSME Billing Data Log (prepayment credits)
SMETS1 Applicability	Yes	Yes

**Service Request Narrative  
(SMETS1)**

The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices.

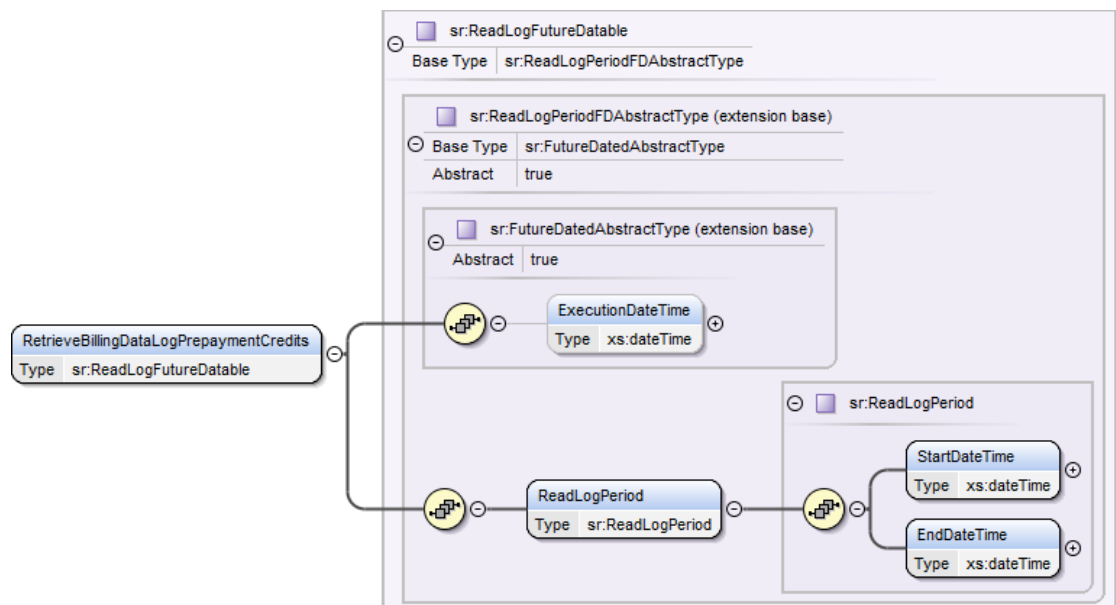
**Table 66 Retrieve Billing Data Log (Prepayment Credits) Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.4.5.1 Service Request

##### 4.4.5.1.1 Format

The Request XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its RetrieveBillingDataLogPrepaymentCredits XML element defines this Service Request and contains the date-time period for which the log is to be read on the device and, for Future Dated Requests, the Execution Date Time.



**Figure 43 Retrieve Billing Data Log (Prepayment Credits) Service Request Structure**

##### 4.4.5.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

**Table 67 Retrieve Billing Data Log (Prepayment Credits) Service Request Data Items**

##### 4.4.5.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

**Table 68 Retrieve Billing Data Log (Prepayment Credits) Modes of Operation**

#### 4.4.5.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 69 Retrieve Billing Data Log (Prepayment Credits) Command Variant Values**

#### 4.4.5.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time and Read Log Period validation.

#### 4.4.5.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<RetrieveBillingDataLogPrepaymentCredits>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</RetrieveBillingDataLogPrepaymentCredits>
```

**Figure 44 Sample Retrieve Billing Data Log (Prepayment Credits) Service Request Format**

#### 4.4.5.2 Responses

The response messages for a "Retrieve Billing Data Log (Prepayment Credits)" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.4.5.2.1 Parse Output / SMETS1 Response Format

##### 4.4.5.2.1.1 Format - RetrieveBillingDataLogPrepaymentCreditsRsp

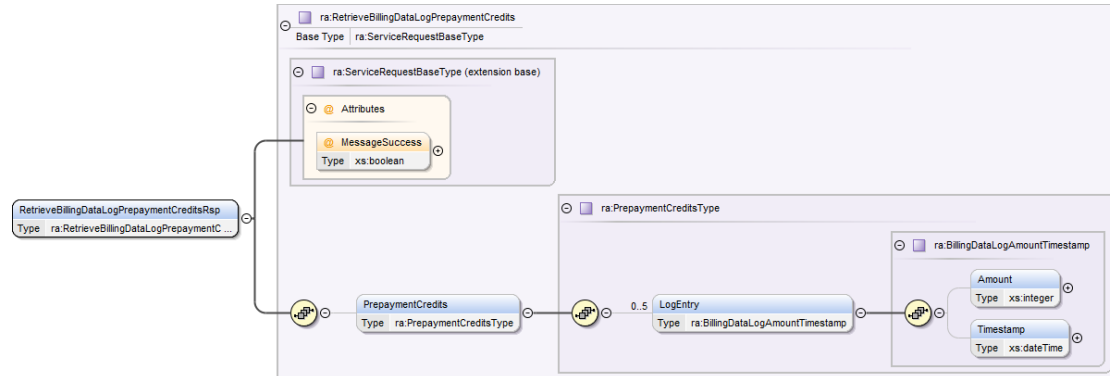


Figure 45 - Retrieve Billing Data Log (Prepayment Credits) Parse Response / SMETS1 Response Structure

##### 4.4.5.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	00C9	00C5
GBCS Use Case Number (for information only - not in header)	ECS20d	GCS15e
GBCS Use Case Name (for information only - not in header)	Read ESME Billing Data Log (prepayment credits)	Read GSME Billing Data Log (prepayment credits)
SupplementaryRemotePartyID	Present where originator is a URP	Present where originator is a URP
SupplementaryRemotePartyCounter	Present where originator is a URP	Present where originator is a URP
SupplementaryOriginatorCounter	Not Present	Not Present
Timestamp	Not Present	Not Present

Table 70 - Retrieve Billing Data Log (Prepayment Credits) Parse/ SMETS1 Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

##### 4.4.5.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
PrepaymentCredits	Array of Prepayment Credits	ra: PrepaymentCredits Type (see section 4.4.5.2.1.4)	None	N/A	Non-Sensitive

**Table 71 - Retrieve Billing Data Log (Prepayment Credits) Parse Response / SMETS1 Response Body Data Items**

#### 4.4.5.2.1.4 PrepaymentCredits Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LogEntry <sup>1</sup>	Amount of Prepayment Credit Added and timestamp of application	ra: BillingDataLogAmountTimestamp (see section 4.4.4.2.1.5)	None	N/A	Non-Sensitive

**Table 72 - Retrieve Billing Data Log Parse Response / SMETS1 Response – PrepaymentCredits Specific Data Items**

<sup>1</sup> A maximum of 5 LogEntry values can be returned.

#### 4.4.5.2.1.5 Sample Response

```
<ra:RetrieveBillingDataLogPrepaymentCreditsRsp MessageSuccess="true">
  <ra:PrepaymentCredits>
    <ra:LogEntry>
      <ra:Amount>1000</ra:Amount>
      <ra:Timestamp>2014-08-23T20:14:18.00</ra:Timestamp>
    </ra:LogEntry>
  </ra:PrepaymentCredits>
</ra:RetrieveBillingDataLogPrepaymentCreditsRsp>
```

**Figure 46 - Retrieve Billing Data Log (Prepayment Credits) Parse Response Sample**

## 4.5 Section 4.5

This section has been intentionally left blank as there is no Service Reference 4.5.

## 4.6 Retrieve Daily Read Log (4.6)

SMETS2 or later

This Service Request maps to two Electricity and one Gas GBCS Use Cases and each Use Case requires its own Request ID.

Therefore the 4.6 Service Request has been broken into two parts: 4.6.1 (Import) and 4.6.2 (Export)

SMETS1

This Service Request maps to Service Reference Variant 4.6.1 (Import)

### 4.6.1 Retrieve Import Daily Read Log (4.6.1)

Service Request Name	RetrieveDailyReadLog
----------------------	----------------------

Service Reference	4.6
Service Request Variant Name	RetrieveImportDailyReadLog
Service Reference Variant	4.6.1
Service Request Objective	To enable a DCC Service User to read an Import Daily Read Log entry of an electricity Smart Meter or Gas Proxy Function / Smart Meter for a specified date-time period.
Business Context Statement	Allows a DCC Service User to request the retrieval of a stored Import Daily Read Log entry for a specific date (Enables a reading at a specific time (e.g. midnight) to be retrieved at a later time (for example on change of Supplier).
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>
Security Classification	<p>Non-critical and sensitive (the request is non-sensitive and the device response Daily Read Log content is sensitive)</p> <p>SMETS2 or later:</p> <p>GBCS XREF: SME.C.NC</p>
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li><i>GSME Daily Read Log</i> as defined in SMETS is, a log capable of storing thirty one UTC date and time stamped entries of the <i>Tariff TOU Register Matrix</i>, the <i>Tariff Block Counter Matrix</i> and the <i>Consumption Register</i> arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten.</li> <li><i>ESME Daily Read Log</i> as defined in SMETS is, a log capable of storing thirty one UTC date and time stamped entries of the <i>Tariff TOU Register Matrix</i>, the <i>Tariff TOU Block Register Matrix</i>, the <i>Active Import Register</i> and the <i>Active Export Register</i> arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten. In addition, <i>Secondary Tariff TOU Register Matrix</i> and <i>Secondary Active Import Register</i> may also be recorded for a twin element ESME.</li> <li>This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule). In all cases, if the sender is not authorised to read data for the entire period requested, an error will be returned.</li> <li>Ad-hoc: Available to User Roles with access to the Device during the entire date-time range requested. This could be the 'current' or the 'old' Registered Supplier. Because this Service Request returns Sensitive data, URPs (i.e. the 'old' Registered Supplier), have to include in the Request the Public Security Credentials they want the Device to sign the Response with. <ol style="list-style-type: none"> <li>Access Control will allow the 'old' Registered Import Supplier and the 'current' Registered Import Supplier to read the Import Daily Read Log entry for a CoS Date identified from registration data.</li> </ol> </li> </ol>

	<p>5. DSP Scheduled: Available to User Roles with access to the Device at the time the Schedule is created. This will never be the 'old' Registered Supplier. Note also that this Service Request should not be scheduled for a GSME as the GSME will reject the commands if sent by the DSP as part of a schedule. The GPF should be the target device for DSP Scheduled commands.</p> <p>6. This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents.</p> <p>7. For reading the daily read log values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</p> <p>8. Only the registered GIS may successfully request RetrievalImportDailyReadLog data from the GSME direct, all previously registered GIS Users must target the Service Request to the GPF.</p> <p>9. Due to variable device implementation, DSP adds one second to the end time to ensure that results will always include the end time of the period required. However, this means that if the intention is to exclude the end time then the DCC Service User should subtract two seconds from the end time of the period to ensure exclusivity. For example:</p> <ul style="list-style-type: none"><li>• To ensure inclusive, use 20/11/2018 00:00:00,</li><li>• To ensure exclusive, use 19/11/2018 23:59:58</li></ul>		
	GBCS Cross Reference	Electricity	Gas
	GBCS Message Code	0x0033	0x0077
	GBCS Use Case	ECS21a	GCS16a
	GBCS Use Case Name	Read Electricity Daily Read Log (exc export)	Read GSME Daily Read log(s)
	SMETS1 Applicability	Yes	Yes

<p><b>Service Request Narrative (SMETS1)</b></p>	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <ol style="list-style-type: none"><li>1. For an ESME the DCC shall populate the TariffTOUBlock[1..4]RegisterMatrixValue values with the Tariff Block Counter Matrix values from the Daily Read Log (with their SMETS1 meanings).</li><li>2. SMETS1 Smart Meters need only support 14 entries in this log as opposed to 31 entries for SMETS2 or later Smart Meters.</li><li>3. Provision of Public Security Credentials for the Device to sign the Response with is not applicable to SMETS1 Devices. The DCC Data Systems will not validate whether this data item has been included in a SMETS1 Service Request.</li><li>4. Secondary element values are not applicable to SMETS1.</li></ol> <p>Note that it remains true with SMETS1 Devices that this Service Request if targeted to Gas Devices (GPF/GSME) cannot be part of a Sequence, even though the treatment of sensitive data in responses is not the same for SMETS1 Devices.</p>
--	--

Table 73 Retrieve Import Daily Read Log Service Request

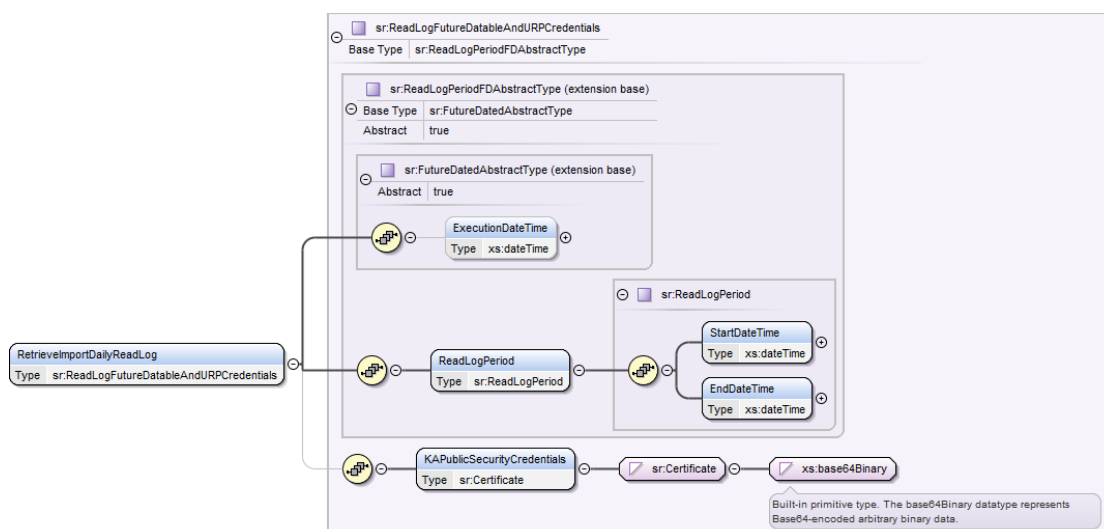
This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.6.1.1 Service Request

#### 4.6.1.1.1 Format

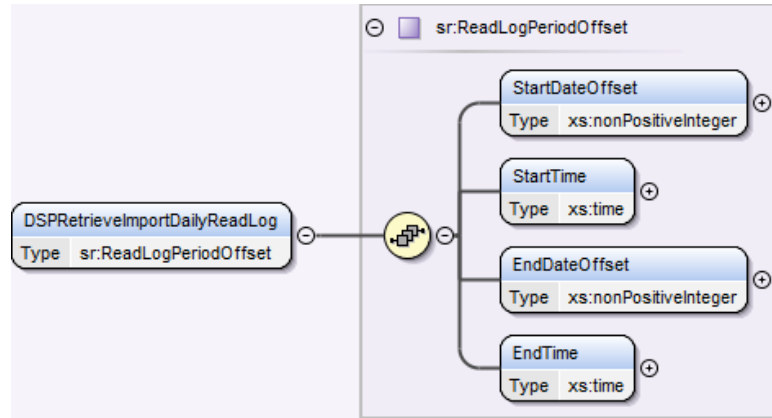
The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its RetrievalImportDailyReadLog XML element defines this Service Request and contains the date-time period for which the log is to be read on the Device, for URPs the Key Agreement Public Security Credentials and, for Future Dated Requests, the Execution Date Time.



**Figure 47 Retrieve Import Daily Read Log Service Request Structure (Ad-hoc)**

Create Schedule: Its DSPRetrieveImportDailyReadLog XML element defines this Service Request and contains the date-time interval for which to read data on the device, defined relative to the current date at the point each Service Request is generated from the schedule. See Annex section 17 ReadLogPeriodOffset definition.



**Figure 48 Retrieve Import Daily Read Log Service Request Structure (Create Schedule)**

#### 4.6.1.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

##### 4.6.1.1.2.1 RetrieveImportDailyReadLog (Ad-hoc)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive
DailyReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Old Registered Supplier)	sr:Certificate (xs:base64Binary)	SMETS2 or later Service: (Registered Supplier: N/A Old Registered Supplier <sup>1</sup> : Yes) SMETS1 Service: N/A	None	N/A	Non-Sensitive

**Table 74 Retrieve Import Daily Read Log Service Request Data Items (Ad-hoc)**

<sup>1</sup> Mandatory for SMETS2 or later Service and User Roles EIS and GIS that were registered parties (KRPs) to the Device for the required time period, but they no longer are

##### 4.6.1.1.2.2 DSPRetrieveImportDailyReadLog (Create Schedule)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPRetrieveImportDailyReadLog	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

**Table 75 Retrieve Import Daily Read Log Service Request – RetrieveDailyReadLog Data Items (Create Schedule)**

#### 4.6.1.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	Yes
SMETS1	No	Yes	No	DSP	Yes

**Table 76 Retrieve Import Daily Read Log Modes of Operation**

#### 4.6.1.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 77 Retrieve Import Daily Read Log Command Variant Values (Ad-hoc)**

#### 4.6.1.1.5 Validation

This Service Request specific validation is as follows (see Main Document of this documentation set section 7 for generic access control checks).

Ad-hoc: See also Annex section 17.2 for:

- SMETS2 or later: Execution Date Time, Key Agreement Public Security Credentials, Read Log Period and Device Applicability validation.
- SMETS1: Execution Date Time, Read Log Period and Device Applicability validation.

Create Schedule: See also Annex section 17.2 for Read Log Period Offset (DSPDailyReadLogPeriodOffset) and Device Applicability validation:

#### 4.6.1.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<RetrieveImportDailyReadLog>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</RetrieveImportDailyReadLog>
```

**Figure 49 Sample Retrieve Import Daily Read Log Service Request Format (Ad-hoc)**

#### **4.6.1.2 Responses**

The response messages for a “Retrieve Import Daily Read Log” request follow the generic format for all “Device” response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

When this Service Request is run as DSP Scheduled, the SMETS2 or later Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1 and the SMETS1 Service Response (from Device) is a variation of the generic one and it follows the structure defined in section 4.8.1.2.2 for Service Request 4.8.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

##### **4.6.1.2.1 Parse Output / SMETS1 Response Format**

###### **4.6.1.2.1.1 Format - RetrieveImportDailyReadLogRsp**

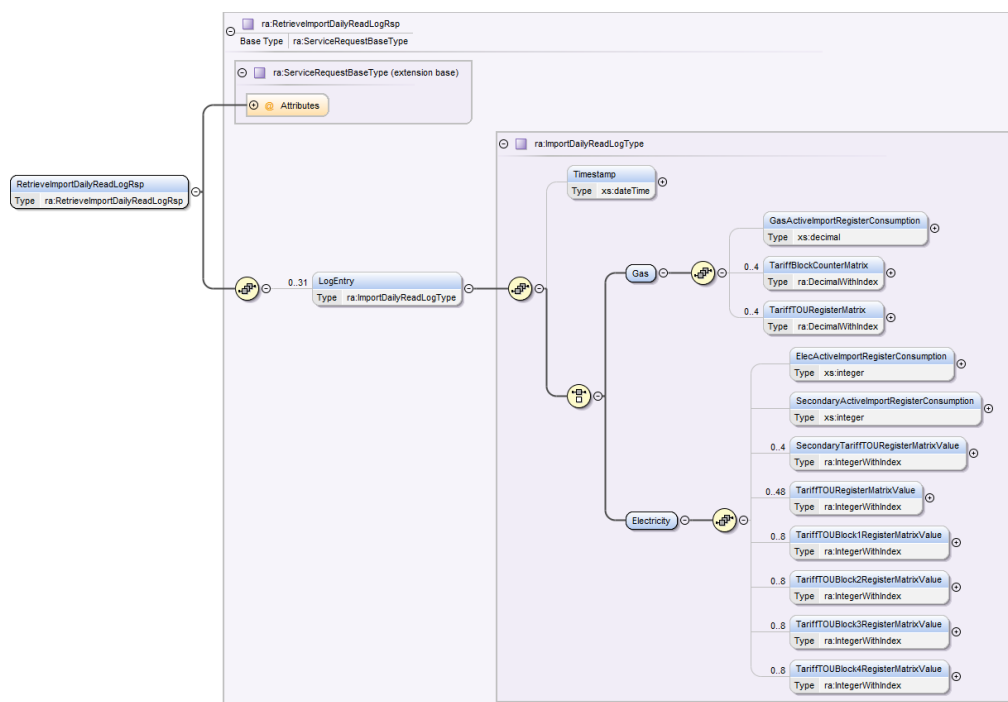


Figure 50 - Retrieve Import Daily Read Log Parse Response / SMETS1 Response Structure

#### 4.6.1.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0033	0077
GBCS Use Case Number (for information only - not in header)	ECS21a	GCS16a
GBCS Use Case Name (for information only - not in header)	Read Electricity Daily Read Log (exc export)	Read GSME Daily Read log(s)
SupplementaryRemotePartyID	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryRemotePartyCounter	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryOriginatorCounter	Present where originator is a URP	Present where originator is a URP
Timestamp	Not Present	Not Present

Table 78 - Retrieve Import Daily Read Log Parse/ SMETS1 Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.6.1.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Timestamp	The UTC date-time at which the corresponding log entry was taken	xs:dateTime	None	UTC Date-Time	Sensitive
GasActiveImportRegisterConsumption	The register recording the cumulative Active Energy Imported. Parse Response: Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS Gas Only	xs:decimal	None	m <sup>3</sup>	Sensitive
ElecActiveImportRegisterConsumption	The register recording the cumulative Active Energy Imported. Electricity Only	xs:integer	None	Wh	Sensitive
TariffBlockCounterMatrix	Block Counters for Block Pricing. Parse Response: Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS Gas Only Maximum of 4	ra:DecimalWithIndex	None	m <sup>3</sup>	Sensitive
TariffTOURegisterMatrix	Tariff Registers for Time-of-use Pricing. Parse Response: Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS Gas Only Maximum of 4	ra:DecimalWithIndex	None	m <sup>3</sup>	Sensitive
SecondaryActiveImportRegisterConsumption	The register recording the cumulative Active Energy Imported via the secondary measuring element of the Electricity Meter. Electricity Only Optional N/A to SMETS1	xs:integer	None	Wh	Sensitive
SecondaryTariffTOURegisterMatrixValue <sup>1</sup>	Tariff Registers for Time-of-use Pricing. Electricity Only Optional N/A to SMETS1	ra:IntegerWithIndex	None	Wh	Sensitive
TariffTOURegisterMatrixValue <sup>2</sup>	Tariff Registers for Time-of-use Pricing. Electricity Only	ra:IntegerWithIndex	None	Wh	Sensitive
TariffTOUBlock1RegisterMatrixValue <sup>3</sup>	Block Counters for Block Pricing. Electricity Only SMETS1: This value shall be populated by Tariff Block Counter Matrix values from the SMETS1 Device's Daily Read Log.	ra:IntegerWithIndex	None	Wh	Sensitive
TariffTOUBlock2RegisterMatrixValue <sup>3</sup>	Block Counters for Block Pricing. Electricity Only SMETS1: This value shall be populated by Tariff Block Counter Matrix values from the SMETS1 Device's Daily Read Log.	ra:IntegerWithIndex	None	Wh	Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
TariffTOUBlock3RegisterMatrixValue <sup>3</sup>	Block Counters for Block Pricing. Electricity Only SMETS1: This value shall be populated by Tariff Block Counter Matrix values from the SMETS1 Device's Daily Read Log.	ra:IntegerWithIndex	None	Wh	Sensitive
TariffTOUBlock4RegisterMatrixValue <sup>3</sup>	Block Counters for Block Pricing. Electricity Only SMETS1: This value shall be populated by Tariff Block Counter Matrix values from the SMETS1 Device's Daily Read Log.	ra:IntegerWithIndex	None	Wh	Sensitive

**Table 79 - Retrieve Import Daily Read Log Parse Response / SMETS1 Response Body Data Items**

<sup>1</sup>Maximum 4

<sup>2</sup>Maximum 48

<sup>3</sup>Maximum 8

#### 4.6.1.2.1.4 Sample Electricity Response

```
<ra:RetrieveImportDailyReadLogRsp MessageSuccess="true">
  <ra:LogEntry>
    <ra:Timestamp>2006-05-04T00:00:00.00</ra:Timestamp>
    <ra:Electricity>
      <ra:ElecActiveImportRegisterConsumption>0</ra:ElecActiveImportRegisterConsumption>
      <ra:SecondaryActiveImportRegisterConsumption>0</ra:SecondaryActiveImportRegisterConsumption>1
      <ra:SecondaryTariffTOURegisterMatrixValue index="1">0</ra:SecondaryTariffTOURegisterMatrixValue>1
      <ra:SecondaryTariffTOURegisterMatrixValue index="2">0</ra:SecondaryTariffTOURegisterMatrixValue>1
      <ra:TariffTOURegisterMatrixValue index="1">0</ra:TariffTOURegisterMatrixValue>
      <ra:TariffTOURegisterMatrixValue index="2">0</ra:TariffTOURegisterMatrixValue>
      <ra:TariffTOUBlock1RegisterMatrixValue index="1">0</ra:TariffTOUBlock1RegisterMatrixValue>
      <ra:TariffTOUBlock1RegisterMatrixValue index="2">0</ra:TariffTOUBlock1RegisterMatrixValue>
      <ra:TariffTOUBlock2RegisterMatrixValue index="1">0</ra:TariffTOUBlock2RegisterMatrixValue>
      <ra:TariffTOUBlock2RegisterMatrixValue index="2">0</ra:TariffTOUBlock2RegisterMatrixValue>
      <ra:TariffTOUBlock3RegisterMatrixValue index="1">0</ra:TariffTOUBlock3RegisterMatrixValue>
      <ra:TariffTOUBlock3RegisterMatrixValue index="2">0</ra:TariffTOUBlock3RegisterMatrixValue>
      <ra:TariffTOUBlock4RegisterMatrixValue index="1">0</ra:TariffTOUBlock4RegisterMatrixValue>
      <ra:TariffTOUBlock4RegisterMatrixValue index="2">0</ra:TariffTOUBlock4RegisterMatrixValue>
    </ra:Electricity>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:Timestamp>2006-05-05T00:00:00.00</ra:Timestamp>
    <ra:Electricity>
      <ra:ElecActiveImportRegisterConsumption>0</ra:ElecActiveImportRegisterConsumption>
      <ra:SecondaryActiveImportRegisterConsumption>0</ra:SecondaryActiveImportRegisterConsumption>1
      <ra:SecondaryTariffTOURegisterMatrixValue index="1">0</ra:SecondaryTariffTOURegisterMatrixValue>1
      <ra:SecondaryTariffTOURegisterMatrixValue index="2">0</ra:SecondaryTariffTOURegisterMatrixValue>1
      <ra:TariffTOURegisterMatrixValue index="1">0</ra:TariffTOURegisterMatrixValue>
      <ra:TariffTOURegisterMatrixValue index="2">0</ra:TariffTOURegisterMatrixValue>
      <ra:TariffTOUBlock1RegisterMatrixValue index="1">0</ra:TariffTOUBlock1RegisterMatrixValue>
      <ra:TariffTOUBlock1RegisterMatrixValue index="2">0</ra:TariffTOUBlock1RegisterMatrixValue>
      <ra:TariffTOUBlock2RegisterMatrixValue index="1">0</ra:TariffTOUBlock2RegisterMatrixValue>
      <ra:TariffTOUBlock2RegisterMatrixValue index="2">0</ra:TariffTOUBlock2RegisterMatrixValue>
      <ra:TariffTOUBlock3RegisterMatrixValue index="1">0</ra:TariffTOUBlock3RegisterMatrixValue>
      <ra:TariffTOUBlock3RegisterMatrixValue index="2">0</ra:TariffTOUBlock3RegisterMatrixValue>
      <ra:TariffTOUBlock4RegisterMatrixValue index="1">0</ra:TariffTOUBlock4RegisterMatrixValue>
      <ra:TariffTOUBlock4RegisterMatrixValue index="2">0</ra:TariffTOUBlock4RegisterMatrixValue>
    </ra:Electricity>
  </ra:LogEntry>
</ra:RetrieveImportDailyReadLogRsp>
```

**Figure 51 - Retrieve Import Daily Read Log Parse Response Electricity Sample**

<sup>1</sup> N/A to SMETS1

#### 4.6.1.2.1.5 Sample Gas Response

```
<ra:RetrieveImportDailyReadLogRsp MessageSuccess="true">
  <ra:LogEntry>
    <ra:Timestamp>2006-05-04T00:00:00.00</ra:Timestamp>
    <ra:Gas>
      <ra:GasActiveImportRegisterConsumption>0</ra:GasActiveImportRegisterConsumption >
      <ra:TariffBlockCounterMatrix index="1">0</ra:TariffBlockCounterMatrix>
      <ra:TariffBlockCounterMatrix index="2">0</ra:TariffBlockCounterMatrix>
      <ra:TariffBlockCounterMatrix index="3">0</ra:TariffBlockCounterMatrix>
      <ra:TariffBlockCounterMatrix index="4">0</ra:TariffBlockCounterMatrix>
      <ra:TariffTOURegisterMatrix index="1">0</ra:TariffTOURegisterMatrix>
      <ra:TariffTOURegisterMatrix index="2">0</ra:TariffTOURegisterMatrix>
      <ra:TariffTOURegisterMatrix index="3">0</ra:TariffTOURegisterMatrix>
      <ra:TariffTOURegisterMatrix index="4">0</ra:TariffTOURegisterMatrix>
    </ra:Gas>
  </ra:LogEntry>
</ra:RetrieveImportDailyReadLogRsp>
```

Figure 52 - Retrieve Import Daily Read Log Parse Response Gas Sample

## 4.6.2 Retrieve Export Daily Read Log (4.6.2)

Service Request Name	RetrieveDailyReadLog
Service Reference	4.6
Service Request Variant Name	RetrieveExportDailyReadLog
Service Reference Variant	4.6.2
Service Request Objective	To enable a DCC Service User to read an Export Daily Read Log entry of an electricity meter for a specified date period.
Business Context Statement	Allows a DCC Service User to request the retrieval of a stored Export Daily Read Log entry for a specific date (Enables a reading at a specific time (e.g. midnight) to be retrieved at a later time (for example on change of Supplier).
User Role Access	<ul style="list-style-type: none"> <li>Electricity Export Supplier (EES)</li> </ul>
Security Classification	Non-critical and non-sensitive: GBCS XREF: SME.C.NC
Service Request Narrative	1. ESME <i>Daily Read Log</i> as defined in SMETS is, a log capable of storing thirty one UTC date and time stamped entries of the <i>Tariff TOU Register Matrix</i> , the <i>Tariff TOU Block Register Matrix</i> , the <i>Active Import Register</i> and the <i>Active Export Register</i> arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten. In addition, <i>Secondary Tariff TOU Register Matrix</i> and <i>Secondary</i>

	<p><i>Active Import Register</i> may also be recorded for a twin element ESME.</p> <ol style="list-style-type: none"> <li>This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule). In all cases, if the sender is not authorised to read data for the entire period requested, an error will be returned.</li> <li>Ad-hoc: Available to User Roles with access to the Device during the entire date-time range requested. <ol style="list-style-type: none"> <li>Access Control will allow the 'old' Registered Export Supplier and the 'current' Registered Export Supplier to read the Export Daily Read Log entry for a CoS Date identified from registration data.</li> </ol> </li> <li>DSP Scheduled: Available to User Roles with access to the Device at the time the Schedule is created.</li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0035	N/A
GBCS Use Case	ECS21c	N/A
GBCS Use Case Name	Read Electricity Daily Read Log (export only)	N/A
SMETS1 Applicability	No	No

**Table 80 Retrieve Export Daily Read Log Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.6.2.1 Service Request

##### 4.6.2.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Ad-hoc: Its `RetrieveExportDailyReadLog` XML element defines this Service Request and contains the date-time period for which the log is to be read on the Device and, for Future Dated Requests, the Execution Date Time.

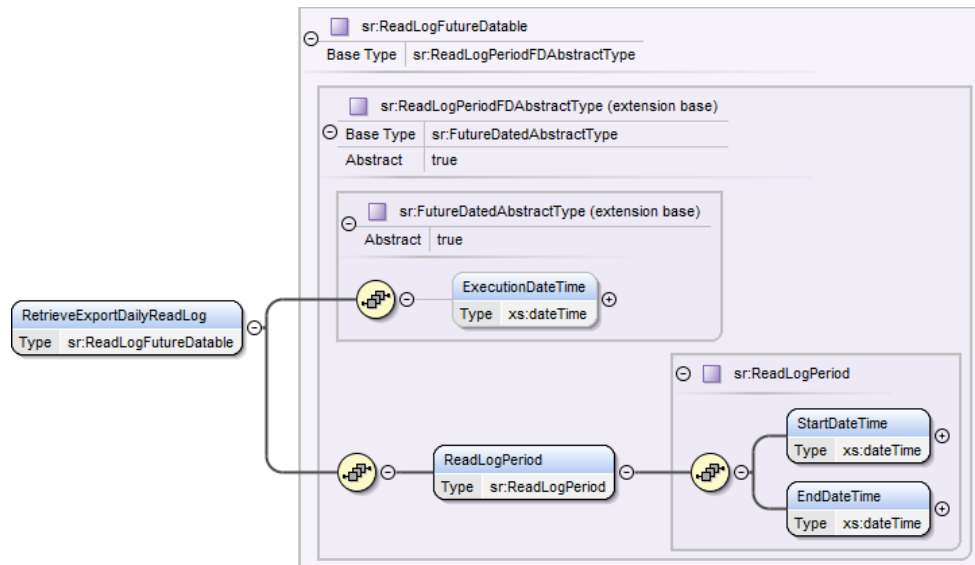


Figure 53 Retrieve Export Daily Read Log Service Request Structure (Ad-hoc)

Create Schedule: Its DSPRetrieveExportDailyReadLog XML element defines this Service Request and contains the date-time interval for which to read data on the device, defined relative to the current date at the point each Service Request is generated from the schedule. See Annex section 17 ReadLogPeriodOffset definition.

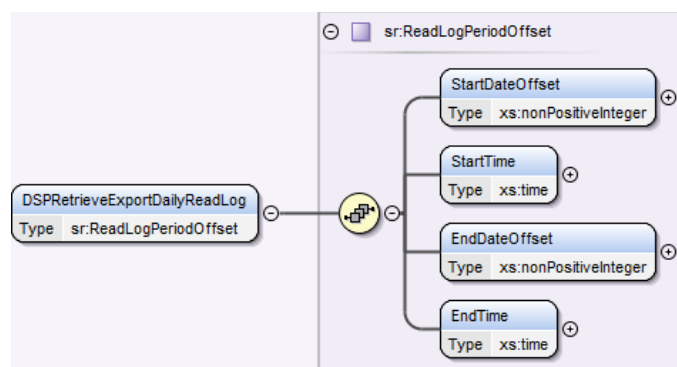


Figure 54 Retrieve Export Daily Read Log Service Request Structure (Create Schedule)

#### 4.6.2.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

##### 4.6.2.1.2.1 RetrieveExportDailyReadLog (Ad-hoc)

The data items contained in the Service Request are defined in section 4.4.4.1.2.

##### 4.6.2.1.2.2 DSPRetrieveExportDailyReadLog (Create Schedule)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPRetrieveExportDailyReadLog	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

Table 81 Retrieve Export Daily Read Log Service Request – RetrieveDailyReadLog Data Items (Create Schedule)

#### 4.6.2.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
No	Yes	No	DSP	Yes

**Table 82 Retrieve Export Daily Read Log Modes of Operation**

#### 4.6.2.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
Yes	Yes	Yes	No	No	No	No	No

**Table 83 Retrieve Export Daily Read Log Command Variant Values (Ad-hoc)**

#### 4.6.2.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for Execution Date Time and Read Log Period validation.

Create Schedule: See also Annex section 17.2 for Read Log Period Offset validation.

#### 4.6.2.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<RetrieveExportDailyReadLog>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</RetrieveExportDailyReadLog>
```

**Figure 55 Sample Retrieve Export Daily Read Log Service Request Format (Ad-hoc)**

#### 4.6.2.2 Responses

The response messages for a “Retrieve Export Daily Read Log” request follow the generic format for all “Device” response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output

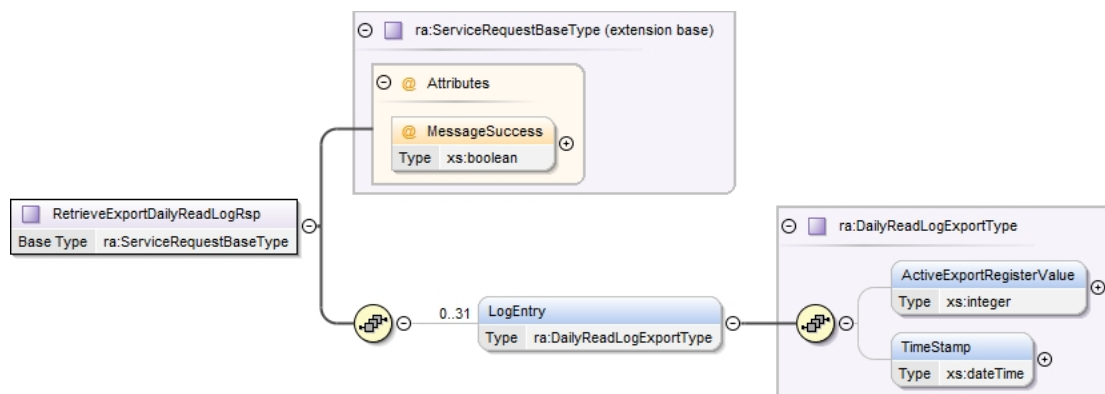
See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

When this Service Request is run as DSP Scheduled, the Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.6.2.2.1 Parse Output Format

##### 4.6.2.2.1.1 Format - RetrieveExportDailyReadLogRsp



**Figure 56 - Retrieve Export Daily Read Log Parse Response Structure**

##### 4.6.2.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	0035
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS21c</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read Electricity Daily Read Log (export only)</i>
SupplementaryRemotePartyID	Present
SupplementaryRemotePartyCounter	Present
SupplementaryOriginatorCounter	Not Present
Timestamp	Not Present

**Table 84 - Retrieve Export Daily Read Log Parse Response Header Data Items**

##### 4.6.2.2.1.3 Specific Body Data Items

The body items in the table below appear as pairs within the “LogEntry” group which can repeat up to thirty-one times.

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
ActiveExportRegisterValue	The billing log entry recorded at that date-time	xs:integer	None	Wh	Non-Sensitive
Timestamp	The UTC date-time at which the corresponding log entry was taken	xs:dateTime	None	UTC Date-Time	Non-Sensitive

Table 85 - Retrieve Export Daily Read Log Parse Response Body Data Items

#### 4.6.2.2.1.4 Sample Response

```
<ra:RetrieveExportDailyReadLogRsp MessageSuccess="true">
  <ra:LogEntry>
    <ra:ActiveExportRegisterValue>0</ra:ActiveExportRegisterValue>
    <ra:TimeStamp>2006-05-04T00:00:00.00</ra:TimeStamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveExportRegisterValue>10</ra:ActiveExportRegisterValue>
    <ra:TimeStamp>2006-05-05T00:00:00.00</ra:TimeStamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveExportRegisterValue>20</ra:ActiveExportRegisterValue>
    <ra:TimeStamp>2006-05-06T00:00:00.00</ra:TimeStamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveExportRegisterValue>30</ra:ActiveExportRegisterValue>
    <ra:TimeStamp>2006-05-07T00:00:00.00</ra:TimeStamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveExportRegisterValue>40</ra:ActiveExportRegisterValue>
    <ra:TimeStamp>2006-05-08T00:00:00.00</ra:TimeStamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveExportRegisterValue>50</ra:ActiveExportRegisterValue>
    <ra:TimeStamp>2006-05-09T00:00:00.00</ra:TimeStamp>
  </ra:LogEntry>
</ra:RetrieveExportDailyReadLogRsp>
```

Figure 57 - Retrieve Export Daily Read Log Parse Response Sample

## 4.7 Section 4.7

This section has been intentionally left blank as there is no Service Reference 4.7.

## 4.8 Read Profile Data (4.8)

### SMETS2 or later

This Service Request maps to three Electricity and one Gas GBCS Use Cases and each Use Case requires its own Request ID.

Therefore the 4.8 Service Request has been broken into three parts: 4.8.1 (Active Import) – applicable to Electricity and Gas, 4.8.2 (Reactive Import) – applicable to Electricity and 4.8.3 (Export) – applicable to Electricity.

### SMETS1

This Service Request maps to Service Reference Variant 4.8.1 (Active Import) – applicable to Electricity and Gas, 4.8.2 (Reactive Import) – applicable to Electricity and 4.8.3 (Export) – applicable to Electricity.

### 4.8.1 Read Active Import Profile Data (4.8.1)

Service Request Name	ReadProfileData
Service Reference	4.8
Service Request Variant Name	ReadActiveImportProfileData
Service Reference Variant	4.8.1

Service Request Objective	To enable a DCC Service user to request the retrieval of interval data (half hourly active import consumption data) from a Device with a specific Device ID.
Business Context Statement	<p>A DCC Service User wishes to retrieve a set of half hourly active import consumption data for a Device at a specific Device ID. The Profile Data Log will store (where such time has elapsed) at least:</p> <p>Electricity:</p> <ul style="list-style-type: none"> <li>13 months of Active Energy Imported via the primary measuring element of the Electricity Meter;</li> <li>13 months of Active Energy Imported via the secondary measuring element of the Electricity Meter (if present – twin element ESME variant only)</li> </ul> <p>Gas:</p> <ul style="list-style-type: none"> <li>13 months of Active Import Consumption data (GPF)</li> <li>3 months of Active Import Consumption data (GSME)</li> </ul> <p>This request will return such active import consumption data as is available. A DCC Service User will have the ability to request a start and end date for interval data.</p>
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> <li>Electricity Network Operator (ENO)</li> <li>Gas Network Operator (GNO)</li> <li>Other User (OU)</li> </ul>
Security Classification	<p>Non-critical and sensitive (the request is non-sensitive and the response is sensitive)</p> <p>SMETS2 or later:</p> <p>GBCS XREF: SME.C.NC</p>
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>The <i>Profile Data Log</i> on the GSME, as defined in SMETS, is a log capable of storing a minimum of three months of UTC date and time stamped half hourly Consumption data arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten. The Gas Proxy Function will store a minimum of 13 months' worth of data from the GSME in its <i>Profile Data Log</i>.</li> <li>When reading the active import profile data from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</li> <li>This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule). In all cases, if the sender is not authorised to read data for the entire period requested, an error will be returned.</li> <li>Ad-hoc: Available to User Roles with access to the Device during the entire date-time range requested. In the case of</li> </ol>

	<p>Import Supplier, this could be the 'current' or the 'old' Registered Supplier. Because this Service Request returns Sensitive data, URPs (i.e. the 'old' Registered Supplier and 'Other User'), have to include in the Request the Public Security Credentials they want the Device to sign the Response with.</p> <p>5. DSP Scheduled: Available to User Roles with access to the Device at the time the Schedule is created. In the case of Import Supplier, this will never be the 'old' Registered Supplier. The URP Public Security Credentials (applicable to 'Other User') for the Device to sign the Response are included in the Create Schedule Service Request. See Annex section 5.1. Note also that this Service Request should not be scheduled for a GSME as the GSME will reject the commands if sent by the DSP as part of a schedule. The GPF should be the target device for DSP Scheduled commands.</p> <p>6. This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents.</p> <p>7. Only the registered GIS may successfully request ReadActiveImportProfileData data from the GSME direct using their KAPublicSecurityCredentials, all previously registered GIS Users must target the Service Request to the GPF.</p> <p>8. Due to variable device implementation, DSP adds one second to the end time to ensure that results will always include the end time of the period required. However, this means that if the intention is to exclude the end time then the DCC Service User should subtract two seconds from the end time of the period to ensure exclusivity. For example:</p> <ul style="list-style-type: none"> <li>To ensure inclusive, use 20/11/2018 00:00:00,</li> <li>To ensure exclusive, use 19/11/2018 23:59:58</li> </ul>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0037	0x0078
GBCS Use Case	ECS22b	GCS17
GBCS Use Case Name	Read Electricity Half Hour Profile Data (active import)	Read GSME Profile Data Log
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <p>1. Provision of Public Security Credentials for the Device to sign the Response with is not applicable to SMETS1 Devices. The</p>	

	<p>DCC Data Systems will not validate whether this data item has been included in a SMETS1 Service Request.</p> <p>2. Secondary element values are not applicable to SMETS1.</p> <p>Note that it remains true with SMETS1 Devices that this Service Request if targeted to Gas Devices (GPF/GSME) cannot be part of a Sequence, even though the treatment of sensitive data in responses is not the same for SMETS1 Devices.</p>
--	--

**Table 86 Read Active Import Profile Data Service Request**

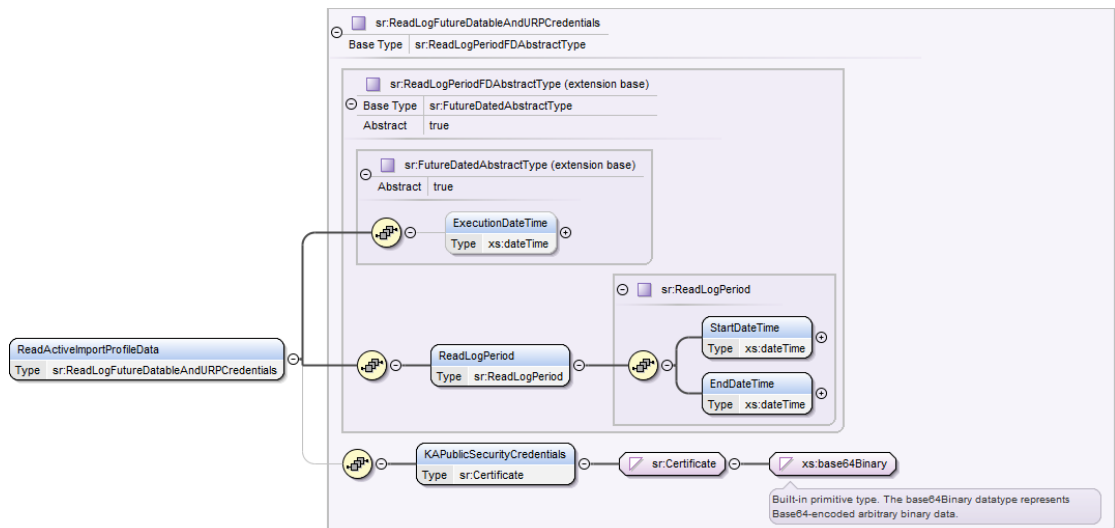
This section should be read in conjunction with Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.8.1.1 Service Request

##### 4.8.1.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadActiveImportProfileData XML element defines this Service Request and contains the date-time interval for which to read data on the device, for URP the Key Agreement Public Security Credentials and, for Future Dated, the Execution Date and Time.



**Figure 58 Read Active Import Profile Data Service Request Structure (Ad-hoc)**

Create Schedule: Its DSPReadActiveImportProfileData XML element defines this Service Request and contains the date-time interval for which to read data on the device, defined relative to the current date at the point each Service Request is generated from the schedule. See Annex section 17 ReadLogPeriodOffset definition

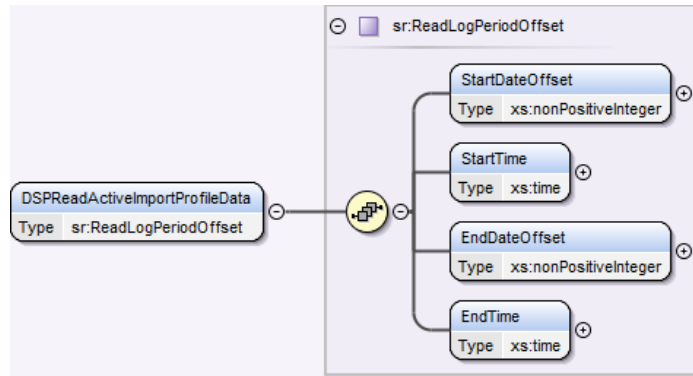


Figure 59 Read Active Import Profile Data Service Request Structure (Create Schedule)

#### 4.8.1.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

##### 4.8.1.1.2.1 ReadActiveImportProfileData (Ad-hoc)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Other User or previous Registered Supplier)	xs:base64Binary	SMETS2 or later Service: (User Role EIS, GIS, ENO, GNO: N/A User Role OU: Yes <sup>1</sup> ) SMETS1 Service: N/A	None	N/A	Non-Sensitive

Table 87 Read Active Import Profile Data Service Request Data Items (Ad-hoc)

<sup>1</sup> Also Mandatory for SMETS2 or later Service and User Roles:

- EIS and GIS that were registered parties (KRPs) to the Device for the required time period, but they no longer are

##### 4.8.1.1.2.2 DSPReadActiveImportProfileData (Create Schedule)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPReadActiveImportProfileData	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

**Table 88 Read Active Import Profile Data Service Request Data Items (Create Schedule)**

#### 4.8.1.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	Yes
SMETS1	No	Yes	No	DSP	Yes

**Table 89 Read Active Import Profile Data Modes of Operation**

#### 4.8.1.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 90 Read Active Import Profile Data Command Variant Values (Ad-hoc)**

#### 4.8.1.1.5 Validation

This Service Request specific validation is as follows;

See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for:

- SMETS2 or later: Execution Date Time, KA Public Security Credentials, Read Log Period and Device Applicability validation.
- SMETS1: Execution Date Time, Read Log Period and Device Applicability validation.

Create Schedule: See also Annex section 17.2 for Read Log Period Offset and Device Applicability validation.

#### 4.8.1.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadActiveImportProfileData>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</ReadActiveImportProfileData>
```

Figure 60 Sample Read Active Import Profile Data Service Request Format (Ad-hoc)

#### 4.8.1.2 Responses

The response messages for a "Read Active Import Profile Data" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the device.

When this Service Request is run as DSP Scheduled, the SMETS2 or later Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1 and the SMETS1 Response is a variation of the generic one and it is defined in section 4.8.1.2.2.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

##### 4.8.1.2.1 SMETS2 or later Service Response (from Device) – DSP Scheduled Message

##### 4.8.1.2.1.1 DSP Scheduled Response Format

The DSPScheduledMessage XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of the Service Response that includes the Device Command Response and the DSP Schedule ID.

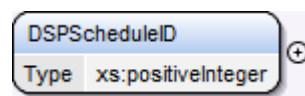


Figure 61 DSP Scheduled Service Response (from Device) Structure

##### 4.8.1.2.1.2 DSP Scheduled Response Specific Data Items Definition

If the Device sends a response to the DCC Data Systems, they will add the DSP Schedule ID to the GBCS response from the Device.

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPScheduleID	Schedule ID generated by the DCC Data Systems when the Schedule was created > 0	xs:positiveInteger	Yes	None	N/A	Non-Sensitive

Table 91 DSP Scheduled Service Request Response Data Items

##### 4.8.1.2.1.3 DSP Scheduled Sample Response (KRP)

The response from the Device is digitally signed by the DSP Broker, because of the inclusion of the DSP Schedule ID in the XML

```
<ResponseMessage>
  <ServiceReference>4.8</ServiceReference>
  <ServiceReferenceVariant>4.8.1</ServiceReferenceVariant>
  <DSPScheduledMessage>
    <GBCSPayload>ZGVmYXVsdA==</GBCSPayload>
    <DSPScheduleID>500</DSPScheduleID>
  </DSPScheduledMessage>
</ResponseMessage>
```

**Figure 62 Sample Service Response (from Device) Format (DSPScheduledMessage) (KRP)**

#### 4.8.1.2.1.4 DSP Scheduled Sample Response (URP - Response includes sensitive data)

The response from the Device is digitally signed by the DSP Broker, because of the inclusion of the DSP Schedule ID in the XML.

```
<ResponseMessage>
  <ServiceReference>4.8</ServiceReference>
  <ServiceReferenceVariant>4.8.1</ServiceReferenceVariant>
  <DSPScheduledMessage>
    <GBCSPayload>ZGVmYXVsdA==</GBCSPayload>
    <DSPScheduleID>500</DSPScheduleID>
  </DSPScheduledMessage>
</ResponseMessage>
```

**Figure 63 Sample Service Response (from Device) Format (DSPScheduledMessage) (URP - Response includes sensitive data)**

#### 4.8.1.2.1.5 DSP Scheduled Sample Response (URP - Response only includes non-sensitive data)

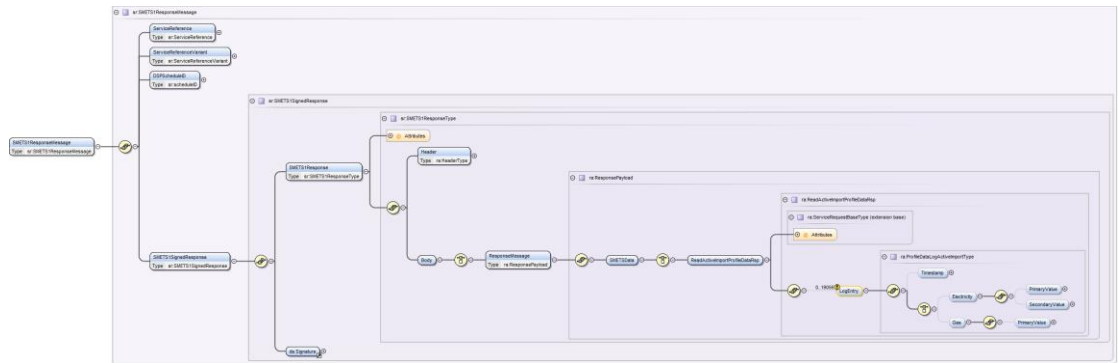
The response from the Device is digitally signed by the DSP Broker. Please note this sample has been included here for completeness, but it doesn't apply to this Service Reference Variant.

```
<ResponseMessage>
  <ServiceReference>4.8</ServiceReference>
  <ServiceReferenceVariant>4.8.1</ServiceReferenceVariant>
  <DSPScheduledMessage>
    <GBCSPayload>ZGVmYXVsdA==</GBCSPayload>
    <DSPScheduleID>500</DSPScheduleID>
  </DSPScheduledMessage>
</ResponseMessage>
```

**Figure 64 Sample Service Response (from Device) Format (DSPScheduledMessage) (URP – Response only includes non-sensitive data)**

#### 4.8.1.2.2 SMETS1 Response (DSP Scheduled) Format

##### 4.8.1.2.2.1 Format – SMETS1Response (DSP Scheduled) ReadActiveImportProfileDataRsp



**Figure 65 - Read Active Import Profile Data SMETS1 Response (DSP Scheduled) Structure**

Note: LogEntry Maximum 19056. A value of 19056 is considered as 'Unbounded' by the XSD validation

The SMETS1 Response includes the specific response defined in section 4.8.1.2.3 and it also includes the DSP Schedule ID generated when the Schedule was created via Service Request 5.1.

#### 4.8.1.2.2.2 Sample Response

```
<SMETS1ResponseMessage>
  <ServiceReference>4.8</ServiceReference>
  <ServiceReferenceVariant>4.8.1</ServiceReferenceVariant>
  <DSPScheduleID>500</DSPScheduleID>
  <SMETS1SignedResponse>
    <SMETS1Response schemaVersion="3.0">
      <Header>
        <ra:BusinessOriginatorID>99-00-AA-BB-CC-DD-EE-FF</ra:BusinessOriginatorID>
        <ra:BusinessTargetID>11-22-33-44-55-66-77-88</ra:BusinessTargetID>
        <ra:OriginatorCounter>50</ra:OriginatorCounter>
        <ra:ServiceReference>4.8</ra:ServiceReference>
        <ra:ServiceReferenceVariant>4.8.1</ra:ServiceReferenceVariant>
      </Header>
      <Body>
        <ResponseMessage>
          <ra:SMETSData>
            <ra:ReadActiveImportProfileDataRsp MessageSuccess="true">
              <ra:LogEntry>
                <ra:Timestamp>2006-05-04T00:00:00.00</ra:Timestamp>
                <ra:Electricity>
                  <ra:PrimaryValue>0</ra:PrimaryValue>
                </ra:Electricity>
              </ra:LogEntry>
              <ra:LogEntry>
                <ra:Timestamp>2006-05-04T00:30:00.00</ra:Timestamp>
                <ra:Electricity>
                  <ra:PrimaryValue>0</ra:PrimaryValue>
                </ra:Electricity>
              </ra:LogEntry>
              <ra:LogEntry>
                <ra:Timestamp>2006-05-04T01:00:00.00</ra:Timestamp>
                <ra:Electricity>
                  <ra:PrimaryValue>0</ra:PrimaryValue>
                </ra:Electricity>
              </ra:LogEntry>
              <ra:LogEntry>
                <ra:Timestamp>2006-05-04T01:30:00.00</ra:Timestamp>
                <ra:Electricity>
                  <ra:PrimaryValue>0</ra:PrimaryValue>
                </ra:Electricity>
              </ra:LogEntry>
            </ra:ReadActiveImportProfileDataRsp>
          </ra:SMETSData>
        </ResponseMessage>
      </Body>
    </SMETS1Response>
  <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
    <SignedInfo>
      <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
      <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#ecdsa-sha256" />
      <Reference URI="">
        <Transforms>
          <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature" />
        </Transforms>
        <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig#sha256" />
        <DigestValue>ZGVmYXVsdA==</DigestValue>
      </Reference>
    </SignedInfo>
    <SignatureValue>ZGVmYXVsdA==</SignatureValue>
    <KeyInfo>
      <X509Data>
        <X509IssuerSerial>
          <X509IssuerName>CN=S1SP,OU=SMETS1,O=S1SP,L=london,ST=england,C=uk</X509IssuerName>
          <X509SerialNumber>7432112348</X509SerialNumber>
        </X509IssuerSerial>
      </X509Data>
    </KeyInfo>
  </Signature>
</SMETS1SignedResponse>
</SMETS1ResponseMessage>
```

Figure 66 - Read Active Import Profile Data SMETS1 Response (DSP Scheduled)  
Sample

#### 4.8.1.2.3 Parse Output / SMETS1 Response Format

##### 4.8.1.2.3.1 Format - ReadActiveImportProfileDataRsp

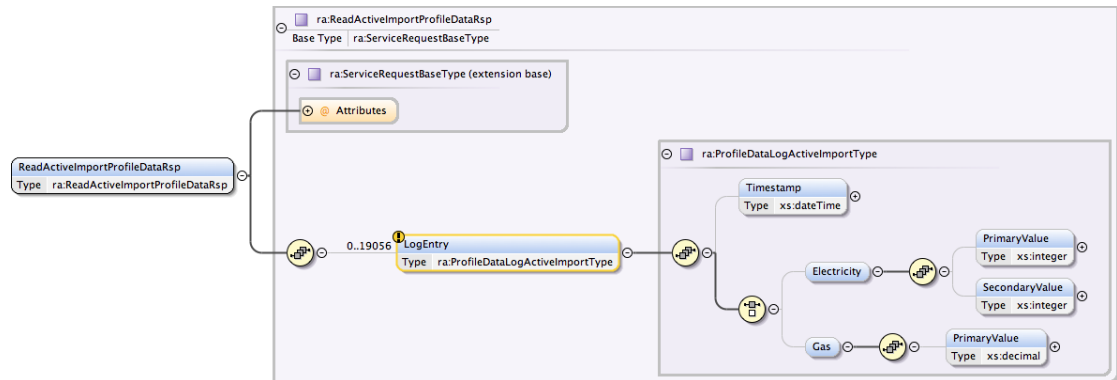


Figure 67 - Read Active Import Profile Data Parse Response / SMETS1 Response Structure

Note: LogEntry Maximum 19056. A value of 19056 is considered as 'Unbounded' by the XSD validation

#### 4.8.1.2.3.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0037	0078
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS22b</i>	<i>GCS17</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read Electricity Half Hour Profile Data (active import)</i>	<i>Read GSME Profile Data Log</i>
SupplementaryRemotePartyID	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryRemotePartyCounter	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryOriginatorCounter	Present where originator is a URP	Present where originator is a URP
Timestamp	Not present	Not present

Table 92 - Read Active Import Profile Data Parse/ SMETS1 Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.8.1.2.3.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Timestamp	The date-time stamp at the end of the period to which the value relates	xs:dateTime	None	N/A	Sensitive

#### 4.8.1.2.3.4 Electricity Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
PrimaryValue	The total active energy imported in this 30 minute period (if a twin element meter, this is for the primary element; if on a polyphase meter, it is cumulative across the phases)	xs:integer	None	Wh	Sensitive
SecondaryValue	The total active energy imported in this 30 minute period on the secondary element Optional N/A to SMETS1	xs:integer	None	Wh	Sensitive

#### 4.8.1.2.3.5 Gas Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
PrimaryValue	The total active energy imported in this 30 minute period Parse Response: Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS Guidance note: DCC Service Users should treat the value of 16,777,215 m <sup>3</sup> as an invalid value. This value should not be used as part of any calculation or estimation	xs:decimal	None	m <sup>3</sup>	Sensitive

#### 4.8.1.2.3.6 Sample Response

```
<ra:ReadActiveImportProfileDataRsp MessageSuccess="true">
  <ra:LogEntry>
    <ra:Timestamp>2006-05-04T00:00:00.00</ra:Timestamp>
    <ra:Electricity>
      <ra:PrimaryValue>0</ra:PrimaryValue>
      <ra:SecondaryValue>0</ra:SecondaryValue>1
    </ra:Electricity>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:Timestamp>2006-05-04T00:30:00.00</ra:Timestamp>
    <ra:Electricity>
      <ra:PrimaryValue>0</ra:PrimaryValue>
      <ra:SecondaryValue>0</ra:SecondaryValue>1
    </ra:Electricity>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:Timestamp>2006-05-04T01:00:00.00</ra:Timestamp>
    <ra:Electricity>
      <ra:PrimaryValue>0</ra:PrimaryValue>
      <ra:SecondaryValue>0</ra:SecondaryValue>1
    </ra:Electricity>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:Timestamp>2006-05-04T01:30:00.00</ra:Timestamp>
    <ra:Electricity>
      <ra:PrimaryValue>0</ra:PrimaryValue>
      <ra:SecondaryValue>0</ra:SecondaryValue>1
    </ra:Electricity>
  </ra:LogEntry>
</ra:ReadActiveImportProfileDataRsp>
```

Figure 68 - Read Active Import Profile Data Parse Response Sample

<sup>1</sup> N/A to SMETS1

## 4.8.2 Read Reactive Import Profile Data (4.8.2)

Service Request Name	ReadProfileData
Service Reference	4.8
Service Request Variant Name	ReadReactiveImportProfileData
Service Reference Variant	4.8.2
Service Request Objective	To enable a DCC Service user to request the retrieval of interval data (half hourly reactive import data) from a Device with a specific Device ID.

Business Context Statement	<p>A DCC Service User wishes to retrieve a set of half hourly reactive import data for a ESME at a specific Device ID. The Profile Data Log will store (where such time has elapsed) at least:</p> <ul style="list-style-type: none"> <li>3 months reactive energy import</li> </ul> <p>This request will return such reactive import data as is available. A DCC Service User will have the ability to request a start and end date for interval data.</p>	
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Electricity Network Operator (ENO)</li> <li>Other User (OU)</li> </ul>	
Security Classification	<p>Non-critical and non-sensitive</p> <p>SMETS2 or later:</p> <p>GBCS XREF: <i>SME.C.NC</i></p>	
Service Request Narrative (SMETS2 or later)	<p>1. This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule). In all cases, if the sender is not authorised to read data for the entire period requested, an error will be returned.</p> <ul style="list-style-type: none"> <li>Ad-hoc: Available to User Roles with access to the Device during the entire date-time range requested. In the case of Import Supplier, this could be the 'current' or the 'old' Registered Supplier.</li> <li>DSP Scheduled: Available to User Roles with access to the Device at the time the Schedule is created. In the case of Import Supplier, this will never be the 'old' Registered Supplier.</li> </ul>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0038	N/A
GBCS Use Case	ECS22c	N/A
GBCS Use Case Name	Read Electricity Half Hour Profile Data (reactive import)	N/A
SMETS1 Applicability	Yes	N/A
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices.</p>	

Table 93 Read Reactive Import Profile Data Service Request

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.8.2.1 Service Request

### 4.8.2.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadReactiveImportProfileData XML element defines this Service Request and contains the date-time interval for which to read data on the device and, for Future Dated, the Execution Date and Time.

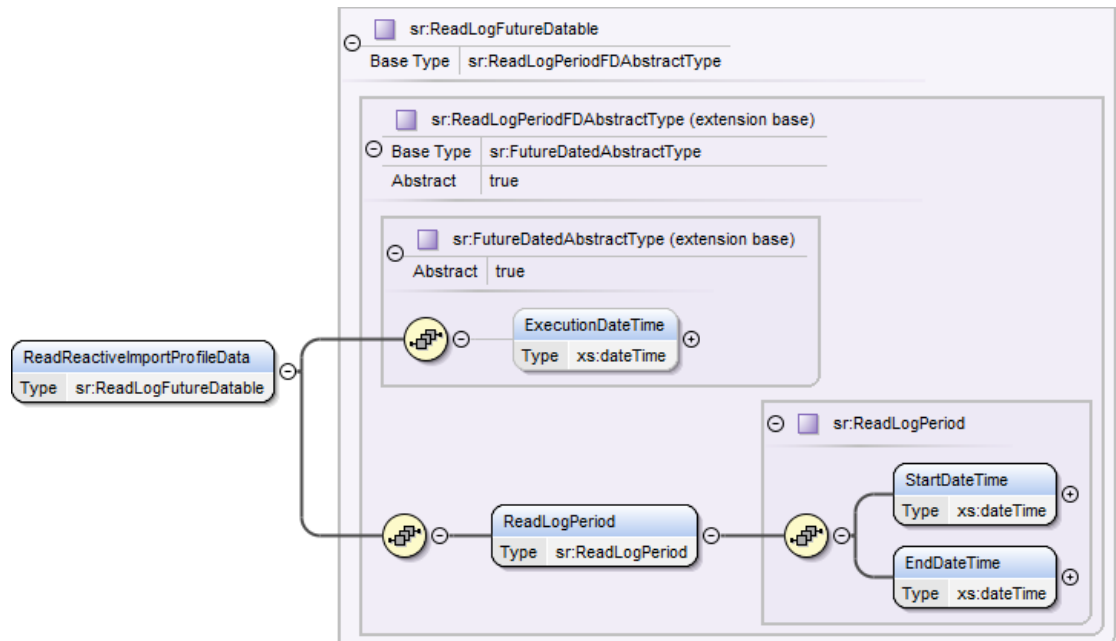


Figure 69 Read Reactive Import Profile Data Service Request Structure (Ad-hoc)

Create Schedule: Its DSPReadReactiveImportProfileData XML element defines this Service Request and contains the date-time interval for which to read data on the device, defined relative to the current date at the point each Service Request is generated from the schedule. See Annex section 17 ReadLogPeriodOffset definition.

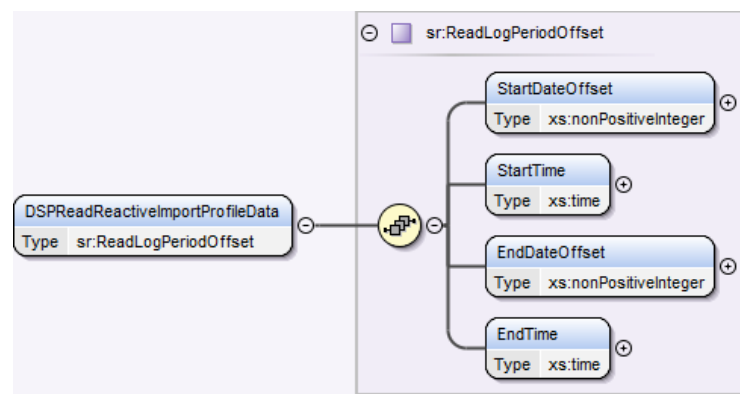


Figure 70 Read Reactive Import Profile Data Service Request Structure (Create Schedule)

### 4.8.2.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

#### 4.8.2.1.2.1 ReadReactiveImportProfileData (Ad-hoc)

The data items contained in the Service Request are defined in section 4.4.4.1.2.

#### 4.8.2.1.2.2 DSPReadReactiveImportProfileData (Create Schedule)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPReadReactiveImportProfileData	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriod Offset (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

Table 94 Read Rective Import Profile Data Service Request Data Items (Create Schedule)

#### 4.8.2.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	Yes
SMETS1	No	Yes	No	DSP	Yes

Table 95 Read Reactive Import Profile Data Modes of Operation

#### 4.8.2.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 96 Read Reactive Import Profile Data Command Variant Values (Ad-hoc)

#### 4.8.2.1.5 Validation

See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for Execution Date Time and Read Log Period validation.

Create Schedule: See also Annex section 17.2 for Read Log Period Offset validation.

#### 4.8.2.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadReactiveImportProfileData>
  <ReadLogPeriod>
    <StartTime>2014-01-01T00:00:00.00Z</StartTime>
    <EndTime>2014-01-31T23:59:59.00Z</EndTime>
  </ReadLogPeriod>
</ReadReactiveImportProfileData>
```

Figure 71 Sample Read Reactive Import Profile Data Service Request Format (Ad-hoc)

#### 4.8.2.2 Responses

The response messages for a "Read Reactive Import Profile Data" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the device.

When this Service Request is run as DSP Scheduled, the SMETS2 or later Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1 and the SMETS1 Service Response (from Device) is a variation of the generic one and it follows the structure defined in section 4.8.1.2.2 for Service Request 4.8.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.8.2.2.1 Parse Output / SMETS1 Response Format

##### 4.8.2.2.1.1 Format - ReadReactiveImportProfileDataRsp

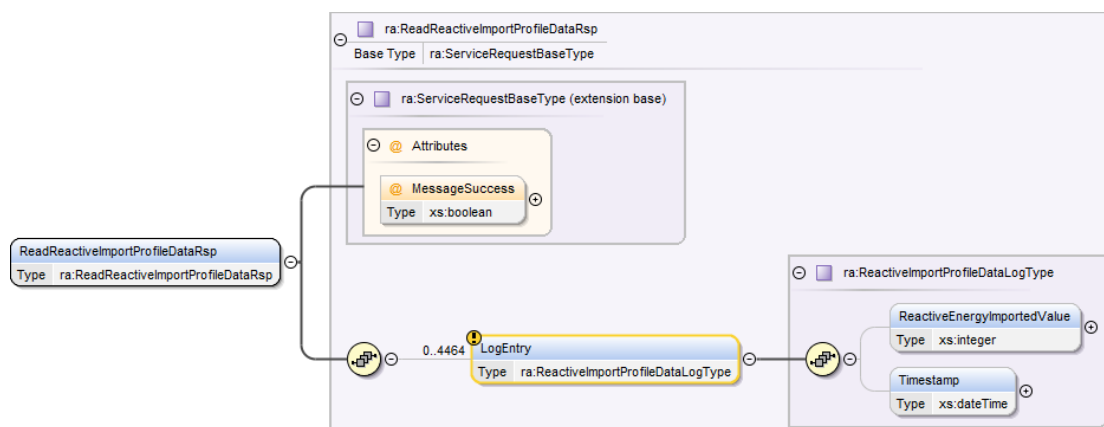


Figure 72 - Read Reactive Import Profile Data Parse Response / SMETS1 Response Structure

Note: LogEntry Maximum 4464. A value of 4464 is considered as 'Unbounded' by the XSD validation

##### 4.8.2.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	0038

Data Item	Electricity Response
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS22c</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read Electricity Half Hour Profile Data (reactive import)</i>
SupplementaryRemotePartyID	Present where DSP scheduled or originator is a URP
SupplementaryRemotePartyCounter	Present where DSP scheduled or originator is a URP
SupplementaryOriginatorCounter	Not Present
Timestamp	Not Present

**Table 97 - Read Reactive Import Profile Data Parse/ SMETS1 Response Header Data Items**

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.8.2.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
ReactiveEnergyImportedValue	The total reactive import energy imported in this 30 minute period (if a twin element meter, this is across the primary and secondary element; if on a polyphase meter, it is cumulative across the phases)	xs:integer	None	varh	Non-Sensitive
Timestamp	The date-time stamp at the end of the period to which the value relates	xs:dateTime	None	UTC Date-Time	Non-Sensitive

**Table 98 - Read Reactive Import Profile Data Parse Response / SMETS1 Response Body Data Items**

#### 4.8.2.2.1.4 Sample Response

```
<ra:ReadReactiveImportProfileDataRsp MessageSuccess="true">
  <ra:LogEntry>
    <ra:ReactiveEnergyImportedValue>10</ra:ReactiveEnergyImportedValue>
    <ra:Timestamp>2006-05-04T00:00:00.00</ra:Timestamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ReactiveEnergyImportedValue>20</ra:ReactiveEnergyImportedValue>
    <ra:Timestamp>2006-05-04T00:30:00.00</ra:Timestamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ReactiveEnergyImportedValue>30</ra:ReactiveEnergyImportedValue>
    <ra:Timestamp>2006-05-04T01:00:00.00</ra:Timestamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ReactiveEnergyImportedValue>40</ra:ReactiveEnergyImportedValue>
    <ra:Timestamp>2006-05-04T01:30:00.00</ra:Timestamp>
  </ra:LogEntry>
</ra:ReadReactiveImportProfileDataRsp>
```

**Figure 73 - Read Reactive Import Profile Data Parse Response Sample**

### 4.8.3 Read Export Profile Data (4.8.3)

Service Request Name	ReadProfileData	
Service Reference	4.8	
Service Request Variant Name	ReadExportProfileData	
Service Reference Variant	4.8.3	
Service Request Objective	To enable a DCC Service user to request the retrieval of interval data (half hourly export data) from a Device with a specific Device ID.	
Business Context Statement	<p>A DCC Service User wishes to retrieve a set of half hourly export data for a Device at a specific Device ID. The Profile Data Log will store (where such time has elapsed) at least:</p> <ul style="list-style-type: none"> <li>• 3 months active energy export</li> <li>• 3 months reactive energy export</li> </ul> <p>This request will return such export data as is available. A DCC Service User will have the ability to request a start and end date for interval data.</p>	
User Role Access	<ul style="list-style-type: none"> <li>• Electricity Export Supplier (EES)</li> <li>• Electricity Network Operator (ENO)</li> <li>• Other User (OU)</li> </ul>	
Security Classification	<p>Non-critical and non-sensitive</p> <p>SMETS2 or later:</p> <p>GBCS XREF: <i>SME.C.NC</i></p>	
Service Request Narrative (SMETS2 or later)	<p>1. This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule). In all cases, if the sender is not authorised to read data for the entire period requested, an error will be returned.</p> <ul style="list-style-type: none"> <li>• Ad-hoc: Available to User Roles with access to the Device during the entire date-time range requested.. In the case of Export Supplier or Electricity Network Operator, this could be the 'current' or the 'old' Registered Supplier.</li> <li>• DSP Scheduled: Available to User Roles with access to the Device at the time the Schedule is created. See Annex section 5.1.</li> </ul>	
GBCS Cross Reference	Electricity	Gas

GBCS Message Code	0x0036	N/A
GBCS Use Case	ECS22a	N/A
GBCS Use Case Name	Read Electricity Half Hour Profile Data (export)	N/A
SMETS1 Applicability	Yes	N/A
Service Request Narrative (SMETS1)	The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices.	

Table 99 Read Export Profile Data Service Request

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

### 4.8.3.1 Service Request

#### 4.8.3.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadExportProfileData XML element defines this Service Request and contains the date-time interval for which to read data on the device and, for Future Dated, the Execution Date and Time.

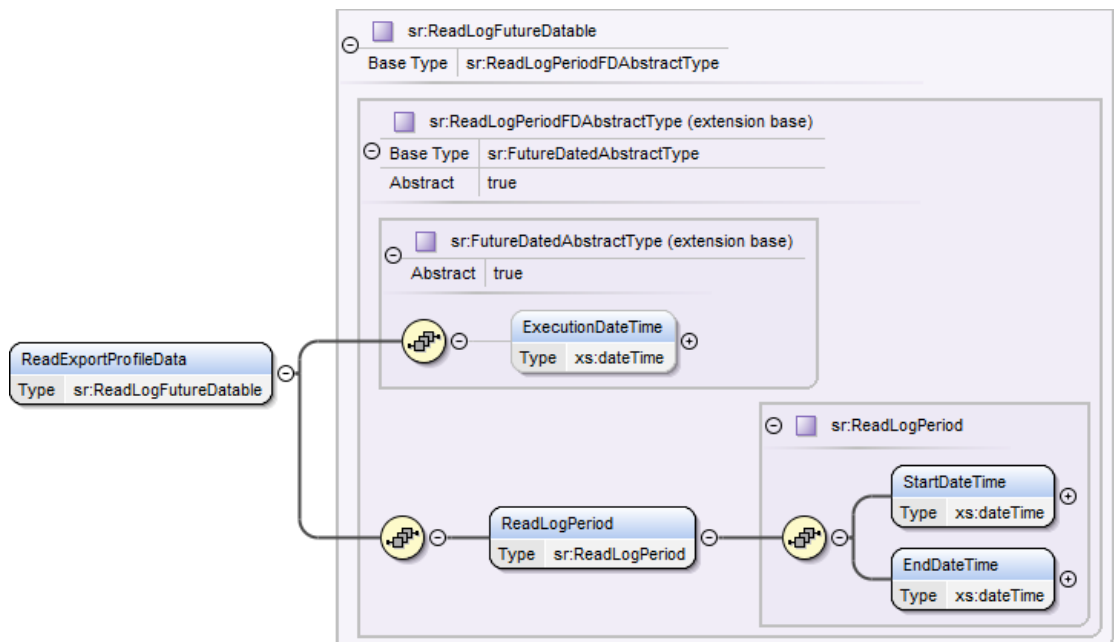


Figure 74 Read Export Profile Data Service Request Structure (Ad-hoc)

Create Schedule: Its DSPReadExportProfileData XML element defines this Service Request and contains the date-time interval for which to read data on the device, defined relative to the current date at the point each Service Request is generated from the schedule. See Annex section 17 ReadLogPeriodOffset definition.

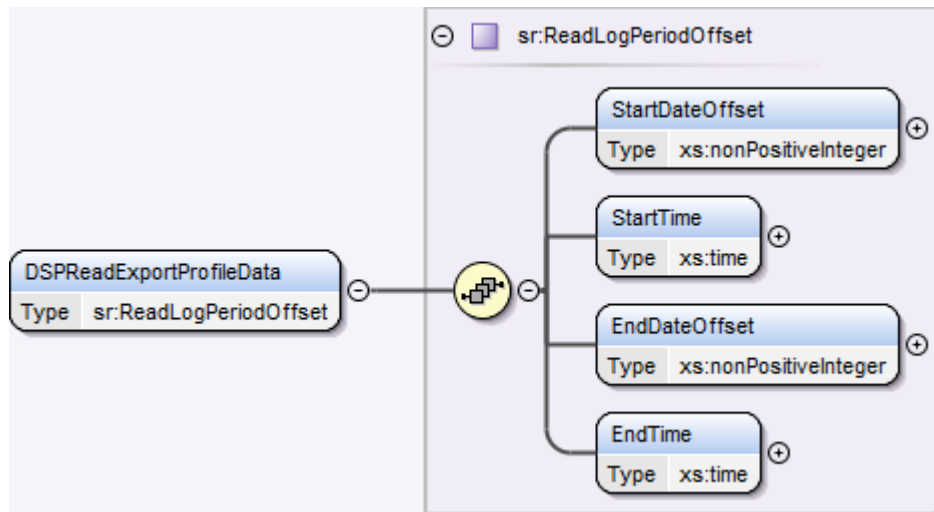


Figure 75 Read Export Profile Data Service Request Structure (Create Schedule)

#### 4.8.3.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

##### 4.8.3.1.2.1 ReadExportProfileData (Ad-hoc)

The data items contained in the Service Request are defined in section 4.4.4.1.2.

##### 4.8.3.1.2.2 DSPReadExportProfileData (Create Schedule)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPReadExportProfileData	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriodOffset (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

Table 100 Read Export Profile Data Service Request Data Items (Create Schedule)

#### 4.8.3.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see the Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	Yes
SMETS1	No	Yes	No	DSP	Yes

Table 101 Read Export Profile Data Modes of Operation

#### 4.8.3.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS1	Yes	No	No	No	No	No	No	No

**Table 102 Read Export Profile Data Command Variant Values (Ad-hoc)**

#### 4.8.3.1.5 Validation

See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for Execution Date Time and Read Log Period validation.

Create Schedule: See also Annex section 17.2 for Read Log Period Offset validation.

#### 4.8.3.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadExportProfileData>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</ReadExportProfileData>
```

**Figure 76 Sample Read Export Profile Data Service Request Format (Ad-hoc)**

#### 4.8.3.2 Responses

The response messages for a "Read Export Profile Data" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the device.

When this Service Request is run as DSP Scheduled, the SMETS2 or later Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1 and the SMETS1 Service Response (from Device) is a variation of the generic one and it follows the structure defined in section 4.8.1.2.2 for Service Request 4.8.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.8.3.2.1 Parse Output / SMETS1 Response Format

##### 4.8.3.2.1.1 Format - ReadExportProfileDataRsp

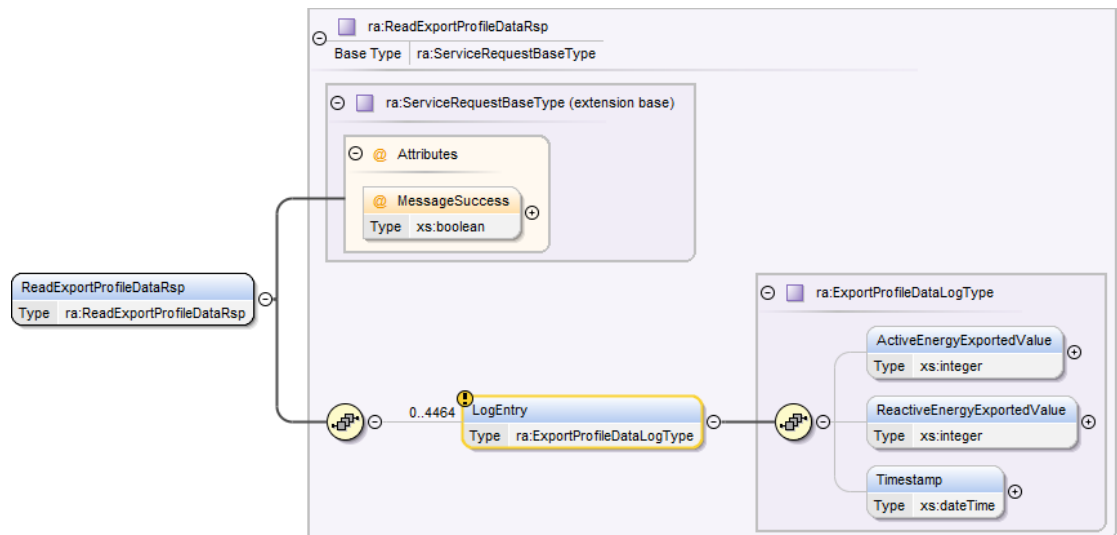


Figure 77 - Read Export Profile Data Parse Response / SMETS1 Response Structure

Note: LogEntry Maximum 4464. A value of 4464 is considered as 'Unbounded' by the XSD validation

#### 4.8.3.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	0036
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS22a</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read Electricity Half Hour Profile Data (export)</i>
SupplementaryRemotePartyID	Present where DSP scheduled or originator is a URP
SupplementaryRemotePartyCounter	Present where DSP scheduled or originator is a URP
SupplementaryOriginatorCounter	Not Present
Timestamp	Not Present

Table 103 - Read Export Profile Data Parse Response/ SMETS1 Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.8.3.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
ActiveEnergyExportedValue	The total active energy exported in this 30 minute period (if a twin element meter, this is for the primary element; if on a polyphase meter, it is cumulative across the phases)	xs:integer	None	Wh	Non-sensitive
ReactiveEnergyExportedValue	The total reactive energy exported in this 30 minute period (if a twin element meter, this is for the primary element; if on a polyphase meter, it is cumulative across the phases)	xs:integer	None	varh	Non-sensitive
Timestamp	The date-time stamp at the end of the period to which the value relates	xs:dateTime	None	N/A	Non-sensitive

**Table 104 - Read Export Profile Data Parse Response / SMETS1 Response Body Data Items**

#### 4.8.3.2.1.4 Sample Response

```

<ra:ReadExportProfileDataRsp MessageSuccess="true">
  <ra:LogEntry>
    <ra:ActiveEnergyExportedValue>10</ra:ActiveEnergyExportedValue>
    <ra:ReactiveEnergyExportedValue>5</ra:ReactiveEnergyExportedValue>
    <ra:Timestamp>2006-05-04T00:00:00.00</ra:Timestamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveEnergyExportedValue>20</ra:ActiveEnergyExportedValue>
    <ra:ReactiveEnergyExportedValue>10</ra:ReactiveEnergyExportedValue>
    <ra:Timestamp>2006-05-04T00:30:00.00</ra:Timestamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveEnergyExportedValue>30</ra:ActiveEnergyExportedValue>
    <ra:ReactiveEnergyExportedValue>15</ra:ReactiveEnergyExportedValue>
    <ra:Timestamp>2006-05-04T01:00:00.00</ra:Timestamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveEnergyExportedValue>40</ra:ActiveEnergyExportedValue>
    <ra:ReactiveEnergyExportedValue>20</ra:ReactiveEnergyExportedValue>
    <ra:Timestamp>2006-05-04T01:30:00.00</ra:Timestamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveEnergyExportedValue>50</ra:ActiveEnergyExportedValue>
    <ra:ReactiveEnergyExportedValue>25</ra:ReactiveEnergyExportedValue>
    <ra:Timestamp>2006-05-04T02:00:00.00</ra:Timestamp>
  </ra:LogEntry>
  <ra:LogEntry>
    <ra:ActiveEnergyExportedValue>60</ra:ActiveEnergyExportedValue>
    <ra:ReactiveEnergyExportedValue>30</ra:ReactiveEnergyExportedValue>
    <ra:Timestamp>2006-05-04T02:30:00.00</ra:Timestamp>
  </ra:LogEntry>
</ra:ReadExportProfileDataRsp>

```

**Figure 78 - Read Export Profile Data Parse Response Sample**

## 4.9 Section 4.9

This section has been intentionally left blank as there is no Service Reference 4.9.

## 4.10 Read Network Data (4.10)

Service Request Name	ReadNetworkData
Service Reference	4.10
Service Request Variant Name	ReadNetworkData
Service Reference Variant	4.10
Service Request Objective	To enable a DCC Service User to read stored power quality data from a Device for a specified Device ID.
Business Context Statement	The DCC Service User wishes to review the power quality data logs of a particular device (e.g. 6 minute gas sampling or Average RMS power)
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> <li>Electricity Network Operator (ENO)</li> <li>Gas Network Operator (GNO)</li> </ul>
Security Classification	<p>Non-critical and non-sensitive for Electricity and response sensitive for Gas</p> <p>SMETS2 or later:</p> <p>GBCS XREF: <i>SME.C.NC</i></p>
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>For Gas, this Service Request reads the Network Data Log values from the GSME as defined in SMETS. A log capable of storing a period of up to 4 hours of consumption data recorded at 6 minute intervals on the Network Data Log can be read (total of 40 entries recorded in the Device). This data is recorded on the Network Data Log via Service Request 14.1 (Record Network Data (GAS)). See Annex section 14.1.</li> <li>For Electricity, this Service Request reads the following data items as defined in SMETS <ul style="list-style-type: none"> <li>AverageRMSUnderVoltageCounter - The number of times the average RMS voltage has been below the Average RMS Under Voltage Threshold since last reset.</li> <li>AverageRMSOverVoltageCounter - The number of times the average RMS voltage has been above the Average RMS Over Voltage Threshold since last reset.</li> <li>AverageRMSVoltageProfileDataLog - A log capable of storing 4320 entries (including the UTC date and time at the end of the period to which the value relates) comprising the averaged RMS voltage for each Average RMS Voltage Measurement Period arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten.</li> </ul> </li> <li>This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule). In all cases, if the sender is not</li> </ol>

	<p>authorised to read data for the entire period requested, an error will be returned.</p> <ol style="list-style-type: none"> <li>Ad-hoc: Available to User Roles with access to the Device during the entire date-time range requested.</li> <li>DSP Scheduled: Available to User Roles with access to the Device at the time the Schedule is created.</li> <li>For Electricity, the response content depends on whether the Meter is Single or Poly Phase.</li> <li>This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents.</li> <li>Because this Service Request (Gas) returns Sensitive data, URPs (i.e. the GNO reading data from the GSME), have to include in the Request the Public Security Credentials they want the Device to sign the Response with.</li> </ol>		
<b>GBCS Cross Reference</b>	Electricity (Single Phase)	Electricity (Poly Phase)	Gas
<b>GBCS Message Code</b>	0x0039	0x00BC	0x0079
<b>GBCS Use Case</b>	ECS23	ECS23b	GCS18
<b>GBCS Use Case Name</b>	Read Voltage Operational Data	Read Voltage Operational Data -3 Phase	Read Gas Network Data Log
<b>SMETS1 Applicability</b>	Yes	N/A	Yes
<b>Service Request Narrative (SMETS1)</b>	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <ol style="list-style-type: none"> <li>SMETS1 ESME Devices are only required to support setting of Average RMS Voltage Measurement Period (with its SMETS1 meaning) in minutes, whereas the SMETS2 equivalent can be set in seconds. Therefore, where the SMETS1 ESME does not support setting to a resolution of seconds, the value in the MeasurementPeriod within AvgRMSVoltageProfileDataLog may be a multiple of 60 rather than the number of seconds requested in a prior 'Update Device Configuration (Voltage) (SRV 6.5)' Service Request.</li> <li>Provision of Public Security Credentials for the Device to sign the Response with is not applicable to SMETS1 Devices. The DCC Data Systems will not validate whether this data item has been included in a SMETS1 Service Request.</li> </ol>		

**Table 105 Read Network Data Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.10.1 Service Request

### 4.10.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadNetworkData XML element defines this Service Request and contains the date-time interval for which the logs are to be retrieved, for URP the Key Agreement Public Security Credentials and, for Future Dated, the Execution Date Time.

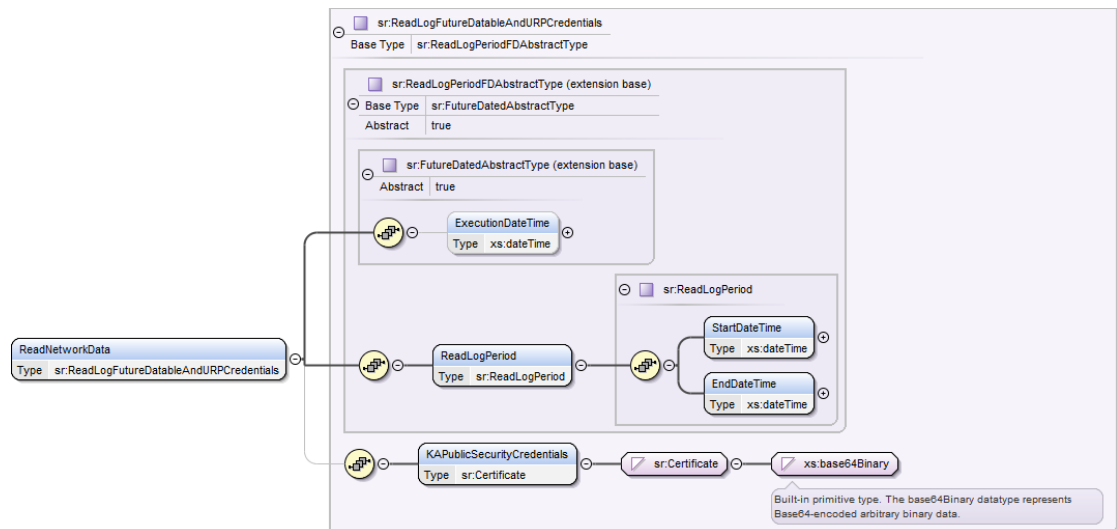


Figure 79 Read Network Data Service Request Structure (Ad-hoc)

Create Schedule: Its DSPReadNetworkData XML element defines this Service Request and contains the date-time interval for which the log is to be read, defined relative to the current date at the point each Service Request is generated from the schedule. See Annex section 17 ReadLogPeriodOffset definition.

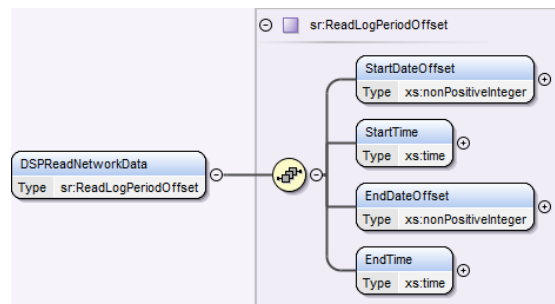


Figure 80 Read Network Data Service Request Structure (Create Schedule)

### 4.10.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

#### 4.10.1.2.1.1 ReadNetworkData (Ad-hoc)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive
ReadLogPeriod	The Start and End Date-Times for which the data is required.  Note that for requests targeted at GSME, this date range must surround the 4 hour period.	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Gas Network Operator)	xs:base64Binary	SMETS2 or later Service: (User Role EIS, GIS, ENO: N/A User Role GNO: Yes) SMETS1 Service: N/A	None	N/A	Non-Sensitive

Table 106 Read Network Data Service Request Data Items (Ad-hoc)

#### 4.10.1.2.1.2 DSPReadNetworkData (Create Schedule)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPReadNetworkData	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriod Offset (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

Table 107 Read Network Data Service Request Data Items (Create Schedule)

#### 4.10.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	Yes
SMETS1	No	Yes	No	DSP	Yes

Table 108 Read Network Data Modes of Operation

#### 4.10.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 109 Read Network Data Command Variant Values (Ad-hoc)

#### 4.10.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for:

- SMETS2 or later: Execution Date Time, KA Public Security Credentials and Read Log Period validation.
- SMETS1: Execution Date Time and Read Log Period validation.

Create Schedule: See also Annex section 17.2 for Read Log Period Offset validation.

#### 4.10.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadNetworkData>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</ReadNetworkData>
```

Figure 81 Sample Read Network Data Service Request Format (Ad-hoc)

#### 4.10.2 Responses

The response messages for a "Read Network Data" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response.

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the device.

When this Service Request is run as DSP Scheduled, the SMETS2 or later Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1 and the SMETS1 Service Response (from Device) is a variation of the generic one and it follows the structure defined in section 4.8.1.2.2 for Service Request 4.8.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.10.2.1 Parse Output / SMETS1 Response Format

##### 4.10.2.1.1 Format - ReadNetworkDataRsp

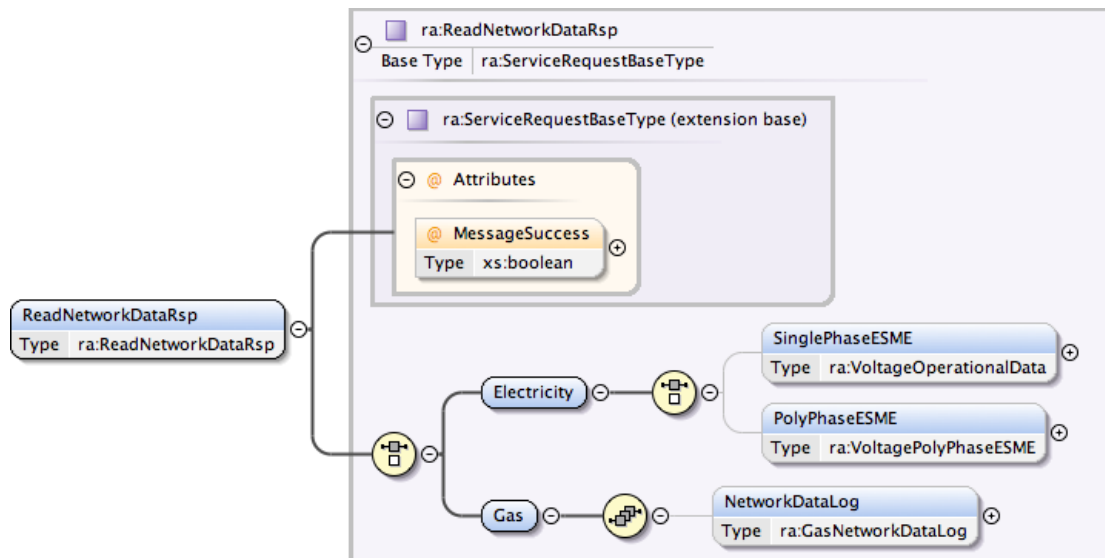


Figure 82 - Read Network Data Parse Response / SMETS1 Response Structure

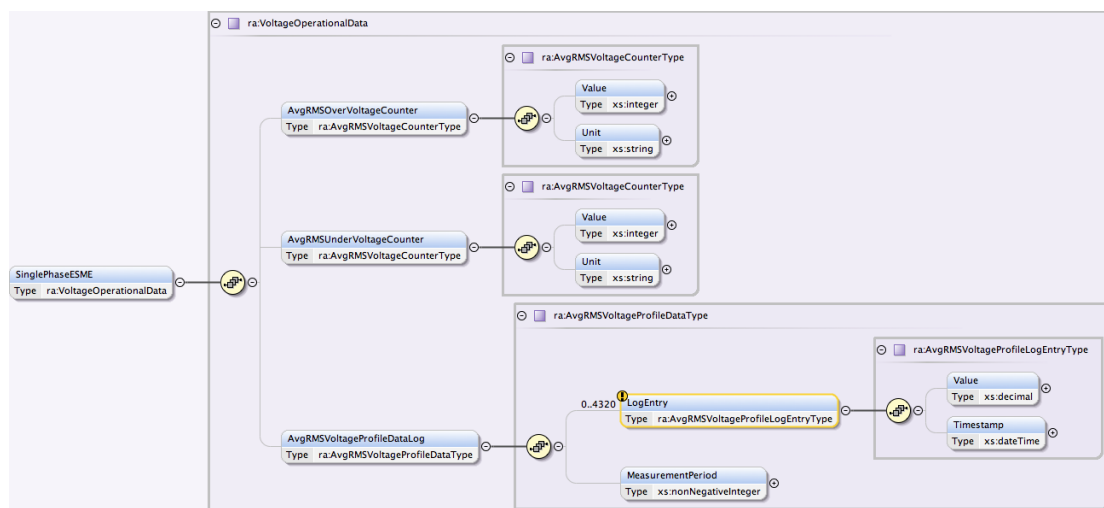


Figure 83 - Read Network Data Parse Response / SMETS1 Response – Electricity Single Phase ESME Structure

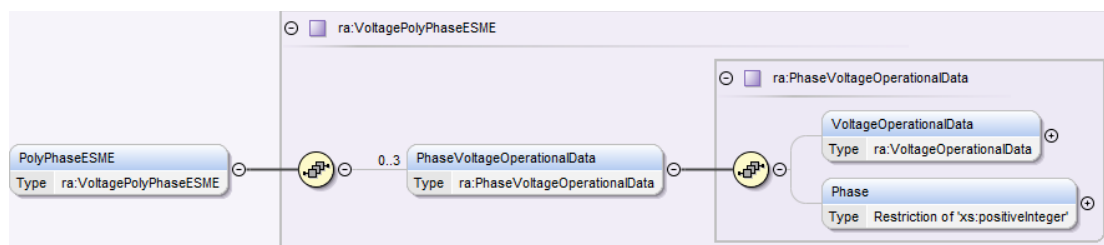


Figure 84 - Read Network Data Parse Response – Electricity Poly Phase ESME Structure

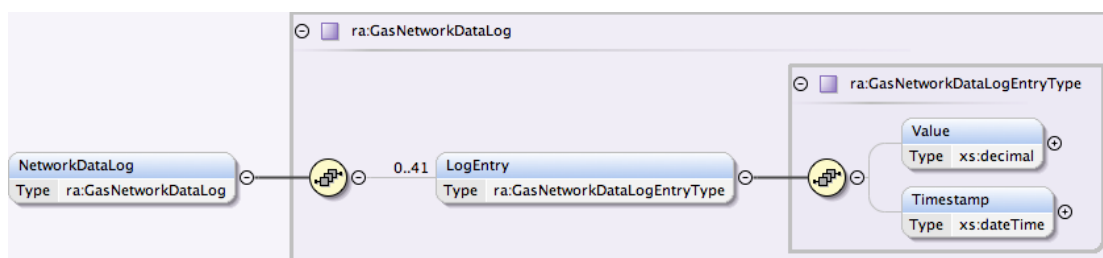


Figure 85 - Read Network Data Parse Response / SMETS1 Response – Gas Network Data Log Structure

#### 4.10.2.1.2 Specific Header Data Items

Data Item	Electricity Response (Single Phase)	Electricity Response (Poly Phase)	Gas Response
GBCSHexadecimalMessageCode	0039	00BC	0079
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS23</i>	<i>ECS23b</i>	<i>GCS18</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read Voltage Operational Data</i>	<i>Read Voltage Operational Data – 3 Phase</i>	<i>Read Gas Network Data Log</i>
SupplementaryRemotePartyID	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryRemotePartyCounter	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryOriginatorCounter	Not Present	Not Present	Present where DSP scheduled or originator is a URP
Timestamp	Present	Present	Present

Table 110 - Read Network Data Parse/ SMETS1 Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.10.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
SinglePhaseESME	Voltage operational data for the single phase of an Electricity Single Phase Meter	ra:VoltageOperationalIData (see section 4.10.2.1.4)	None	N/A	Non-Sensitive
PolyPhaseESME	Voltage operational data for each of the 3 phases of an Electricity Poly Phase Meter N/A to SMETS1	ra:VoltagePolyPhaseESME (see section 4.10.2.1.6)	None	N/A	Non-Sensitive
NetworkDataLog	Network Data Log Gas Only	ra:GasNetworkDataLog (see section 4.10.2.1.8)	None	N/A	Sensitive

Table 111 - Read Network Data Parse Response / SMETS1 Response Body Data Items

4.10.2.1.4 VoltageOperationalData Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
AvgRMSOverVoltageCounter: Value	The number of times the average RMS voltage has been above the Average RMS Over Voltage Threshold since last reset.	xs:integer	None	Number of occurrences	Non-Sensitive
AvgRMSOverVoltageCounter: Unit	The Average RMS Over Voltage Counter Unit Valid set: • 255: No units	xs:string	None	N/A	Non-Sensitive
AvgRMSUnderVoltageCounter: Value	The number of times the average RMS voltage has been below the Average RMS Under Voltage Threshold since last reset.	xs: integer	None	Number of occurrences	Non-Sensitive
AvgRMSUnderVoltageCounter: Unit	The Average RMS Under Voltage Counter Unit Valid set: 255: No units	xs:string	None	N/A	Non-Sensitive
AvgRMSVoltageProfileDataLog	A log capable of storing 4320 entries (including the UTC date and time at the end of the period to which the value relates) comprising the averaged RMS voltage for each Average RMS Voltage Measurement Period arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten	Ra:AvgRMSVoltageProfileDataLog (see section 4.10.2.1.5)	None	N/A	Non-Sensitive

Table 112 - Read Network Data Parse Response / SMETS1 Response - VoltageOperationalData Specific Data Items

4.10.2.1.5 AvgRMSVoltageProfileDataLog Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LogEntry.Value <sup>1</sup>	The Average RMS Value measured to the nearest 10 <sup>th</sup> of a Volt.	xs:decimal	None	Volts	Non-Sensitive
LogEntry.Timestamp <sup>1</sup>	The date-time at the end of the corresponding measurement period	xs:dateTime	None	UTC Date-Time	Non-Sensitive
MeasurementPeriod	The period in seconds over which the average RMS is averaged SMETS1: This value may be a multiple of 60 rather than the number of seconds requested in a prior 'Update Device Configuration (Voltage) (SRV 6.5)' Service Request (see Service Request narrative).	xs:nonNegativeInteger	None	Seconds	Non-Sensitive

Table 113 - Read Network Data Parse Response / SMETS1 Response - AvgRMSVoltageProfileDataLog Specific Data Items

<sup>1</sup> Maximum 4320 Log Entries. Note that a value of 4320 is considered as 'Unbounded' by the XSD validation

4.10.2.1.6 VoltagePolyPhaseESME Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
PhaseVoltageOperationalData <sup>1</sup>	The Voltage Operational Data for each of the 3 phases	ra:PhaseVoltageOperationalData (see section 4.10.2.1.7)	None	N/A	Non-Sensitive

**Table 114 - Read Network Data Parse Response - VoltagePolyPhaseESME Specific Data Items**

<sup>1</sup> Maximum 3 (one per phase) when the response is successful

#### 4.10.2.1.7 PhaseVoltageOperationalData Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
VoltageOperationalData	The Voltage Operational Data for each of the 3 phases	ra:VoltageOperationalData (see section 4.10.2.1.4)	None	N/A	Non-Sensitive
Phase	Each of the 3 phases in the Meter Valid set: <ul style="list-style-type: none"> <li>Value between 1 and 3</li> </ul>	Restriction of xs:positiveInteger (minInclusive = 1, maxInclusive = 3)	None	N/A	Non-Sensitive

**Table 115 - Read Network Data Parse Response - PhaseVoltageOperationalData Specific Data Items**

#### 4.10.2.1.8 GasNetworkDataLog Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LogEntry.Value <sup>1</sup>	Log of consumption data taken at 6-minute intervals over a 4-hour period: values Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS	xs:decimal	None	m <sup>3</sup>	Sensitive
LogEntry.Timestamp <sup>1</sup>	The date-time at the end of the corresponding measurement period	xs:dateTime	None	UTC Date-Time	Sensitive

**Table 116 - Read Network Data Parse Response / SMETS1 Response - GasNetworkDataLog Specific Data Items**

<sup>1</sup> Maximum 41

#### 4.10.2.1.9 Sample Response

```
<ra:ReadNetworkDataRsp MessageSuccess="true">
  <ra:Electricity>
    <ra:SinglePhaseESME>
      <ra:AvgRMSOverVoltageCounter>
        <ra:Value>10</ra:Value>
        <ra:Unit>255</ra:Unit>
      </ra:AvgRMSOverVoltageCounter>
      <ra:AvgRMSUnderVoltageCounter>
        <ra:Value>10</ra:Value>
        <ra:Unit>255</ra:Unit>
      </ra:AvgRMSUnderVoltageCounter>
      <ra:AvgRMSVoltageProfileDataLog>
        <ra:LogEntry>
          <ra:Value>10</ra:Value>
          <ra:Timestamp>2014-08-20T00:01:00.00</ra:Timestamp>
        </ra:LogEntry>
        <ra:MeasurementPeriod>86400</ra:MeasurementPeriod >
      </ra:AvgRMSVoltageProfileDataLog>
    </ra:SinglePhaseESME>
  </ra:Electricity>
</ra:ReadNetworkDataRsp>
```

**Figure 86 - Read Network Data Parse Response Sample – Single Phase ESME**

```

<ra:ReadNetworkDataRsp MessageSuccess="true">
  <ra:Electricity>
    <ra:PolyPhaseESME>
      <ra:PhaseVoltageOperationalData>
        <ra:VoltageOperationalData>
          <ra:AvgRMSOverVoltageCounter>
            <ra:Value>10</ra:Value>
            <ra:Unit>255</ra:Unit>
          </ra:AvgRMSOverVoltageCounter>
          <ra:AvgRMSUnderVoltageCounter>
            <ra:Value>10</ra:Value>
            <ra:Unit>255</ra:Unit>
          </ra:AvgRMSUnderVoltageCounter>
          <ra:AvgRMSVoltageProfileDataLog>
            <ra:LogEntry>
              <ra:Value>10</ra:Value>
              <ra:Timestamp>2014-08-20T00:01:00.00</ra:Timestamp>
            </ra:LogEntry>
            <ra:MeasurementPeriod>86400</ra:MeasurementPeriod>
          </ra:AvgRMSVoltageProfileDataLog>
        </ra:VoltageOperationalData>
        <ra:Phase>1</ra:Phase>
      </ra:PhaseVoltageOperationalData>
      <ra:PhaseVoltageOperationalData>
        <ra:VoltageOperationalData>
          <ra:AvgRMSOverVoltageCounter>
            <ra:Value>10</ra:Value>
            <ra:Unit>255</ra:Unit>
          </ra:AvgRMSOverVoltageCounter>
          <ra:AvgRMSUnderVoltageCounter>
            <ra:Value>10</ra:Value>
            <ra:Unit>255</ra:Unit>
          </ra:AvgRMSUnderVoltageCounter>
          <ra:AvgRMSVoltageProfileDataLog>
            <ra:LogEntry>
              <ra:Value>7</ra:Value>
              <ra:Timestamp>2014-08-20T00:02:00.00</ra:Timestamp>
            </ra:LogEntry>
            <ra:MeasurementPeriod>86400</ra:MeasurementPeriod>
          </ra:AvgRMSVoltageProfileDataLog>
        </ra:VoltageOperationalData>
        <ra:Phase>2</ra:Phase>
      </ra:PhaseVoltageOperationalData>
      <ra:PhaseVoltageOperationalData>
        <ra:VoltageOperationalData>
          <ra:AvgRMSOverVoltageCounter>
            <ra:Value>10</ra:Value>
            <ra:Unit>255</ra:Unit>
          </ra:AvgRMSOverVoltageCounter>
          <ra:AvgRMSUnderVoltageCounter>
            <ra:Value>10</ra:Value>
            <ra:Unit>255</ra:Unit>
          </ra:AvgRMSUnderVoltageCounter>
          <ra:AvgRMSVoltageProfileDataLog>
            <ra:LogEntry>
              <ra:Value>5</ra:Value>
              <ra:Timestamp>2014-08-20T00:03:00.00</ra:Timestamp>
            </ra:LogEntry>
            <ra:MeasurementPeriod>86400</ra:MeasurementPeriod>
          </ra:AvgRMSVoltageProfileDataLog>
        </ra:VoltageOperationalData>
        <ra:Phase>3</ra:Phase>
      </ra:PhaseVoltageOperationalData>
    </ra:PolyPhaseESME>
  </ra:Electricity>
</ra:ReadNetworkDataRsp>

```

Figure 87 - Read Network Data Parse Response Sample – Poly Phase ESME

```
<ra:ReadNetworkDataRsp MessageSuccess="true">
  <ra:Gas>
    <ra:NetworkDataLog>
      <ra:LogEntry>
        <ra:Value>10</ra:Value>
        <ra:Timestamp>2014-08-20T00:01:00.00</ra:Timestamp>
      </ra:LogEntry>
    </ra:NetworkDataLog>
  </ra:Gas>
</ra:ReadNetworkDataRsp>
```

Figure 88 - Read Network Data Parse Response Sample – Gas

## 4.11 Read Tariff (4.11)

### SMETS2 or later

This Service Request maps to two Electricity and one Gas GBCS Use Cases and each Use Case requires its own Request ID.

Therefore the 4.11 Service Request has been broken into two parts: 4.11.1 (Primary Element) – applicable to Electricity and Gas, and 4.11.2 (Secondary Element) – applicable to Electricity.

### SMETS1

This Service Request maps to Service Reference Variant 4.11.1 (Primary Element) – applicable to Electricity and Gas.

### 4.11.1 Read Tariff (Primary Element) (4.11.1)

Service Request Name	ReadTariff
Service Reference	4.11
Service Request Variant Name	ReadTariff(PrimaryElement)
Service Reference Variant	4.11.1
Service Request Objective	To enable a DCC Service User to read the current tariff settings (including price, time of use matrix and time of use blocks) that are in use on a meter.
Business Context Statement	The DCC Service User requires a view of the tariff deployed to a device to resolve a customer query.
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> <li>Other User (OU)</li> </ul>
Security Classification	Non-critical and non-sensitive SMETS2 or later: GBCS XREF: SME.C.NC

Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>1. This Service Request returns all the current tariff settings available at the Primary Element of the Meter. It isn't possible to request a subset of them.</li> <li>2. The Tariff values are set by Users via Service Request 1.1.1 - UpdateImportTariff(Primary Element). Users are advised not to read primary element tariff information prior to using Service Request 1.1.1 to set it, as there is a risk that it could cause an error in Parse software.</li> <li>3. For reading the tariff values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x003A	0x009F
GBCS Use Case	ECS24	GCS21f
GBCS Use Case Name	Read ESME Tariff Data	Read GSME Tariff Data
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <ol style="list-style-type: none"> <li>1. Prices may be returned for Block tariffs or Time of Use tariffs but not both. The values of the tariff which is not in use on the Device shall be set to the relevant Unsupported Values (see section 19.9).</li> <li>2. The DCC shall set the PrimaryActiveTariffPrice and PrimaryActiveTariffPriceScale in the SMETS1 Response to the relevant Unsupported Values (see section 19.9).</li> <li>3. For similar reasons, DCC Service Users are advised not to read primary element tariff information prior to using Service Request 1.1.1 to set it, as there is a risk that it could cause unexpected behaviour in responses.</li> </ol>	

**Table 117 Read Tariff (Primary Element) Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.11.1.1 Service Request

##### 4.11.1.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadTariffPrimaryElement XML element defines this Service Request and doesn't contain any data items.

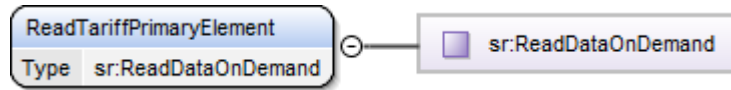


Figure 89 Read Tariff (Primary Element) Service Request Structure

#### 4.11.1.1.2 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	No	No
SMETS1	No	Yes	No	No	No

Table 118 Read Tariff (Primary Element) Modes of Operation

#### 4.11.1.1.3 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 119 Read Tariff (Primary Element) Command Variant Values

#### 4.11.1.1.4 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

#### 4.11.1.1.5 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadTariffPrimaryElement/>
```

Figure 90 Sample Read Tariff (Primary Element) Service Request Format

#### 4.11.1.2 Responses

The response messages for a "Read Tariff (Primary Element)" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response.

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### **4.11.1.2.1 Parse Output / SMETS1 Response Format**

This response returns the tariffs for the primary element of an electricity or gas Device. These settings are determined by the use of Service Requests 1.1.1 and 1.2.1.

A tariff consists of a switching table, a set of special days and a threshold matrix which between them determine which prices apply in different conditions.

Prices can be TOU, changing according to the time, or by block, which means that the price changes as usage thresholds are crossed.

A price matrix relates a price to an action, which is an entry in a script table, effectively an identifier of that price.

A threshold matrix defines prices (8 electricity, 4 gas) to be applied within a block, and up to 3 usage thresholds at which prices are changed.

A profile schedule is a set of start times and tariff actions (or scripts) for that time, which is effectively an index into the price matrix, enabling the price to be looked up. Tariff actions can be TOU or block threshold identifiers. Up to 48 start times & actions may be defined for electricity and 4 for gas, though note that for gas it is not possible to switch from one block tariff to another within a day.

The switching table consists of a set of structures, namely season, week and day profiles, to determine when prices are changed on a device, which may be either by TOU or block.

Day profiles define a day type and a profile schedule to occur on that day type. Up to 16 day profiles may be defined for an electricity primary element or 4 for gas.

Week profiles are patterns of day profiles, to select which day type occurs on each day of the week. Up to 4 week profiles may be defined for an electricity primary element or 2 for gas.

Seasons are periods of the year specifying start dates and week types which apply in that season. Up to 4 seasons may be defined for an electricity primary element or 3 for gas.

The special days enable tariffs to be different on specific days e.g. public holidays. Up to 50 special days may be defined for electricity and 20 for gas.

Tariffs may be a mixture of TOU and block tariffs.

##### **4.11.1.2.1.1 Format - ReadTariffPrimaryElementRsp**

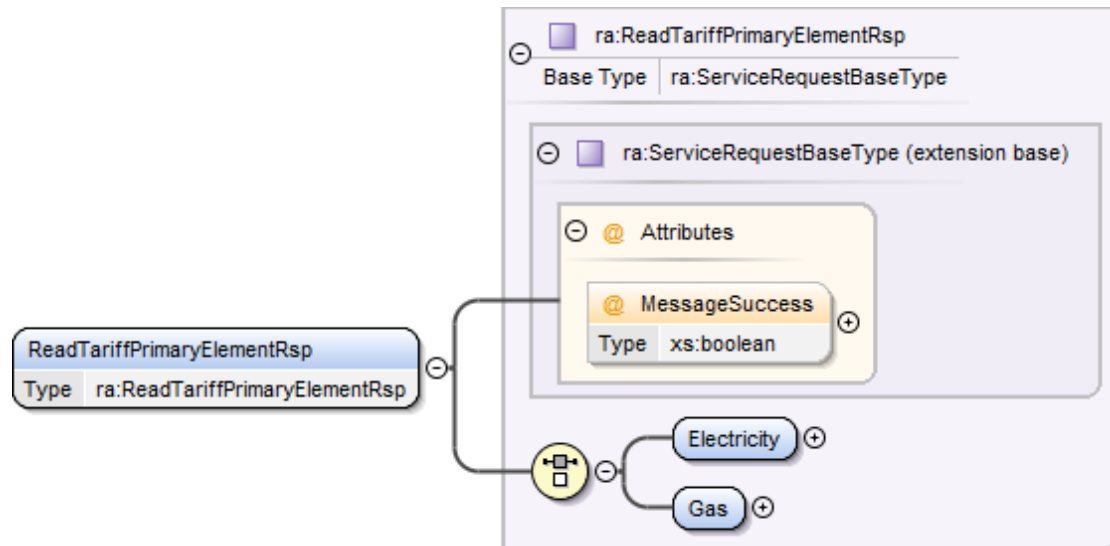


Figure 91 - Read Tariff Primary Element Parse Response / SMETS1 Response Structure

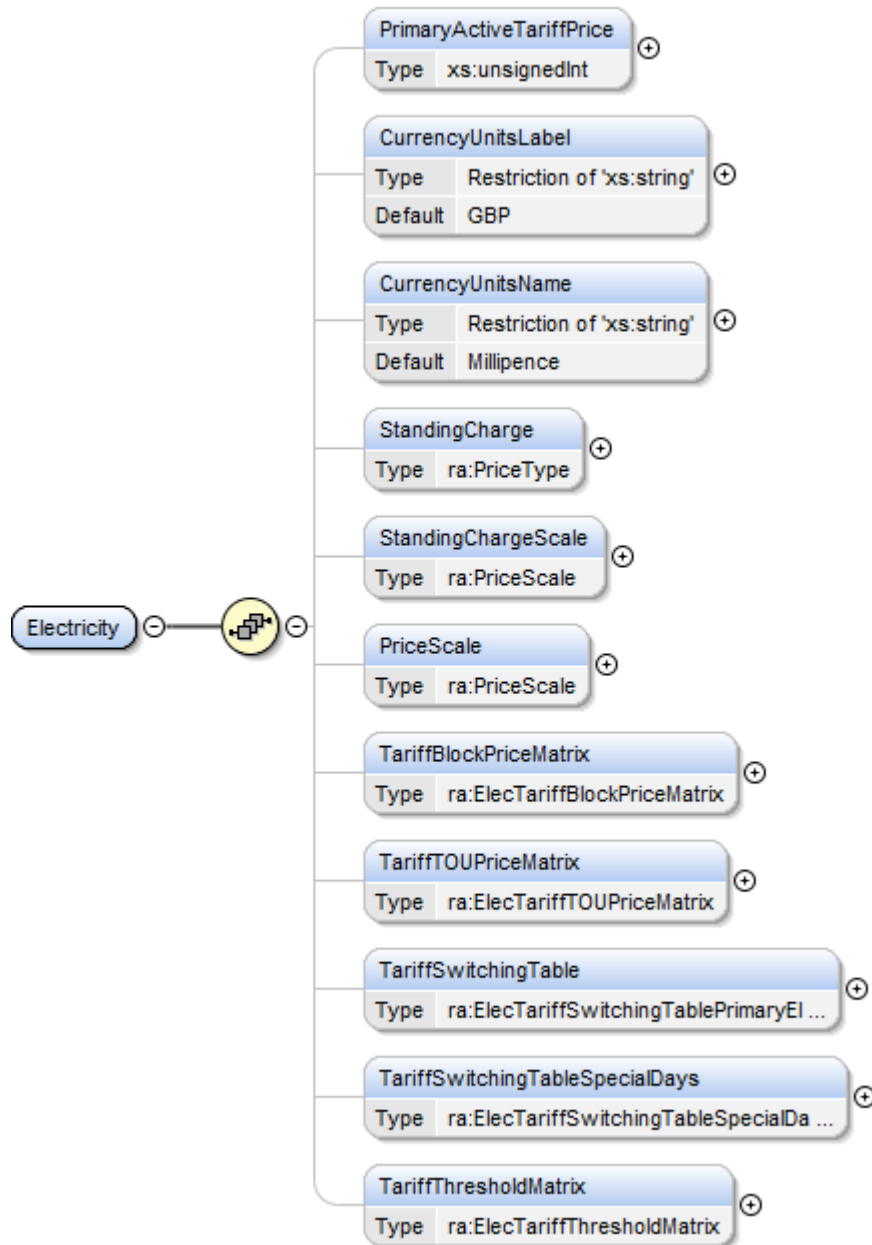


Figure 92 Read Tariff Primary Element Parse Response / SMETS1 Response – Electricity Structure

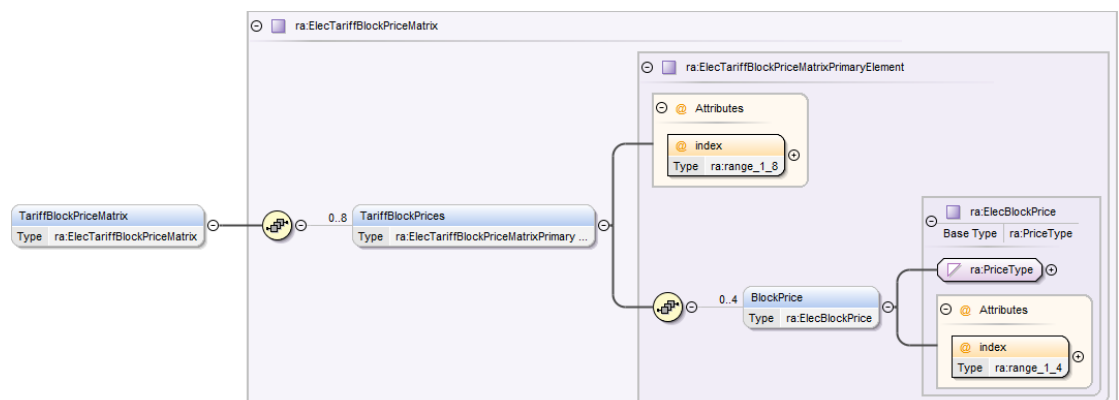


Figure 93 - Read Tariff Primary Element Parse Response / SMETS1 Response – ElecTariffBlockPriceMatrix Structure

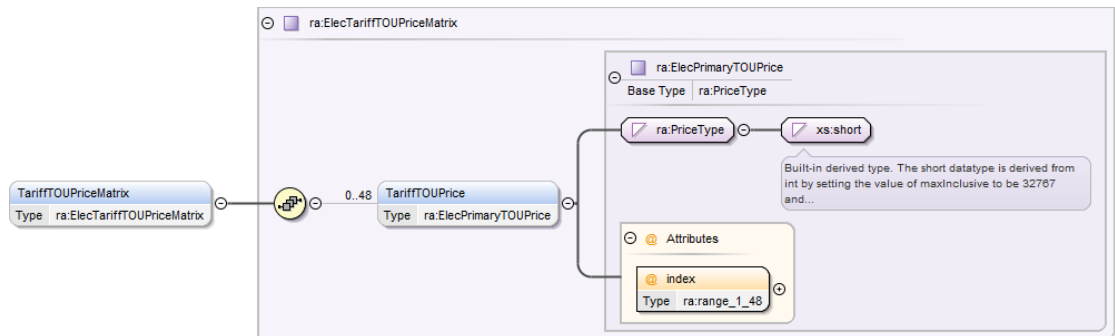


Figure 94 - Read Tariff Primary Element Parse Response / SMETS1 Response – ElecTariffTOUPriceMatrix Structure

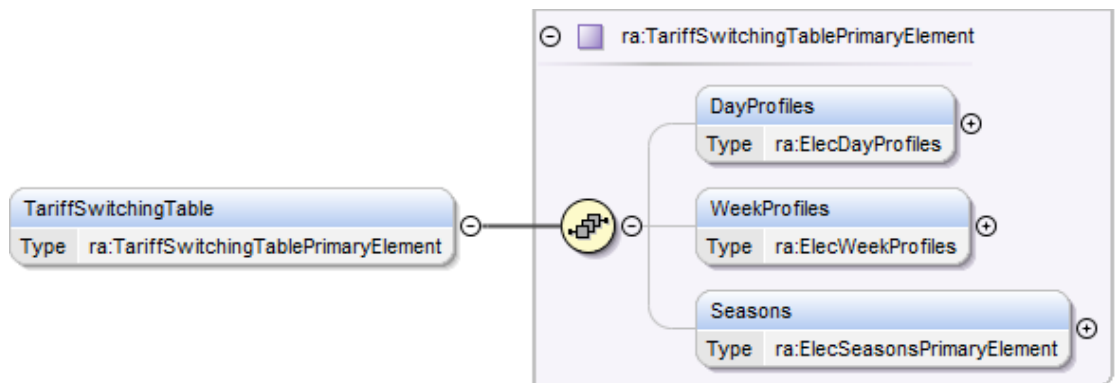


Figure 95 - Read Tariff Primary Element Parse Response / SMETS1 Response – Electricity TariffSwitchingTableStructure

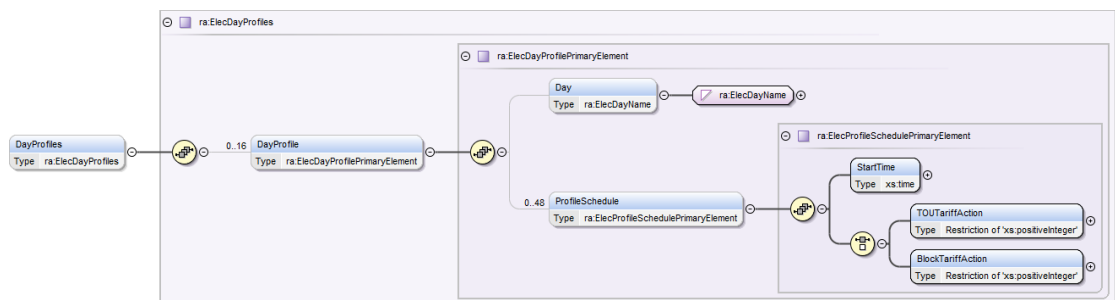


Figure 96 - Read Tariff Primary Element Parse Response / SMETS1 Response – ElecDayProfiles Structure

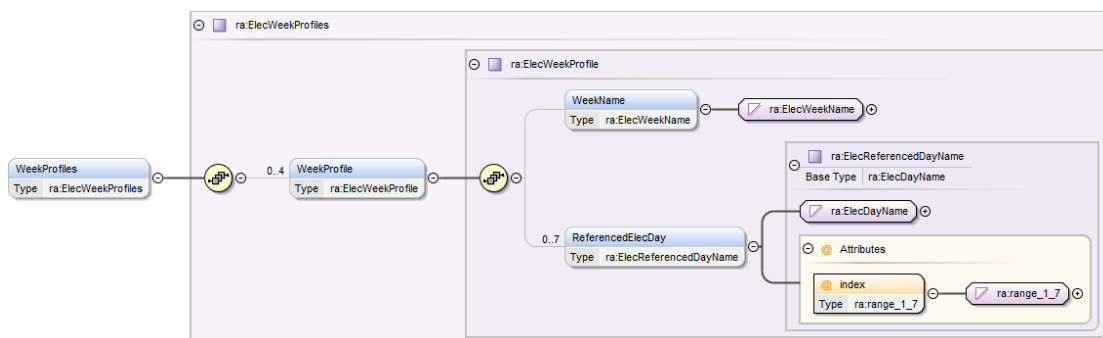


Figure 97 - Read Tariff Primary Element Parse Response / SMETS1 Response – ElecWeekProfiles Structure

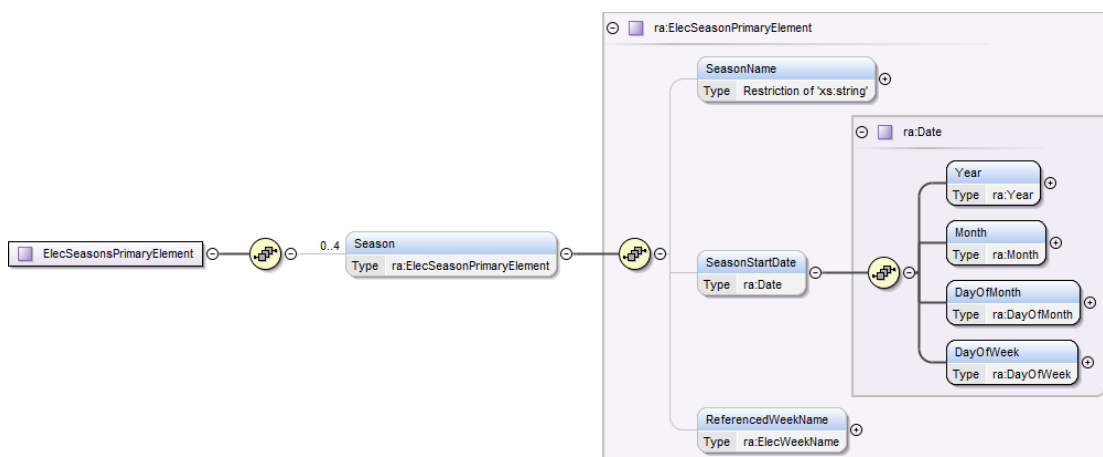


Figure 98 - Read Tariff Primary Element Parse Response / SMETS1 Response – Electricity Season Profiles Structure

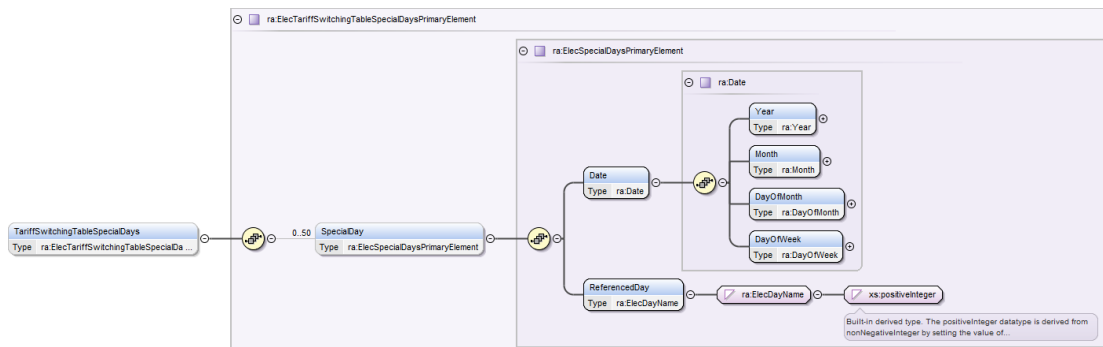


Figure 99 - Read Tariff Primary Element Parse Response / SMETS1 Response – ElecTariffSwitchingTableSpecialDaysPrimaryElement Structure

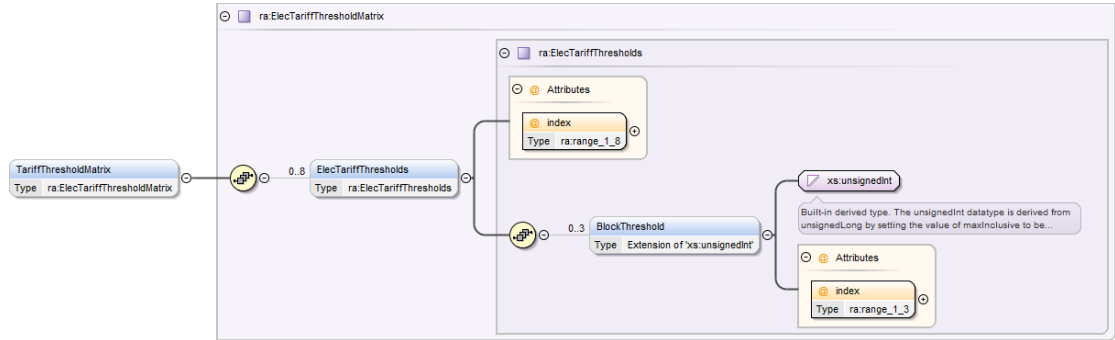


Figure 100 - Read Tariff Primary Element Parse Response / SMETS1 Response – ElecTariffThresholdMatrix Structure

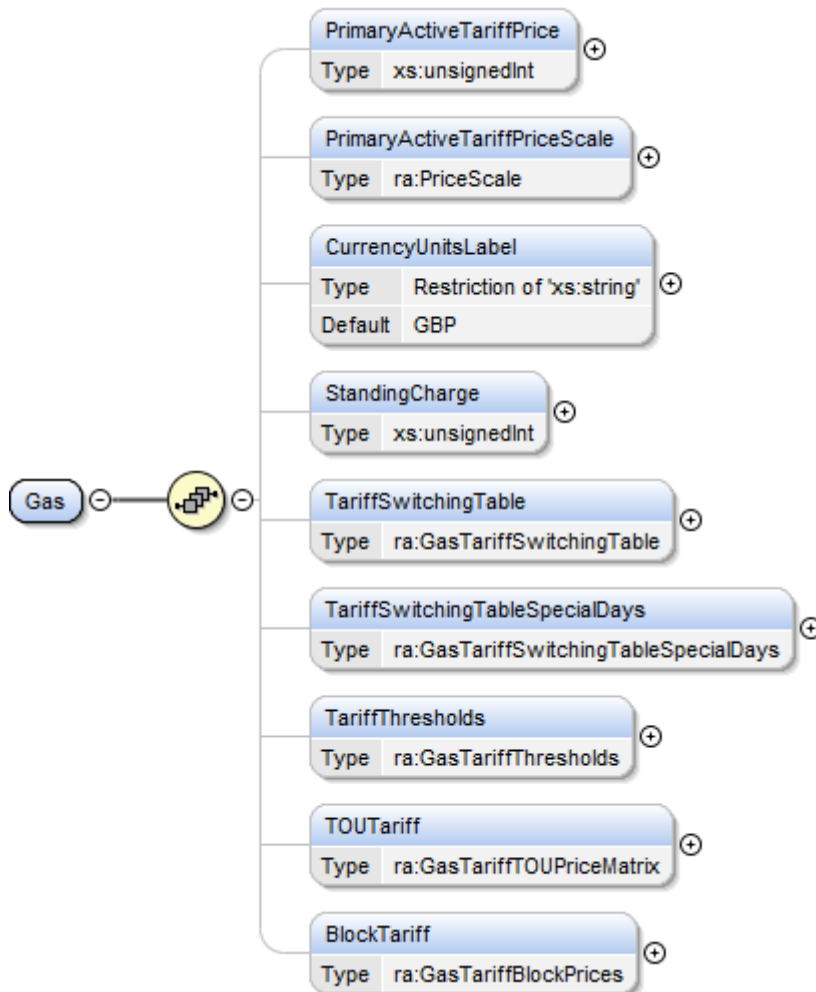


Figure 101 - Read Tariff Primary Element Parse Response / SMETS1 Response – Gas Structure



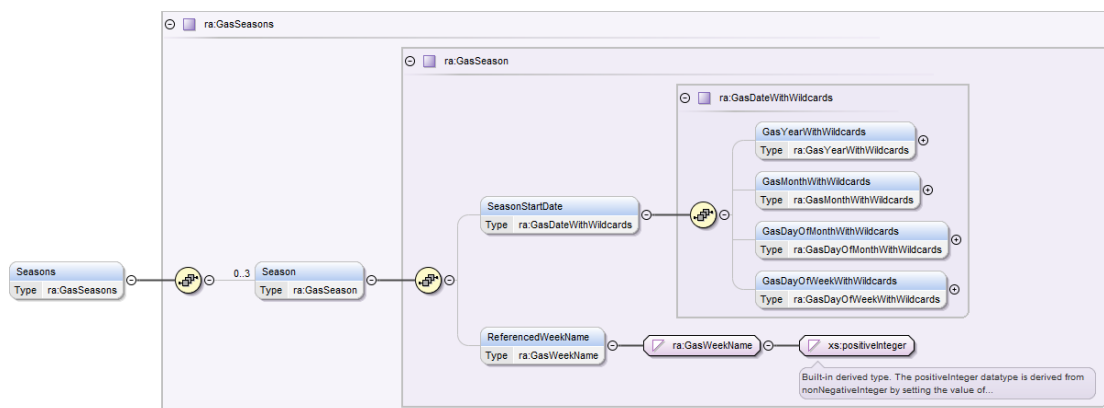


Figure 105 - Read Tariff Primary Element Parse Response / SMETS1 Response – GasSeasons Structure

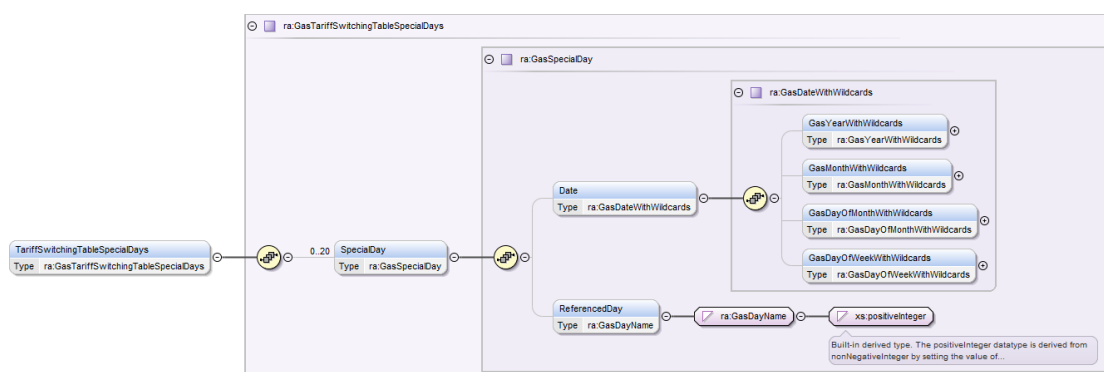


Figure 106 - Read Tariff Primary Element Parse Response / SMETS1 Response – GasTariffSwitchingTableSpecialDays Structure

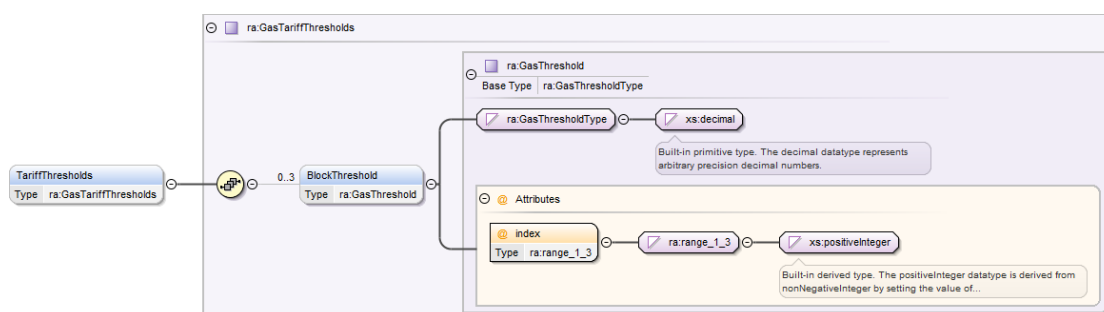


Figure 107 - Read Tariff Primary Element Parse Response / SMETS1 Response – GasTariffThresholds Structure

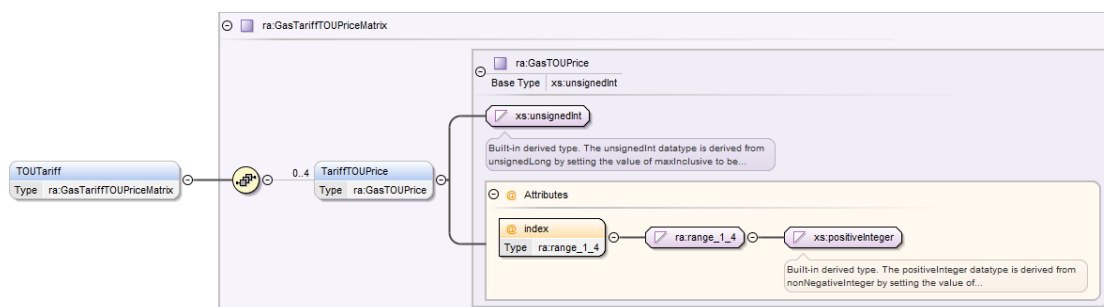


Figure 108 - Read Tariff Primary Element Parse Response / SMETS1 Response – GasTariffTOUPriceMatrix Structure

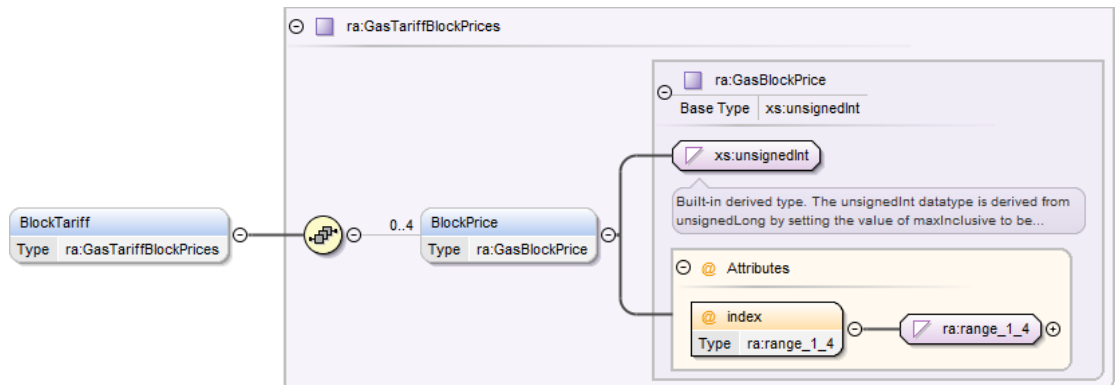


Figure 109 - Read Tariff Primary Element Parse Response / SMETS1 Response – GasTariffBlockPrices Structure

#### 4.11.1.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	003A	009F
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS24</i>	<i>GCS21f</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read ESME Tariff Data</i>	<i>Read GSME Tariff Data</i>
SupplementaryRemotePartyID	Present where originator is a URP	Present where originator is a URP
SupplementaryRemotePartyCounter	Present where originator is a URP	Present where originator is a URP
SupplementaryOriginatorCounter	Not Present	Not Present
Timestamp	Not Present	Not Present

Table 120 - Read Tariff Primary Element Parse/ SMETS1 Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.11.1.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
PrimaryActiveTariffPrice	<p>Electricity - Number representing the price in currency units per kWh consumed</p> <p>Gas - Number representing the price in currency units per cubic metre consumed</p> <p>SMETS1: In any SMETS1 Response, the DCC shall set this value to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter since SMETS1 does not require support for this value.</p>	xs:unsignedInt	None	<p>Electricity - 1000<sup>th</sup> pence (or cents) per kWh</p> <p>Gas - Value when multiplied by the scale is GBP/EUROs per cubic metre</p>	Non-Sensitive
PrimaryActiveTariffPrice Scale	<p>A multiplier applied to the PrimaryActiveTariffPrice value. Note this is the value of n in 10^n (10 to the power of n).</p> <p>Gas Only</p> <p>SMETS1: In any SMETS1 Response, the DCC shall set this value to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter, since SMETS1 does not require support for this value.</p>	ra:PriceScale (Restriction of xs:integer minimum = -128, maximum=127)	N/A	None	Non-Sensitive
CurrencyUnitsLabel	<p>The Currency Units currently used by a Smart Meter for display purposes, which shall be GB Pounds</p> <p>Valid set:</p> <ul style="list-style-type: none"> <li>GBP</li> <li>ECB</li> </ul> <p>denoting GB Pounds or Euros.</p> <p>Electricity and Gas</p>	Restriction of xs:string (Enumeration)	GBP	N/A	Non-Sensitive
CurrencyUnitsName	<p>The Currency Units currently used by a Smart Meter for display purposes, which shall be GB Pounds</p> <p>Valid set:</p> <ul style="list-style-type: none"> <li>Millipence</li> <li>Millicent</li> </ul> <p>denoting 1000<sup>th</sup> GBP pence or 1000<sup>th</sup> Euro cent</p> <p>Electricity Only</p>	Restriction of xs:string (Enumeration)	Millipence	N/A	Non-Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
StandingCharge	<p>A charge to be levied in Currency Units per unit time when operating in Credit Mode and Prepayment Mode</p> <p>Electricity and Gas</p>	<p>ra:PriceType (xs:short) (Electricity)</p> <p>xs:unsignedInt (Gas)</p>	None	<p>Electricity - Value when multiplied by the scale is GBP/EUROs</p> <p>Gas – Millipence/Millicent</p> <p>Value is collected per day</p>	Non-Sensitive
StandingChargeScale	<p>A multiplier applied to the StandingCharge value. Note this is the value of n in 10<sup>n</sup> (10 to the power of n).</p> <p>For example a StandingCharge of 1 and a StandingChargeScale of -2 would result in a StandingCharge of £0.01</p> <p>Electricity Only</p>	<p>ra:PriceScale (Restriction of xs:integer minimum = -128, maximum=127)</p>	N/A	None	Non-Sensitive
PriceScale	<p>A multiplier applied to the TOU/Block price values. Note this is the value of n in 10<sup>n</sup> (10 to the power of n).</p> <p>Electricity Only</p>	<p>ra:PriceScale (Restriction of xs:integer minimum = -128, maximum=127)</p>	N/A	None	Non-Sensitive
Electricity TariffBlockPriceMatrix <sup>1</sup>	<p>Electricity Smart Meter: A 4 x 8 matrix containing prices and actions for Block Pricing.</p> <p>For Block the action indicates which one of the 8 threshold definitions is used.</p> <p>A profile schedule can have both Block and TOU actions in the same schedule.</p> <p>Note that any not set by the Supplier will be returned as 0.</p> <p>Electricity Only</p> <p>SMETS1: If the tariff type on a SMETS1 Device is 'Time-of-use' then the DCC shall set the values in TariffBlockPriceMatrix to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter,</p>	<p>ra:ElecTariffBlockPriceMatrixPrimaryElement (see Annex section 1.2.1 for the similar sr: ElecBlockTariff)</p>	None	N/A	Non-Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Electricity TariffTOUPriceMatrix <sup>3</sup>	<p>Electricity Smart Meter: A 1 x 48 matrix containing prices and actions for Time-of-use Pricing. For TOU the index corresponds to the action which indicates the TOU register that consumption is recorded against.</p> <p>Note that any not set by the Supplier will be returned as 0.</p> <p>Electricity Only</p> <p>SMETS1: If the tariff type on a SMETS1 Device is 'Time-of-use with Block' then the DCC shall set the values in TariffTOUPriceMatrix to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter,</p>	<p>ra:ElectricityTariffTOUPriceMatrix</p> <p>(see Annex section 1.2.1 for the similar sr: ElecPrimaryTOUPrice)</p>	None	N/A	Non-Sensitive
Electricity TariffSwitchingTable	<p>A calendar defining UTC times, days and dates for switching the Primary Element tariff</p> <p>A profile schedule can have both Block and TOU actions in the same schedule.</p> <p>Electricity Only</p>	<p>ra: ElecTariffSwitchingTablePrimaryElement</p> <p>(see Annex section 1.1.1 for the similar sr: ElecSwitchingTablePrimary)</p>	None	N/A	Non-Sensitive
Electricity TariffSwitchingTableSpecialDays	<p>A calendar defining special dates for switching the Primary Element tariff</p> <p>Electricity Only</p>	<p>ra: ElecTariffSwitchingTableSpecialDaysPrimaryElement</p> <p>(see Annex section 1.1.1 for the similar sr: ElecSpecialDaysPrimary)</p>	None	N/A	Non-Sensitive
Electricity TariffThresholdMatrix	<p>An 8 (threshold definitions) x 3 (block thresholds) matrix capable of holding thresholds for controlling Block Tariffs.</p> <p>Electricity Only</p>	<p>ra:ElecTariffThresholdMatrix</p> <p>(see Annex section 1.1.1 for the similar sr: ElecThresholdMatrix)</p>	None	N/A	Non-Sensitive
Gas TariffSwitchingTable	<p>A calendar defining UTC times, days and dates for switching the tariff</p> <p>Gas Only</p>	<p>ra: GasTariffSwitchingTable</p> <p>(see Annex section 1.1.1 for the similar sr: GasSwitchingTable)</p>	None	N/A	Non-Sensitive
Gas TariffSwitchingTableSpecialDays	<p>A calendar defining special dates for switching the Primary Element tariff</p> <p>Gas Only</p>	<p>ra: GasTariffSwitchingTableSpecialDays</p> <p>(see Annex section 1.1.1 for the similar sr: GasSpecialDays)</p>	None	N/A	Non-Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Gas TariffThresholds	A 3 x 1 matrix capable of holding thresholds for controlling Block Tariffs  Gas Only	ra:GasTariffThresholds  Up to 3 BlockThreshold values (xs:decimal)	None	BlockThreshold is measured in Wh	Non-Sensitive
Gas TOUTariff <sup>4</sup>	Gas Smart Meter: A 1 x 4 matrix containing Prices for Time-of-use Pricing  Gas Only  SMETS1: If the tariff type on a SMETS1 Device is 'Time-of-use with Block' then the DCC shall omit the TOUTariff element,	ra: GasTariffTOUPriceMatrix (1 x 4 matrix of ra: GasTOUPrice; see Annex section 1.1.1 for the similar sr: GasTOUPrice)	None	1000th pence / cent per kWh	Non-Sensitive
Gas BlockTariff <sup>4</sup>	Gas Smart Meter: A 1 x 4 matrix containing Prices for Block Pricing  Gas Only  SMETS1: If the tariff type on a SMETS1 Device is 'Time-of-use' then the DCC shall omit the BlockTariff element,	Ra:GasTariffBlockPrices  (1 x 4 matrix of ra: GasBlockPrice; see Annex section 1.1.1 for the similar sr: GasBlockPrice)	None	1000th pence / cent per kWh	Non-Sensitive

Table 121 - Read Tariff Primary Element Parse Response / SMETS1 Response Body Data Items

<sup>1</sup> Maximum 8

<sup>3</sup> Maximum 48

<sup>4</sup> Maximum 4

#### 4.11.1.2.1.4 Sample Response

```
<ra:ReadTariffPrimaryElementRsp MessageSuccess="true">
  <ra:Electricity>
    <ra:PrimaryActiveTariffPrice>100</ra:PrimaryActiveTariffPrice>
    <ra:CurrencyUnitsLabel>GBP</ra:CurrencyUnitsLabel>
    <ra:CurrencyUnitsName>Millipence</ra:CurrencyUnitsName>
    <ra:StandingCharge>5000</ra:StandingCharge>
    <ra:StandingChargeScale>-5</ra:StandingChargeScale>
    <ra:PriceScale>-5</ra:PriceScale>
    <ra:TariffBlockPriceMatrix>
      <ra:TariffBlockPrices index="1">
        <ra:BlockPrice index="1">2000</ra:BlockPrice >
        <ra:BlockPrice index="2">2500</ra:BlockPrice>
        <ra:BlockPrice index="3">3000</ra:BlockPrice >
        <ra:BlockPrice index="4">3500</ra:BlockPrice>
      </ra:TariffBlockPrices>
      <ra:TariffBlockPrices index="2">
        <ra:BlockPrice index="1">3000</ra:BlockPrice >
        <ra:BlockPrice index="2">3500</ra:BlockPrice>
        <ra:BlockPrice index="3">4000</ra:BlockPrice >
        <ra:BlockPrice index="4">5000</ra:BlockPrice>
      </ra:TariffBlockPrices>
    </ra:TariffBlockPriceMatrix>
    <ra:TariffTOUPriceMatrix>
      <ra:TariffTOUPrice index="1">2000</ra:TariffTOUPrice>
      <ra:TariffTOUPrice index="2">2500</ra:TariffTOUPrice>
      <ra:TariffTOUPrice index="3">4000</ra:TariffTOUPrice>
    </ra:TariffTOUPriceMatrix>
  </ra:Electricity>
</ra:ReadTariffPrimaryElementRsp>
```

← See [Figure 111](#)~~Figure 111~~ for details of ElectricityTariff Switching Tables →

```
<ra:TariffThresholdMatrix>
  <ra:ElecTariffThresholds index="1">
    <ra:BlockThreshold index="1">10</ra:BlockThreshold>
    <ra:BlockThreshold index="2">20</ra:BlockThreshold>
    <ra:BlockThreshold index="3">30</ra:BlockThreshold>
  </ra:ElecTariffThresholds>
  <ra:ElecTariffThresholds index="2">
    <ra:BlockThreshold index="1">40</ra:BlockThreshold>
    <ra:BlockThreshold index="2">80</ra:BlockThreshold>
    <ra:BlockThreshold index="3">300</ra:BlockThreshold>
  </ra:ElecTariffThresholds>
</ra:TariffThresholdMatrix>
</ra:Electricity>
</ra:ReadTariffPrimaryElementRsp>
```

**Figure 110 - Read Tariff Primary Element Parse Response Sample - Electricity**

```

<ra:TariffSwitchingTable>
  <ra:DayProfiles>
    <ra:DayProfile>
      <ra:Day>1</ra:Day>
      <ra:ProfileSchedule>
        <ra:StartTime>00:00:00.00</ra:StartTime>
        <ra:TOUTariffAction>01</ra:TOUTariffAction>
      </ra:ProfileSchedule>
    </ra:DayProfile>
    <ra:DayProfile>
      <ra:Day>2</ra:Day>
      <ra:ProfileSchedule>
        <ra:StartTime>00:00:00.00</ra:StartTime>
        <ra:BlockTariffAction>02</ra:BlockTariffAction>
      </ra:ProfileSchedule>
    </ra:DayProfile>
  </ra:DayProfiles>
  <ra:WeekProfiles>
    <ra:WeekProfile>
      <ra:WeekName>1</ra:WeekName>
      <ra:ReferencedElecDay index="1">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index="2">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index="3">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index="4">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index="5">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index="6">2</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index="7">2</ra:ReferencedElecDay>
    </ra:WeekProfile>
  </ra:WeekProfiles>
  <ra:Seasons>
    <ra:Season>
      <ra:SeasonName>Spring</ra:SeasonName>
      <ra:SeasonStartDate>
        <ra:Year>
          <ra:NonSpecifiedYear></ra:NonSpecifiedYear>
        </ra:Year>
        <ra:Month>
          <ra:SpecifiedMonth>3</ra:SpecifiedMonth>
        </ra:Month>
        <ra:DayOfMonth>
          <ra:SpecifiedDayOfMonth>1</ra:SpecifiedDayOfMonth>
        </ra:DayOfMonth>
        <ra:DayOfWeek>
          <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
        </ra:DayOfWeek>
        <ra:SeasonStartDate>
          <ra:ReferencedWeekName>1</ra:ReferencedWeekName>
        </ra:SeasonStartDate>
      </ra:Season>
    </ra:Seasons>
  </ra:TariffSwitchingTable>
  <ra:TariffSwitchingTableSpecialDays>
    <ra:SpecialDay>
      <ra:Date>
        <ra:Year>
          <ra:NonSpecifiedYear></ra:NonSpecifiedYear>
        </ra:Year>
        <ra:Month>
          <ra:SpecifiedMonth>12</ra:SpecifiedMonth>
        </ra:Month>
        <ra:DayOfMonth>
          <ra:SpecifiedDayOfMonth>25</ra:SpecifiedDayOfMonth>
        </ra:DayOfMonth>
        <ra:DayOfWeek>
          <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
        </ra:DayOfWeek>
      </ra:Date>
      <ra:ReferencedDay>2</ra:ReferencedDay>
    </ra:SpecialDay>
  </ra:TariffSwitchingTableSpecialDays>

```

Figure 111 - Read Tariff Primary Element Parse Response Sample – Electricity Tariff Switching Tables

```
<ra:ReadTariffPrimaryElementRsp MessageSuccess="true">
  <ra:Gas>
    <ra:PrimaryActiveTariffPrice>100</ra:PrimaryActiveTariffPrice>
    <ra:PrimaryActiveTariffPriceScale>-5</ra:PrimaryActiveTariffPriceScale>
    <ra:CurrencyUnitsLabel>GBP</ra:CurrencyUnitsLabel>
    <ra:StandingCharge>5000</ra:StandingCharge>
```

← See [Figure 113](#)~~Figure 143~~ for details of Gas Tariff Switching Tables →

```
  <ra:TariffThresholds>
    <ra:BlockThreshold index= "1">10</ra:BlockThreshold>
    <ra:BlockThreshold index= "2">20</ra:BlockThreshold>
    <ra:BlockThreshold index= "3">30</ra:BlockThreshold>
  </ra:TariffThresholds>
  <ra:TOUTariff>
    <ra:TariffTOUPrice index= "1">2700</ra:TariffTOUPrice>
    <ra:TariffTOUPrice index= "2">4500</ra:TariffTOUPrice>
  </ra:TOUTariff>
</ra:Gas>
</ra:ReadTariffPrimaryElementRsp>
```

**Figure 112 - Read Tariff Primary Element Parse Response Sample - Gas**

```

<ra:TariffSwitchingTable>
  <ra:DayProfiles>
    <ra:DayProfile>
      <ra:DayName>1</ra:DayName>
      <ra:TOUTariffAction>01</ra:TOUTariffAction>
    </ra:DayProfile>
    <ra:DayProfile>
      <ra:DayName>2</ra:DayName>
      <ra:TOUTariffAction>3</ra:TOUTariffAction>
    </ra:DayProfile>
  </ra:DayProfiles>
  <ra:WeekProfiles>
    <ra:WeekProfile>
      <ra:WeekName>1</ra:WeekName>
      <ra:ReferencedDay index= "1">1</ra:ReferencedDay>
      <ra:ReferencedDay index= "2">1</ra:ReferencedDay>
      <ra:ReferencedDay index= "3">1</ra:ReferencedDay>
      <ra:ReferencedDay index= "4">1</ra:ReferencedDay>
      <ra:ReferencedDay index= "5">1</ra:ReferencedDay>
      <ra:ReferencedDay index= "6">2</ra:ReferencedDay>
      <ra:ReferencedDay index= "7">2</ra:ReferencedDay>
    </ra:WeekProfile>
  </ra:WeekProfiles>
  <ra:Seasons>
    <ra:Season>
      <ra:SeasonStartDate>
        <ra:GasYearWithWildcards><ra:SpecifiedYear>2015</ra:SpecifiedYear></ra:GasYearWithWildcards>
      </ra:SeasonStartDate>
      <ra:GasMonthWithWildcards><ra:SpecifiedMonth>12</ra:SpecifiedMonth></ra:GasMonthWithWildcards>
      <ra:GasDayOfMonthWithWildcards>
        <ra:SpecifiedDayOfMonth>1</ra:SpecifiedDayOfMonth>
      </ra:GasDayOfMonthWithWildcards>
      <ra:GasDayOfWeekWithWildcards>
        <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
      </ra:GasDayOfWeekWithWildcards>
      <ra:SeasonStartDate>
        <ra:ReferencedWeekName>1</ra:ReferencedWeekName>
      </ra:SeasonStartDate>
    </ra:Season>
  </ra:Seasons>
</ra:TariffSwitchingTable>
<ra:TariffSwitchingTableSpecialDays>
  <ra:SpecialDay>
    <ra:Date >
      <ra:GasYearWithWildcards><ra:SpecifiedYear>2015</ra:SpecifiedYear></ra:GasYearWithWildcards>
    </ra:Date >
    <ra:GasMonthWithWildcards><ra:SpecifiedMonth>12</ra:SpecifiedMonth></ra:GasMonthWithWildcards>
    <ra:GasDayOfMonthWithWildcards>
      <ra:SpecifiedDayOfMonth>1</ra:SpecifiedDayOfMonth>
    </ra:GasDayOfMonthWithWildcards>
    <ra:GasDayOfWeekWithWildcards>
      <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
    </ra:GasDayOfWeekWithWildcards>
    <ra:Date >
      <ra:ReferencedDay>2</ra:ReferencedDay>
    </ra:Date >
  </ra:SpecialDay>
</ra:TariffSwitchingTableSpecialDays>

```

**Figure 113 - Read Tariff Primary Element Parse Response Sample – Gas Tariff Switching Tables**

#### 4.11.2 Read Tariff (Secondary Element) (4.11.2)

Service Request Name	ReadTariff
Service Reference	4.11
Service Request Variant Name	ReadTariff(SecondaryElement)

Service Reference Variant	4.11.2	
Service Request Objective	To enable a DCC Service User to read the current tariff settings (including price, time of use matrix and time of use blocks) that are in use on a Twin Element Electricity Smart Meter.	
Business Context Statement	The DCC Service User requires a view of the tariff deployed to a device to resolve a customer query.	
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Other User (OU)</li> </ul>	
Security Classification	Non-critical and non-sensitive: GBCS XREF: SME.C.NC	
Service Request Narrative	<ol style="list-style-type: none"> <li>This Service Request returns all the current tariff settings available at the Secondary Element of the Meter. It isn't possible to request a subset of them.</li> <li>The Tariff values are set by Users via Service Request 1.1.2 - UpdateImportTariff(SecondaryElement). Users are advised not to read secondary element tariff information prior to using Service Request 1.1.2 to set it, as there is a risk that it could cause an error in Parse software.</li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x00BD	N/A
GBCS Use Case	ECS24b	N/A
GBCS Use Case Name	Read ESME Tariff Data - second element	N/A
SMETS1 Applicability	No	No

Table 122 Read Tariff (Secondary Element) Service Request

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.11.2.1 Service Request

##### 4.11.2.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadTariffSecondaryElement XML element defines this Service Request and doesn't contain any data items.

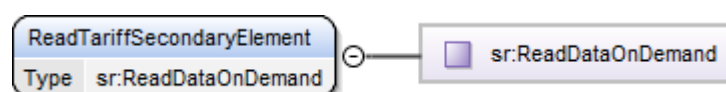


Figure 114 Read Tariff (Secondary Element) Service Request Structure

##### 4.11.2.1.2 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
No	Yes	No	No	No

**Table 123 Read Tariff (Secondary Element) Modes of Operation**

#### 4.11.2.1.3 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
Yes	Yes	Yes	No	No	No	No	No

**Table 124 Read Tariff (Secondary Element) Command Variant Values**

#### 4.11.2.1.4 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

#### 4.11.2.1.5 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

<ReadTariffSecondaryElement/>

**Figure 115 Sample Read Tariff (Secondary Element) Service Request Format**

### 4.11.2.2 Responses

The response messages for a "Read Tariff (Secondary Element)" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output.

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.11.2.2.1 Parse Output Format

This response returns the tariff for the secondary element of an electricity Device. These settings are determined by the use of Service Requests 1.1.2 and 1.2.2.

The principles are the same as for electricity primary elements, as described in section 4.11.1.2.1, but with only TOU supported, and with just 4 day profile schedules instead of 48.

#### 4.11.2.2.1.1 Format - ReadTariffSecondaryElementRsp

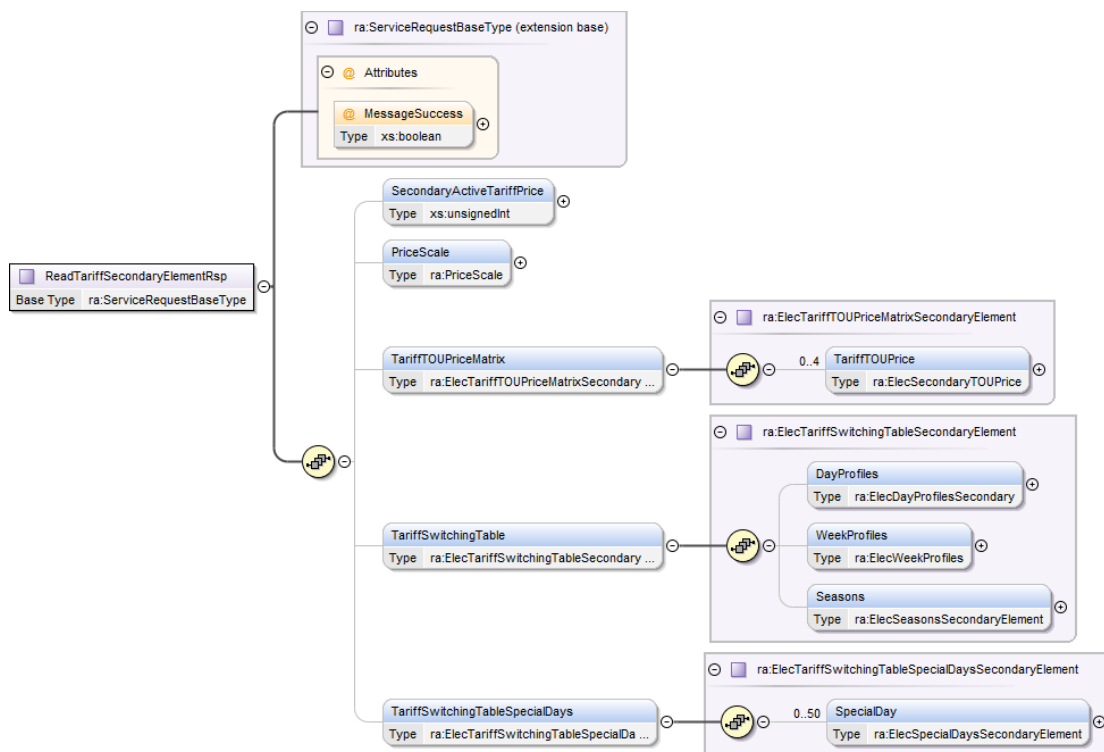


Figure 116 Read Tariff Secondary Element Parse Response Structure

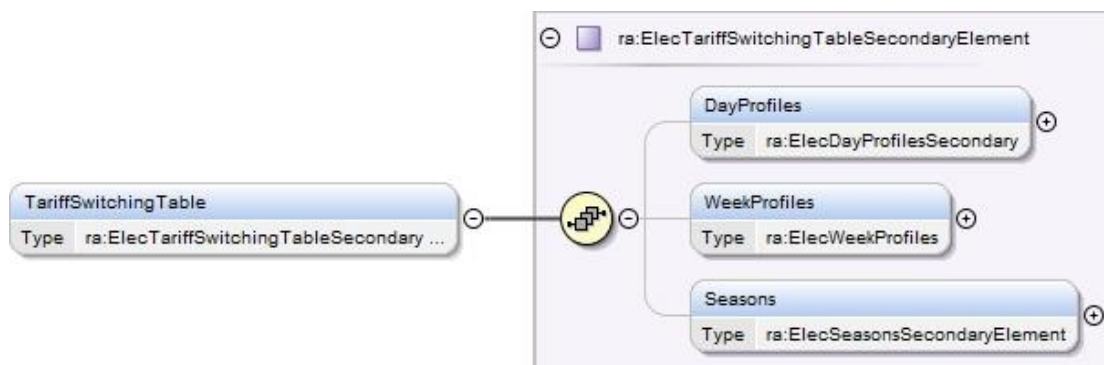


Figure 117 - Read Tariff Secondary Element Parse Response – TariffSwitchingTable Structure

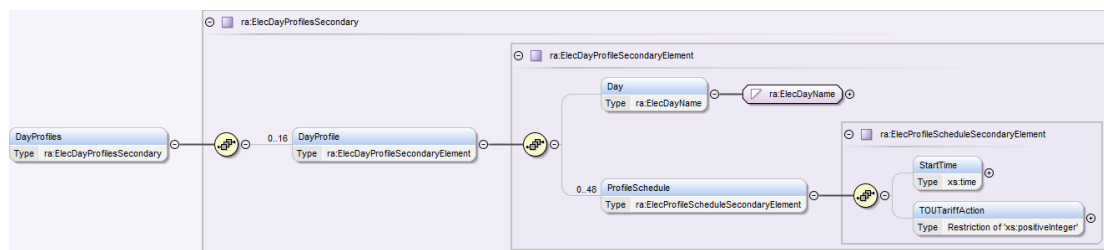


Figure 118 - Read Tariff Secondary Element Parse Response – DayProfiles Structure

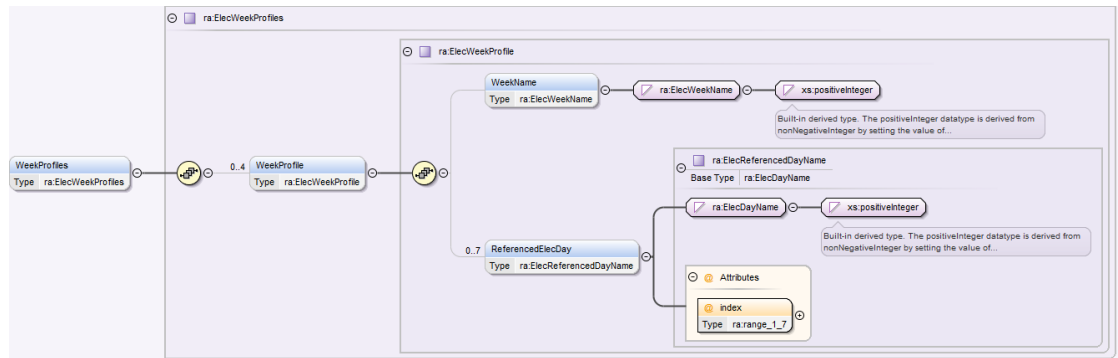


Figure 119 - Read Tariff Secondary Element Parse Response – WeekProfiles Structure

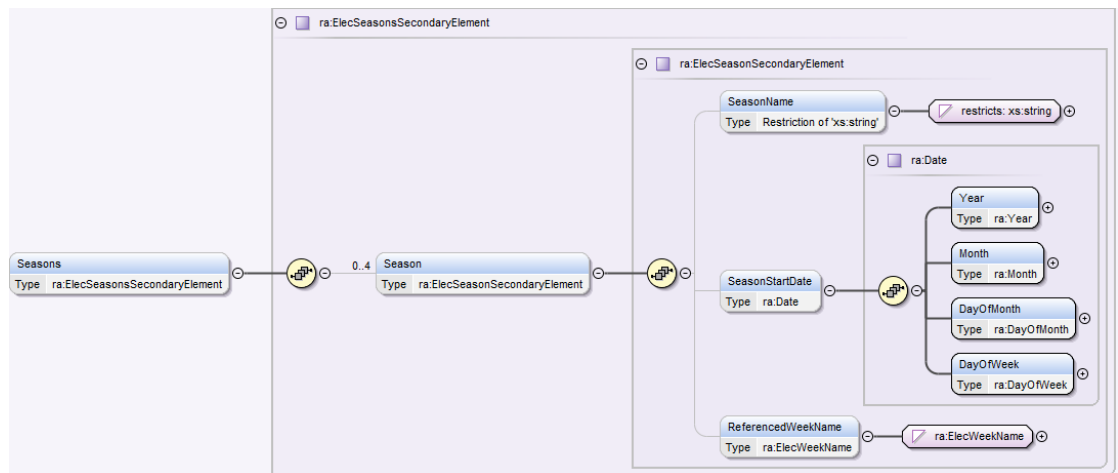


Figure 120 - Read Tariff Secondary Element Parse Response – Seasons Structure

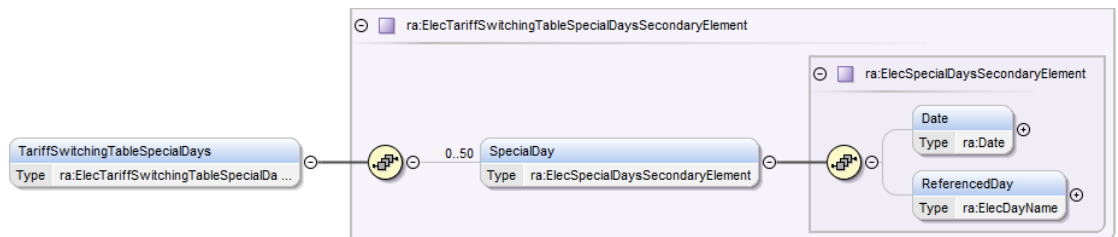


Figure 121 - Read Tariff Secondary Element Parse Response – TariffSwitchingTableSpecialDays Structure

#### 4.11.2.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	00BD
GBCS Use Case Number (for information only - not in header)	ECS24b
GBCS Use Case Name (for information only - not in header)	Read ESME Tariff Data - second element
SupplementaryRemotePartyID	Present where originator is a URP

Data Item	Electricity Response
SupplementaryRemotePartyCounter	Present where originator is a URP
SupplementaryOriginatorCounter	Not Present
Timestamp	Not Present

**Table 125 - Read Tariff Secondary Element Parse Response Header Data Items**

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.11.2.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
SecondaryActiveTariffPrice	Number representing the price per kWh consumed	xs:unsignedInt	None	1000 <sup>th</sup> pence / cent (or cents) per kWh	Non-Sensitive
PriceScale	A multiplier applied to the TOU price values. Note this is the value of n in 10^n (10 to the power of n).	ra:PriceScale (Restriction of xs:integer minimum = -128, maximum=127)	N/A	None	Non-Sensitive
TariffTOUPriceMatrix <sup>1</sup>	Twin Element Electricity Smart Meter: A 1 x 4 matrix containing prices for Time-of-use Pricing Tariffs relating to Supply via the secondary measuring element of the Electricity Meter	ra: ElecTariffTOUPriceMatrixSecondaryElement <sup>2</sup> (see Annex section 1.2.2 for the similar sr: PriceSecondary)	None	N/A	Non-Sensitive
TariffSwitchingTable	A calendar defining UTC times, days and dates for switching the Secondary Element tariff	ra: ElecTariffSwitchingTableSecondaryElement <sup>2</sup> (see Annex section 1.1.2 for the similar sr: ElecSwitchingTableSecondary)	None	N/A	Non-Sensitive
TariffSwitchingTableSpecialDays	A calendar defining special dates for switching the Secondary Element tariff	ra: ElecTariffSwitchingTableSpecialDaysSecondaryElement <sup>1</sup> (see Annex section 1.1.2 for the similar sr: ElecSpecialDaysSecondary)	None	N/A	Non-Sensitive

**Table 126 - Read Tariff Secondary Element Parse Response Body Data Items**

<sup>1</sup> Maximum 4

<sup>2</sup> ra: data type is similar to the corresponding sr: data type, except that in ra: all the components are optional

#### 4.11.2.2.1.4 Sample Response

```
<ra:ReadTariffSecondaryElementRsp MessageSuccess="true">
  <ra:SecondaryActiveTariffPrice>100</ra:SecondaryActiveTariffPrice>
  <ra:PriceScale>-5</ra:PriceScale>
  <ra:TariffTOUPriceMatrix>
    <ra:TariffTOUPrice index="1">2500</ra:TariffTOUPrice>
    <ra:TariffTOUPrice index="2">4500</ra:TariffTOUPrice>
  </ra:TariffTOUPriceMatrix>
</ra:ReadTariffSecondaryElementRsp>
```

← See [Figure 123](#)~~Figure 123~~ for details of Tariff Switching Tables →

```
</ra:ReadTariffSecondaryElementRsp>
```

**Figure 122 - Read Tariff Secondary Element Parse Response Sample**

```

<ra:TariffSwitchingTable>
  <ra:DayProfiles>
    <ra:DayProfile>
      <ra:Day>1</ra:Day>
      <ra:ProfileSchedule>
        <ra:StartTime>00:00:00.00</ra:StartTime>
        <ra:TOUTariffAction>01</ra:TOUTariffAction>
      </ra:ProfileSchedule>
    </ra:DayProfile>
    <ra:DayProfile>
      <ra:Day>2</ra:Day>
      <ra:ProfileSchedule>
        <ra:StartTime>00:00:00.00</ra:StartTime>
        <ra:TOUTariffAction>02</ra:TOUTariffAction>
      </ra:ProfileSchedule>
    </ra:DayProfile>
  </ra:DayProfiles>
  <ra:WeekProfiles>
    <ra:WeekProfile>
      <ra:WeekName>1</ra:WeekName>
      <ra:ReferencedElecDay index= "1">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index= "2">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index= "3">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index= "4">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index= "5">1</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index= "6">2</ra:ReferencedElecDay>
      <ra:ReferencedElecDay index= "7">2</ra:ReferencedElecDay>
    </ra:WeekProfile>
  </ra:WeekProfiles>
  <ra:Seasons>
    <ra:Season>
      <ra:SeasonName>Spring</ra:SeasonName>
      <ra:SeasonStartDate>
        <ra:Year>
          <ra:NonSpecifiedYear></ra:NonSpecifiedYear>
        </ra:Year>
        <ra:Month>
          <ra:SpecifiedMonth>3</ra:SpecifiedMonth>
        </ra:Month>
        <ra:DayOfMonth>
          <ra:SpecifiedDayOfMonth>1</ra:SpecifiedDayOfMonth>
        </ra:DayOfMonth>
        <ra:DayOfWeek>
          <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
        </ra:DayOfWeek>
        <ra:SeasonStartDate>
          <ra:ReferencedWeekName>1</ra:ReferencedWeekName>
        </ra:SeasonStartDate>
      </ra:Season>
    </ra:Seasons>
  </ra:TariffSwitchingTable>
  <ra:TariffSwitchingTableSpecialDays>
    <ra:SpecialDay>
      <ra:Date>
        <ra:Year>
          <ra:NonSpecifiedYear></ra:NonSpecifiedYear>
        </ra:Year>
        <ra:Month>
          <ra:SpecifiedMonth>12</ra:SpecifiedMonth>
        </ra:Month>
        <ra:DayOfMonth>
          <ra:SpecifiedDayOfMonth>25</ra:SpecifiedDayOfMonth>
        </ra:DayOfMonth>
        <ra:DayOfWeek>
          <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
        </ra:DayOfWeek>
      </ra:Date>
      <ra:ReferencedDay>2</ra:ReferencedDay>
    </ra:SpecialDay>
  </ra:TariffSwitchingTableSpecialDays>

```

Figure 123 - Read Tariff Secondary Element Parse Response Sample – Tariff Switching Tables

## 4.12 Read Maximum Demand Registers (4.12)

This Service Request maps to two GBCS Use Cases and each Use Case requires its own Request ID.

Therefore the 4.12 Service Request has been broken into two parts: 4.12.1 (Import) and 4.12.2 (Export).

### 4.12.1 Read Maximum Demand Import Registers (4.12.1)

Service Request Name	ReadMaximumDemandRegisters	
Service Reference	4.12	
Service Request Variant Name	ReadMaximumDemandImportRegisters	
Service Reference Variant	4.12.1	
Service Request Objective	To enable a DCC Service user to read the maximum demand import register values recorded on an ESME.	
Business Context Statement	The DCC Service user has conducted a network analysis survey for network planning purposes and wishes to retrieve maximum demand import register values.	
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Electricity Network Operator (ENO)</li> </ul>	
Security Classification	Non-critical and non-sensitive: GBCS XREF: SME.C.NC	
Service Request Narrative	<ol style="list-style-type: none"> <li>This Service Request returns all the Maximum Demand Import Registers available at the meter. It isn't possible to request a read for only a subset of them.</li> <li>This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule).</li> <li>Users are advised not to read Maximum Demand Registers via Service Request 4.12.1 prior to using Service Request 6.18.1 to Set Maximum Demand Configurable Time Period, as there is a risk that it could cause an error in Parse software.</li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x002C	N/A
GBCS Use Case	ECS18b	N/A
GBCS Use Case Name	Read Maximum Demand Registers (import)	N/A
SMETS1 Applicability	No	No

**Table 127 Read Maximum Demand Import Registers Service Request**

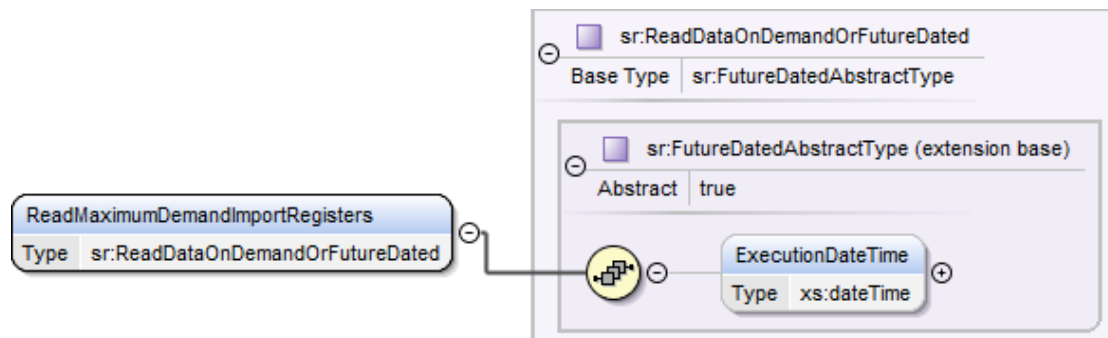
This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.12.1.1 Service Request

##### 4.12.1.1.1 Format

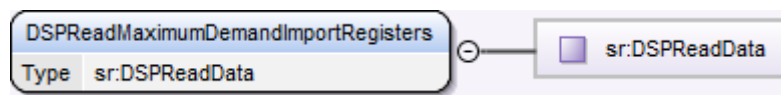
The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadMaximumDemandImportRegisters XML element defines this Service Request and, for Future Dated Requests, contains the Execution Date and Time.



**Figure 124 Read Maximum Demand Import Registers Service Request Structure (Ad-hoc)**

Create Schedule: Its DSPReadMaximumDemandImportRegisters XML element defines this Service Request and doesn't contain any data items.



**Figure 125 Read Maximum Demand Import Registers Service Request Structure (Create Schedule)**

##### 4.12.1.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

##### 4.12.1.1.2.1 ReadMaximumDemandImportRegisters (Ad-hoc)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	<p>The UTC date and time the DCC Service User requires the command to be executed on the Device ID</p> <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive

**Table 128 Read Maximum Demand Import Registers Service Request Data Items (Ad-hoc)**

##### 4.12.1.1.2.2 DSPReadMaximumDemandImportRegisters (Create Schedule)

N/A

#### 4.12.1.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
No	Yes	No	DSP	Yes

**Table 129 Read Maximum Demand Import Registers Modes of Operation**

#### 4.12.1.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
Yes	Yes	Yes	No	No	No	No	No

**Table 130 Read Maximum Demand Import Registers Command Variant Values (Ad-hoc)**

#### 4.12.1.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for Execution Date Time validation.

#### 4.12.1.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadMaximumDemandImportRegisters>
<ExecutionDateTime>2014-05-01T02:05:00.00Z</ExecutionDateTime>
</ReadMaximumDemandImportRegisters>
```

**Figure 126 Sample Read Maximum Demand Import Registers Service Request (Body) Format (Ad-hoc)**

#### 4.12.1.2 Responses

The response messages for a "Read Maximum Demand Import Registers" request follow the generic format for all "Device" response messages, the generic responses applicable to this request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output

When this Service Request is run as DSP Scheduled, the Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.12.1.2.1 Parse Output Format

#### 4.12.1.2.1.1 Format - ReadMaximumDemandImportRegistersRsp

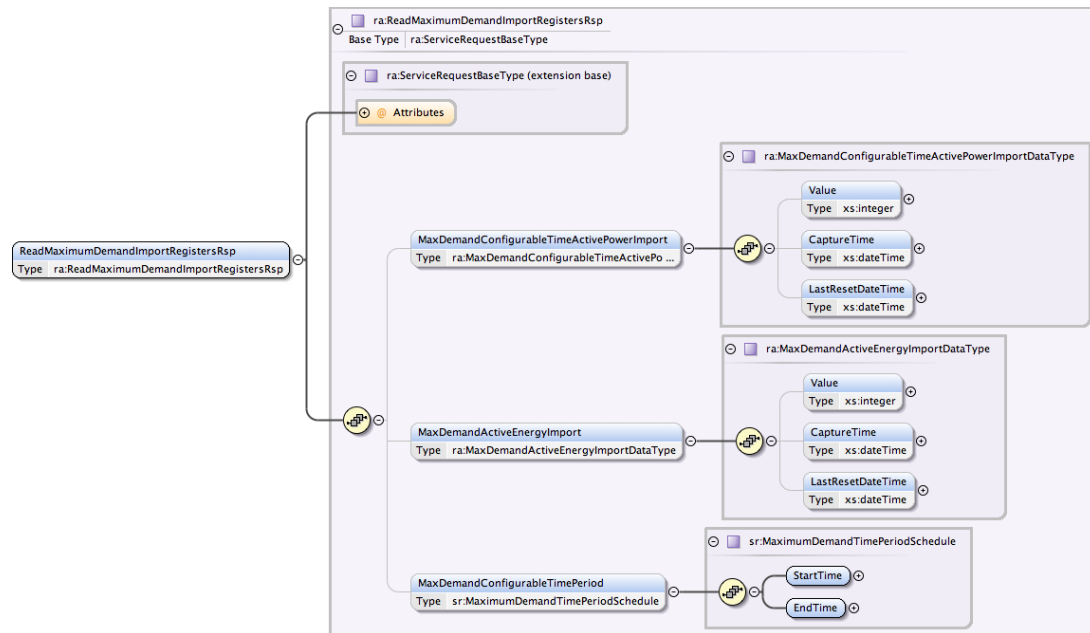


Figure 127 - Read Maximum Demand Import Registers Parse Response Structure

#### 4.12.1.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	002C
GBCS Use Case Number (for information only - not in header)	ECS18b
GBCS Use Case Name (for information only - not in header)	Read Maximum Demand Registers (import)
SupplementaryRemotePartyID	Present where DSP scheduled
SupplementaryRemotePartyCounter	Present where DSP scheduled
SupplementaryOriginatorCounter	Not Present
Timestamp	Present

Table 131 - Read Maximum Demand Import Registers Parse Response Header Data Items

#### 4.12.1.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
MaxDemandConfigurableTimeActivePowerImport	A store capable of holding the largest average value of Active Energy Import recorded in any 30 minute period (commencing at the start of minutes 00 and 30 in each hour) within the time period specified in Maximum Demand Configurable Time Period (including the UTC date and time at the end of the 30 minute period to which the data relates) since the value was last reset, together with the UTC date and time when the value was last reset, arranged such that the recording of a larger value shall cause the previous entry to be overwritten	ra:MaxDemandConfigurableTimeActivePowerImportDataType (see section 4.12.1.2.1.4)	None	N/A	Non-Sensitive
MaxDemandActiveEnergyImport	A store capable of holding the largest average value of Active Energy Import recorded in any 30 minute period (commencing at the start of minutes 00 and 30 in each hour and including the UTC date and time at the end of the 30 minute period to which the data relates) since the value was last, together with the UTC date and time when the value was last reset, arranged such that the recording of a larger value shall cause the previous entry to be overwritten.	ra:MaxDemandActiveEnergyImportDataType (see section 4.12.1.2.1.5)	None	N/A	Non-Sensitive
MaxDemandConfigurableTimePeriod	List of schedules defining the time periods when the Maximum Demand is to be stored	ra: MaximumDemandTimePeriodSchedule (see Annex 6 section 6.18.1.1.3 for the similar sr: MaximumDemandTimePeriodSchedule)	None	N/A	Non-Sensitive

Table 132 - Read Maximum Demand Import Registers Parse Response Body Data Items

## 4.12.1.2.1.4 MaxDemandConfigurableTimeActivePowerImportDataType Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Value	The largest average value of Active Power recorded in any 30 minute period (commencing at the start of minutes 00 and 30 in each hour) within the time period specified in Maximum Demand Configurable Time Period	xs:integer	None	W	Non-Sensitive
CaptureTime	The UTC date and time at the end of the 30 minute period to which the Value relates	xs:dateTime	None	UTC Date-Time	Non-Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LastResetDateTime	UTC date time at which the MaximumDemand(ConfigurableTime)ActiveEnergyImportValue.reset method was last used	xs:dateTime	None	UTC Date-Time	Non-Sensitive

**Table 133 - Read Maximum Demand Import Registers Parse Response - MaxDemandConfigurableTimeActivePowerImportDataType Specific Data Items**

#### 4.12.1.2.1.5 MaxDemandActiveEnergyImportDataType Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Value	The largest average value of Active Energy Import recorded in any 30 minute period (commencing at the start of minutes 00 and 30 in each hour) within the time period specified in Maximum Demand Configurable Time Period	xs:integer	None	W	Non-Sensitive
CaptureTime	The UTC date and time at the end of the 30 minute period to which the Value relates	xs:dateTime	None	UTC Date-Time	Non-Sensitive
LastResetDateTime	UTC date time at which the MaximumDemandActiveEnergyImportValue.reset method was last used	xs:dateTime	None	UTC Date-Time	Non-Sensitive

**Table 134 - Read Maximum Demand Import Registers Parse Response - MaxDemandActiveEnergyImportDataType Specific Data Items**

#### 4.12.1.2.1.6 Sample Response body

```
<ra:ReadMaximumDemandImportRegistersRsp MessageSuccess="true">
  <ra:MaxDemandConfigurableTimeActivePowerImport>
    <ra:Value>50</ra:Value>
    <ra:CaptureTime>2014-08-23T09:00:00.00</ra:CaptureTime>
    <ra:LastResetDateTime>2006-05-04T18:13:51.00</ra:LastResetDateTime>
  </ra:MaxDemandConfigurableTimeActivePowerImport>
  <ra:MaxDemandActiveEnergyImport>
    <ra:Value>50</ra:Value>
    <ra:CaptureTime>2014-08-23T09:00:00.00</ra:CaptureTime>
    <ra:LastResetDateTime>2006-05-04T18:13:51.00</ra:LastResetDateTime>
  </ra:MaxDemandActiveEnergyImport>
  <ra:MaxDemandConfigurableTimePeriod>
    <ra:StartTime>06:00:00.00</ra:StartTime>
    <ra:EndTime>18:00:00.00</ra:EndTime>
  </ra:MaxDemandConfigurableTimePeriod>
</ra:ReadMaximumDemandImportRegistersRsp>
```

**Figure 128 - Read Maximum Demand Import Registers Parse Response Sample**

## 4.12.2 Read Maximum Demand Export Registers (4.12.2)

Service Request Name	ReadMaximumDemandRegisters
Service Reference	4.12

Service Request Variant Name	ReadMaximumDemandExportRegisters	
Service Reference Variant	4.12.2	
Service Request Objective	To enable a DCC Service user to read the maximum demand export register values recorded on an ESME.	
Business Context Statement	The DCC Service user has conducted a network analysis survey for network planning purposes and wishes to retrieve maximum demand values.	
User Role Access	<ul style="list-style-type: none"> <li>Electricity Export Supplier (EES)</li> <li>Electricity Network Operator (ENO)</li> </ul>	
Security Classification	Non-critical and non-sensitive: GBCS XREF: SME.C.NC	
Service Request Narrative	<ol style="list-style-type: none"> <li>This Service Request returns all the Maximum Demand Export Registers available at the meter. It isn't possible to request a subset of them.</li> <li>This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule).</li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x002B	N/A
GBCS Use Case	ECS18a	N/A
GBCS Use Case Name	Read Maximum Demand Registers (export)	N/A
SMETS1 Applicability	No	No

**Table 135 Read Maximum Demand Export Registers Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

#### 4.12.2.1 Service Request

##### 4.12.2.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadMaximumDemandExportRegisters XML element defines this Service Request and, for Future Dated Requests, contains the Execution Date and Time.

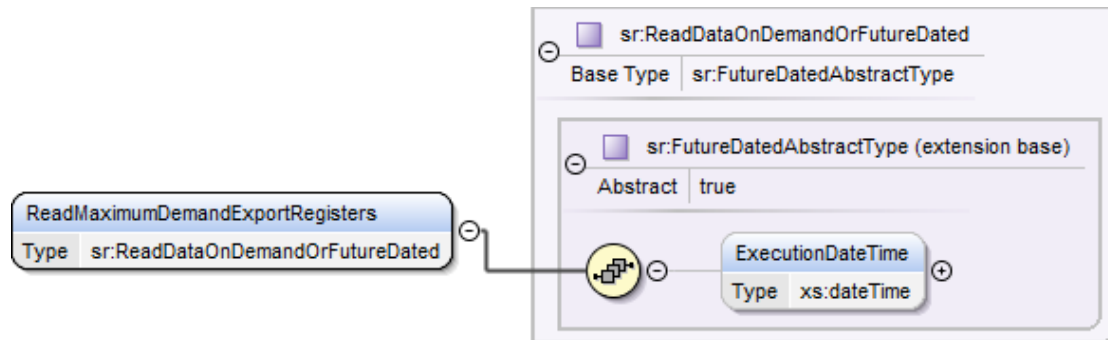


Figure 129 Read Maximum Demand Export Registers Service Request Structure (Ad-hoc)

Create Schedule: Its DSPReadMaximumDemandExportRegisters XML element defines this Service Request and doesn't contain any data items.

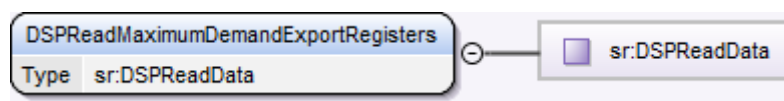


Figure 130 Read Maximum Demand Export Registers Service Request Structure (Create Schedule)

#### 4.12.2.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

##### 4.12.2.1.2.1 ReadMaximumDemandExortRegisters (Ad-hoc)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive

Table 136 Read Maximum Demand Export Registers Service Request Data Items (Ad-hoc)

##### 4.12.2.1.2.2 DSPReadMaximumDemandExportRegisters (Create Schedule)

N/A

#### 4.12.2.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
No	Yes	No	DSP	Yes

Table 137 Read Maximum Demand Export Registers Modes of Operation

#### 4.12.2.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
Yes	Yes	Yes	No	No	No	No	No

**Table 138 Read Maximum Demand Export Registers Command Variant Values (Ad-hoc)**

#### 4.12.2.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for Execution Date Time validation.

#### 4.12.2.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadMaximumDemandExportRegisters>
<ExecutionDateTime>2014-05-01T02:05:00.00Z</ExecutionDateTime>
</ReadMaximumDemandExportRegisters>
```

**Figure 131 Sample Read Maximum Demand Export Registers Service Request (Body) Format (Ad-hoc)**

#### 4.12.2.2 Responses

The response messages for a "Read Maximum Demand Export Registers" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

When this Service Request is run as DSP Scheduled, the Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.12.2.2.1 Parse Output Format

##### 4.12.2.2.1.1 Format - ReadMaximumDemandExportRegistersRsp

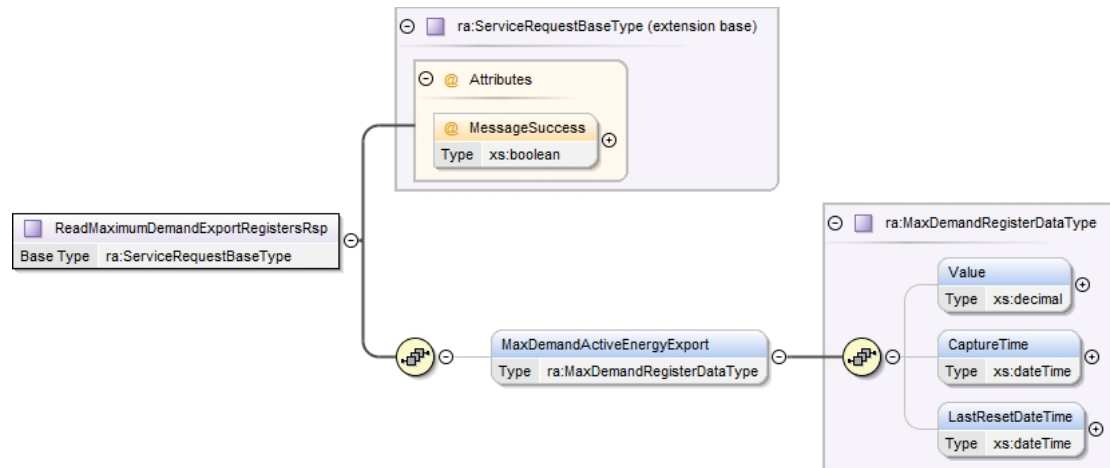


Figure 132 - Read Maximum Demand Export Registers Parse Response Structure

#### 4.12.2.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	002B
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS18a</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read Maximum Demand Registers (export)</i>
SupplementaryRemotePartyID	Present where DSP scheduled or originator is a URP
SupplementaryRemotePartyCounter	Present where DSP scheduled or originator is a URP
SupplementaryOriginatorCounter	Not Present
Timestamp	Present

Table 139 - Read Maximum Demand Export Registers Parse Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.12.2.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
MaxDemandActiveEnergyExport	A store capable of holding the largest average value of Active Energy Export recorded in any 30 minute period (commencing at the start of minutes 00 and 30 in each hour and including the UTC date and time at the end of the 30 minute period to which the data relates) since the value was last, together with the UTC date and time when the value was last reset, arranged such that the recording of a larger value shall cause the previous entry to be overwritten.	ra:MaxDemandRegisterDataType (see section 4.12.2.2.1.4)	None	N/A	Non-Sensitive

Table 140 - Read Maximum Demand Export Registers Parse Response Body Data Items

#### 4.12.2.2.1.4 MaxDemandRegisterDataType Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Value	The largest average value of Active Energy Export recorded in any 30 minute period (commencing at the start of minutes 00 and 30 in each hour) within the time period specified in Maximum Demand Configurable Time Period	xs:integer	None	W	Non-Sensitive
CaptureTime	The UTC date and time at the end of the 30 minute period to which the Value relates	xs:dateTime	None	UTC Date-Time	Non-Sensitive
LastResetDateTime	UTC date time at which the MaximumDemandActiveEnergyExportValue.reset method was last used	xs:dateTime	None	UTC Date-Time	Non-Sensitive

Table 141 - Read Maximum Demand Import Registers Parse Response - MaxDemandRegisterDataType Specific Data Items

#### 4.12.2.2.1.5 Sample Response

```
<ra:ReadMaximumDemandExportRegistersRsp MessageSuccess="true">
  <ra:MaxDemandActiveEnergyExport>
    <ra:Value>50</ra:Value>
    <ra:CaptureTime>2014-08-23T09:00:00.00</ra:CaptureTime>
    <ra:LastResetDateTime>2014-06-12T10:00:00.00</ra:LastResetDateTime>
  </ra:MaxDemandActiveEnergyExport>
</ra:ReadMaximumDemandExportRegistersRsp>
```

Figure 133 - Read Maximum Demand Export Registers Parse Response Sample

## 4.13 Read Prepayment Configuration (4.13)

Service Request Name	ReadPrepaymentConfiguration
----------------------	-----------------------------

Service Reference	4.13	
Service Request Variant Name	ReadPrepaymentConfiguration	
Service Reference Variant	4.13	
Service Request Objective	To enable a DCC Service user to determine the prepayment specific configuration data that has been set on a smart meter. NB This Service request provides response for the configuration settings of the prepayment, rather than register values which may be retrieved using Service Request 4.3 (see section 4.3)	
Business Context Statement	The DCC Service User wishes to establish the basis on which the meter (operating in prepayment) mode is operating in response to a customer query.	
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>	
Security Classification	Non-critical and non-sensitive SMETS2 or later: GBCS XREF: <i>SME.C.NC</i>	
Service Request Narrative (SMETS2 or later)	<p>This Service Request returns all the Prepayment Configuration data available at the meter as set up by Service Request 2.1 Update Prepay Configuration (see Annex section 2). It isn't possible to request the reading of a subset of the data.</p> <p>For reading the prepayment configuration values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</p> <p>Users are advised not to read the Prepayment Configuration from an ESME or GSME prior to the DebtRecoveryRatePeriod values being set using DUIS Service Request 2.1 Update Prepay Configuration and 2.3 Update Debt, as there is a risk that it could cause an error in Parse software.</p>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x003B	0x00B5
GBCS Use Case	ECS26a	GCS21b
GBCS Use Case Name	Read ESME Configuration Data Prepayment	Read GSME Configuration Data Prepayment
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:	

	<ol style="list-style-type: none"> <li>1. The DCC shall set the values of MaxCreditMaxMeterBalance and CreditMaxCreditThreshold in the SMETS1 Response to the relevant Unsupported Values (see section 19.9).</li> <li>2. For similar reasons, DCC Service Users are advised not to read the Prepayment Configuration from an ESME or GSME prior to the DebtRecoveryRatePeriod values being set using DUIS Service Request 2.1 Update Prepay Configuration and 2.3 Update Debt, as there is a risk that it could cause unexpected behaviour in responses</li> </ol>
--	---

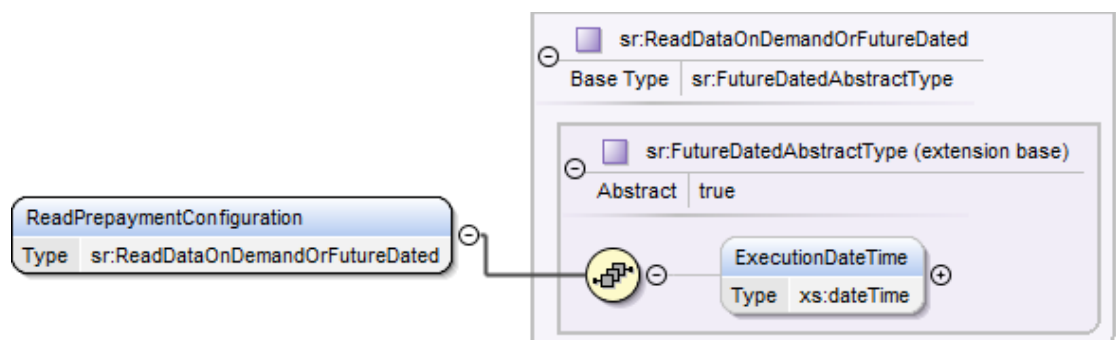
**Table 142 Read Prepayment Configuration Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.13.1 Service Request

### 4.13.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadPrepaymentConfiguration XML element defines this Service Request and only contains the Execution Date Time for Future Dated requests.



**Figure 134 Read Prepayment Configuration Service Request Structure**

### 4.13.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	<p>The UTC date and time the DCC Service User requires the command to be executed on the Device ID</p> <ul style="list-style-type: none"> <li>• Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive

**Table 143 Read Prepayment Configuration Service Request Data Items**

### 4.13.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

Table 144 Read Prepayment Configuration Modes of Operation

#### 4.13.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 145 Read Prepayment Configuration Command Variant Values

#### 4.13.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time validation.

#### 4.13.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

<ReadPrepaymentConfiguration/>

Figure 135 Sample Read Prepayment Configuration Service Request Format

### 4.13.2 Responses

The response messages for a "Read Prepayment Configuration" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.13.2.1 Parse Output / SMETS1 Response Format

##### 4.13.2.1.1 Format - ReadPrepaymentConfigurationRsp

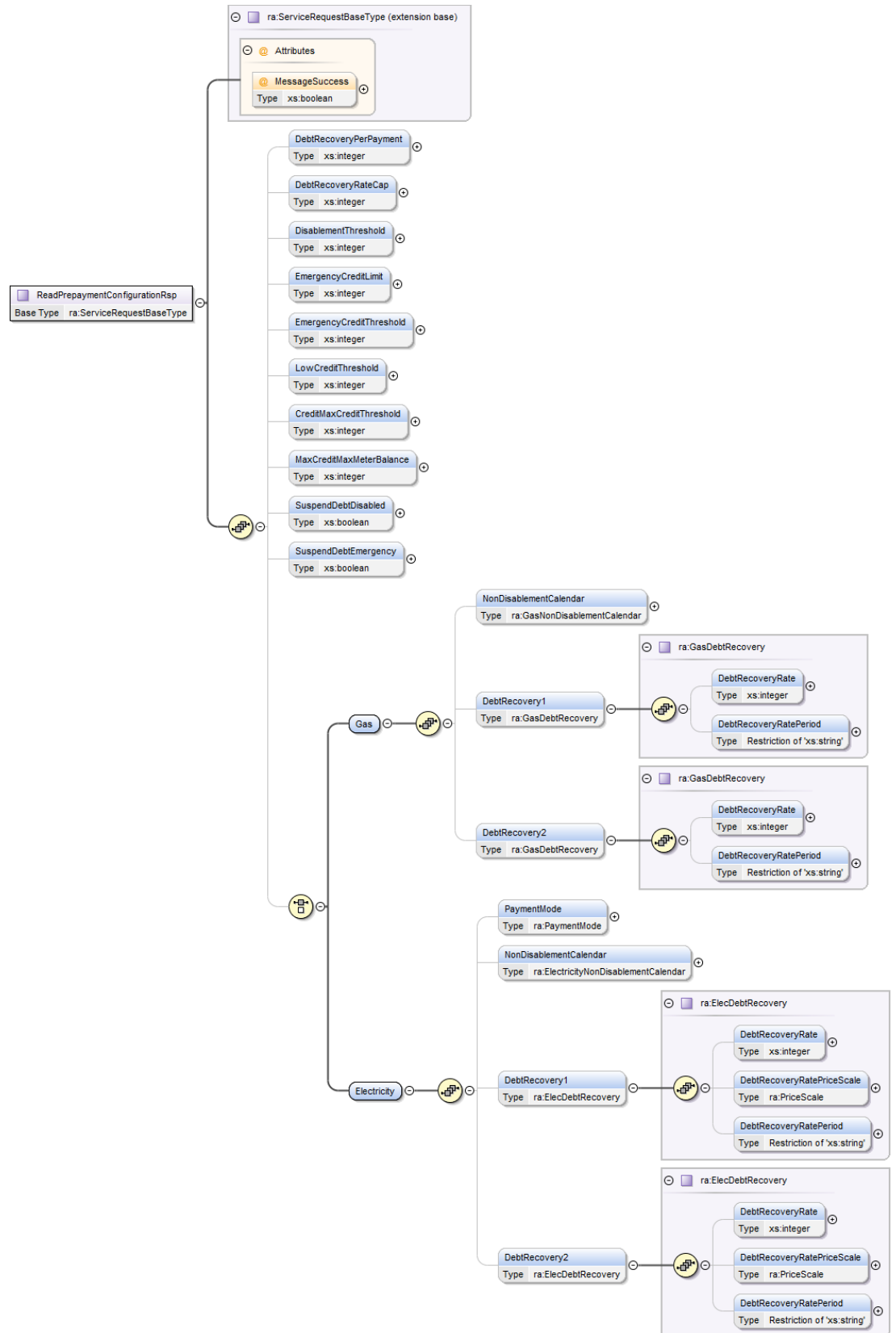


Figure 136 - Read Prepayment Configuration Parse Response / SMETS1 Response Structure

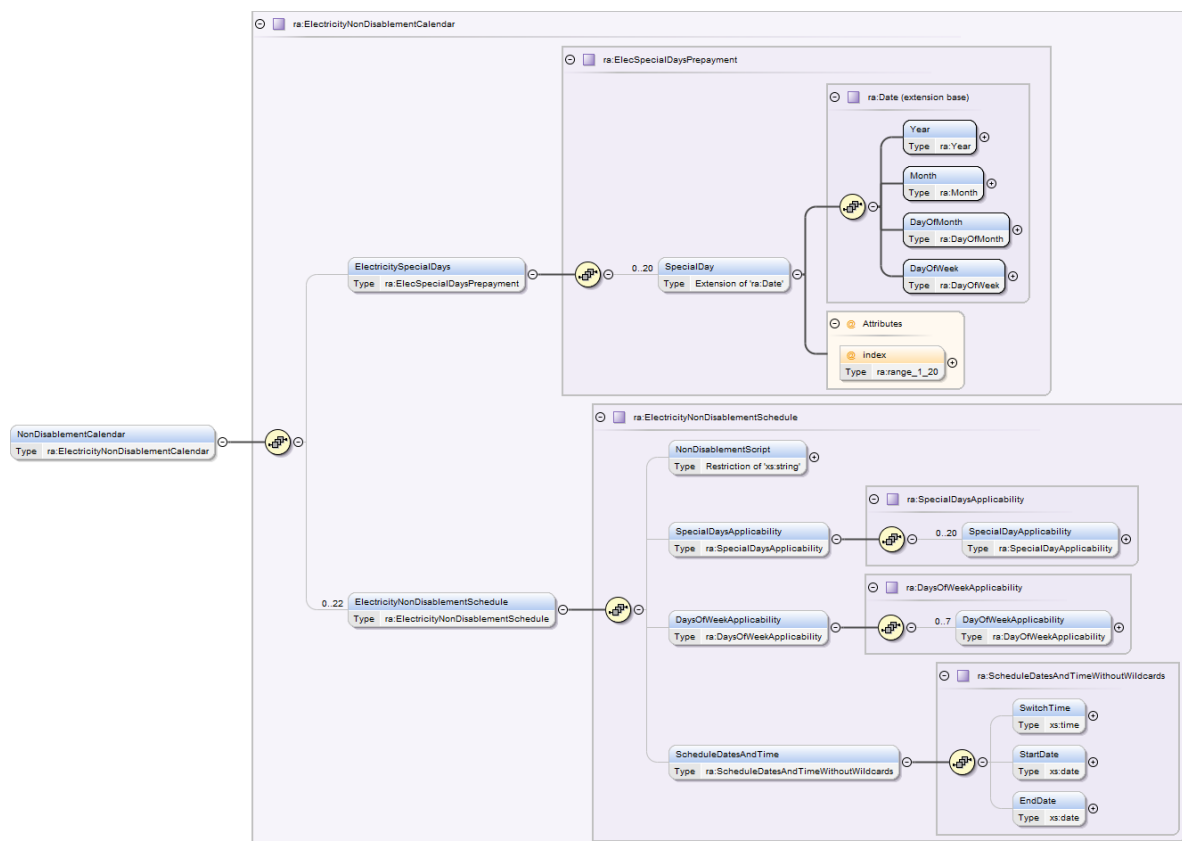


Figure 137 - Read Prepayment Configuration Parse Response / SMETS1 Response – Electricity Non-Disablement Calendar

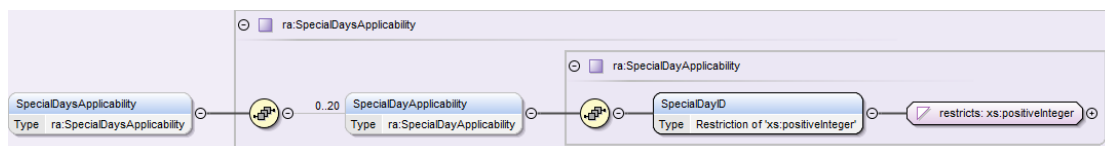


Figure 138 - Read Prepayment Configuration Parse Response / SMETS1 Response – Electricity SpecialDaysApplicability

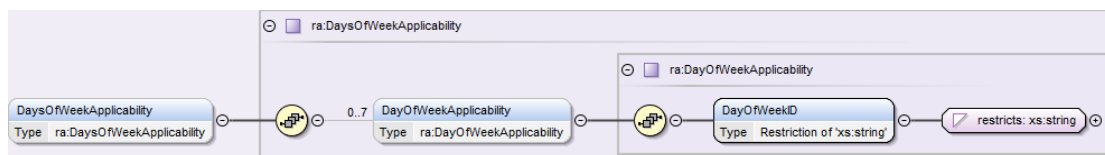


Figure 139 - Read Prepayment Configuration Parse Response / SMETS1 Response – Electricity DaysOfWeekApplicability

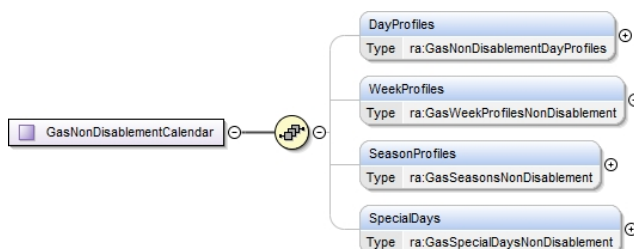


Figure 140 - Read Prepayment Configuration Parse Response / SMETS1 Response – Gas Non-Disablement Calendar

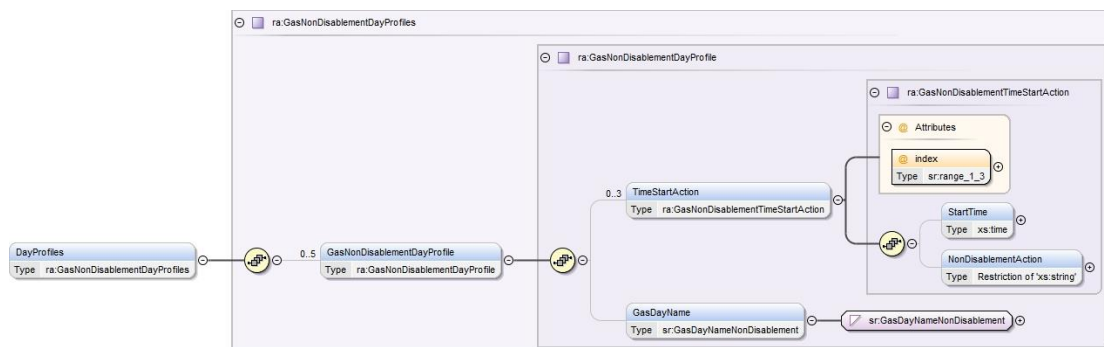


Figure 141 - Read Prepayment Configuration Parse Response / SMETS1 Response – Gas DayProfiles

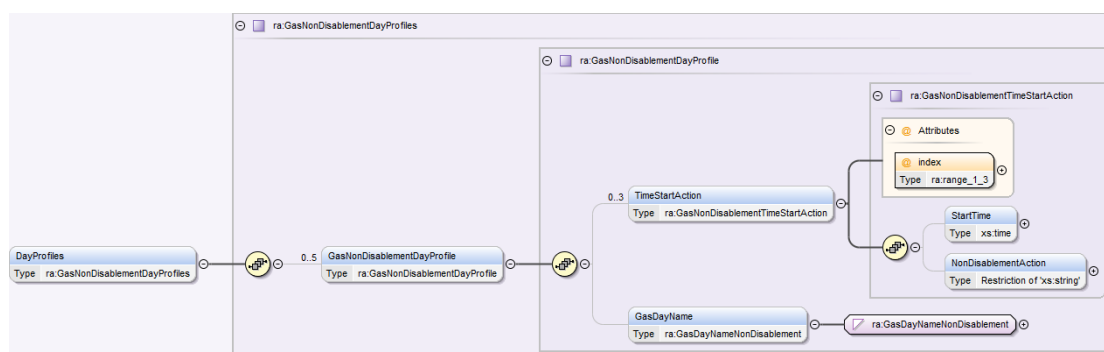


Figure 142 - Read Prepayment Configuration Parse Response / SMETS1 Response – Gas WeekProfiles

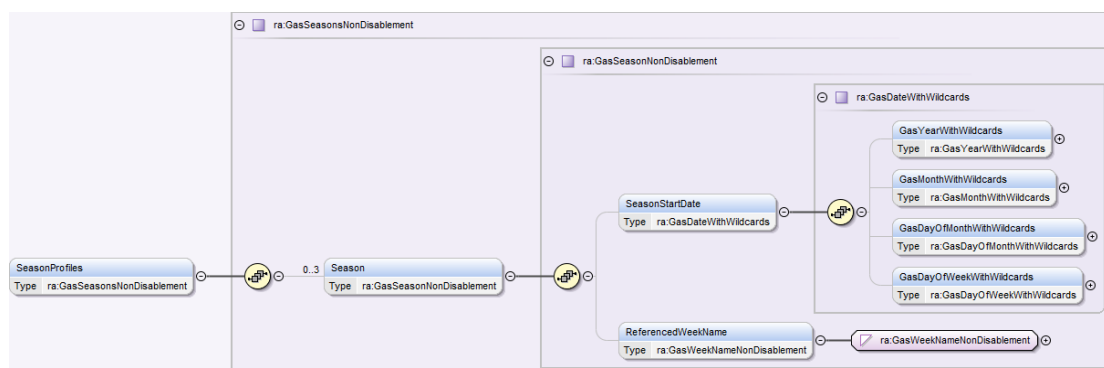


Figure 143 - Read Prepayment Configuration Parse Response / SMETS1 Response – Gas SeasonProfiles

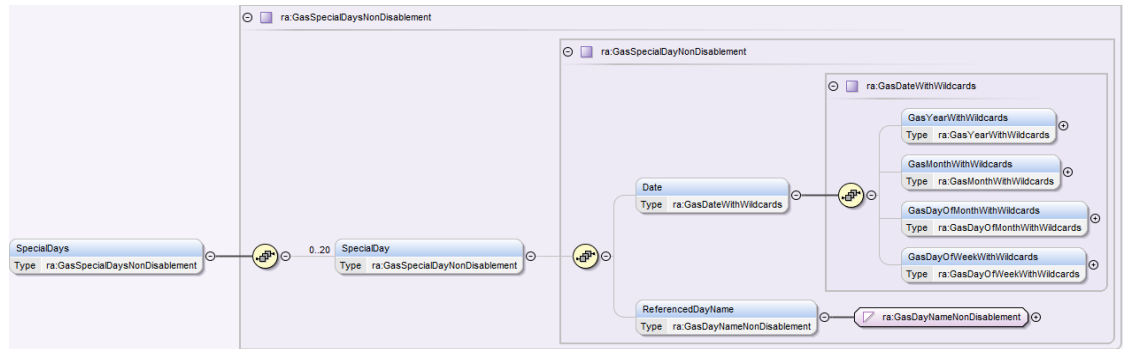


Figure 144 - Read Prepayment Configuration Parse Response / SMETS1 Response – Gas SpecialDays

#### 4.13.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	003B	00B5
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS26a</i>	<i>GCS21b</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read ESME Configuration Data Prepayment</i>	<i>Read GSME Configuration Data Prepayment</i>
SupplementaryRemotePartyID	Not Present	Not Present
SupplementaryRemotePartyCounter	Not Present	Not Present
SupplementaryOriginatorCounter	Not Present	Not Present
Timestamp	Not Present	Not Present

Table 146 - Read Prepayment Configuration Parse/SMETS1 Response Header Data Items

#### 4.13.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
DebtRecoveryPayment	The percentage of a payment to be recovered against debt when the Meter is operating Payment-based Debt Recovery in Prepayment Mode. Valid set:  >= 0 and <= 10000 (100.00%)	xs:integer	None	0.01%	Non-Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
DebtRecoveryRateCap	The maximum amount in Currency Units per unit time (week) that can be recovered through Payment-based Debt Recovery when the Meter is operating in Prepayment Mode.	xs:integer	None	Electricity: GBP / ECB per week  Gas: 1000 <sup>th</sup> pence / cent per week	Non-Sensitive
DisablementThreshold	The threshold in Currency Units for controlling when to Disable the Supply.	xs:integer	None	1000 <sup>th</sup> pence / cent	Non-Sensitive
EmergencyCreditLimit	The amount of Emergency Credit in Currency Units to be made available to a Consumer when Emergency Credit is activated by the Consumer.	xs:integer	None	1000 <sup>th</sup> pence / cent	Non-Sensitive
EmergencyCreditThreshold	The threshold in Currency Units below which Emergency Credit may be activated by the Consumer, if so configured, when the Meter is operating in Prepayment Mode.	xs:integer	None	1000 <sup>th</sup> pence / cent	Non-Sensitive
LowCreditThreshold	The threshold in Currency Units below which a low credit Alert is signalled.	xs:integer	None	1000 <sup>th</sup> pence / cent	Non-Sensitive
CreditMaxCreditThreshold	Maximum amount of credit permitted per top up. SMETS1: The DCC shall set this value to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter.	xs:integer	None	1000 <sup>th</sup> pence / cent	Non-Sensitive
MaxCreditMaxMeterBalance	Maximum amount of credit permitted on meter. SMETS1: The DCC shall set this value to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter.	xs:integer	None	1000 <sup>th</sup> pence / cent	Non-Sensitive

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
SuspendDebtDisabled (Electricity only)	<p>A setting controlling whether debt should be collected when the Meter is operating in Prepayment Mode and Supply is Disabled. See SMETS for details.</p> <ul style="list-style-type: none"> <li>true: If the supply is disabled due to lack of credit, then the Meter shall not collect the Time Debts however the Standing Charge is still collected from the Meter Balance</li> <li>false: If the supply is disabled due to lack of credit, then the Meter shall collect the Time Debts and the Standing Charge from the Meter Balance</li> </ul>	xs:Boolean	None	N/A	Non-Sensitive
SuspendDebtEmergency (Electricity only)	<p>A setting controlling whether debt should be collected when the Meter is operating in Prepayment Mode and Emergency Credit has been activated. See SMETS for details.</p> <ul style="list-style-type: none"> <li>true: If Emergency Credit is in use, then the Meter shall not collect the Standing Charge or Time Debts from the Emergency Credit Balance and will instead increment the Accumulated Debt Register</li> <li>false: If Emergency Credit is in use, then the Meter shall collect the Standing Charge and Time Debts from the Emergency Credit Balance</li> </ul>	xs:Boolean	None	N/A	Non-Sensitive

Table 147 - Read Prepayment Configuration Parse Response / SMETS1 Response Body Data Items

<sup>1</sup> ra: data type is identical to the corresponding sr: data type, except that in ra: all the components are optional

#### 4.13.2.1.4 Gas Only Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Gas NonDisablementCalendar	Calendar defining the time periods when Non-Disablement applies or doesn't apply Gas Only	ra: GasNonDisablementCalendar <sup>1</sup> (see Annex section 2.1 for the similar sr: GasNonDisablementCalendar)	None	N/A	Non-Sensitive
Gas DebtRecovery1	Structure defining the Debt Recovery Gas Only	ra:GasDebtRecovery (See 4.13.2.1.7)	None	N/A	Non-Sensitive

Gas DebtRecovery2	Structure defining the Debt Recovery Gas Only	ra:GasDebtRecovery (See 4.13.2.1.7)	None	N/A	Non-Sensitive
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#### 4.13.2.1.5 Electricity Only Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
PaymentMode	The payment mode in which the meter is operating. Valid set: <ul style="list-style-type: none"> <li>Prepayment</li> <li>Credit</li> </ul>	Restriction of xs:string (enumeration)	None	N/A	Non-sensitive
Electricity NonDisablementCalendar	Structure defining the Non Disablement schedules Electricity Only	ra: ElectricityNonDisablementCalendar (see Annex section 2.1 for the similar sr: ElectricityNonDisablementCalendar)	None	N/A	Non-Sensitive
Electricity DebtRecovery1	Structure defining the Debt Recovery Electricity Only	ra:ElecDebtRecovery (See 4.13.2.1.6)	None	N/A	Non-Sensitive
Electricity DebtRecovery2	Structure defining the Debt Recovery Electricity Only	ra:ElecDebtRecovery (See 4.13.2.1.6)	None	N/A	Non-Sensitive

#### 4.13.2.1.6 Electricity Debt Recovery Type

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
DebtRecoveryRate	Debt recovery rate in Currency Units per unit time for the first time-based debt recovery register when the Meter is using Time-based Debt Recovery in Prepayment Mode. The period over which this debt is recovered is set in the DebtRecoveryRatePeriod field.	xs:integer	None	Value when multiplied by the scale is GBP/EUROs	Non-Sensitive
DebtRecoveryRatePriceScale	A multiplier applied to the DebtRecoveryRatevalue. Note this is the value of n in 10^n (10 to the power of n). For example a DebtRecoveryRate of 1 and a DebtRecoveryRatePriceScale of -2 would result in a DebtRecoveryRate of £0.01	ra:PriceScale (Restriction of xs:integer minimum = -128, maximum=127)	None	N/A	Non-Sensitive
DebtRecoveryRatePeriod	The period after which the debt is recovered. For an Electricity meter this can be; <ul style="list-style-type: none"> <li>HOURLY</li> <li>DAILY</li> <li>WEEKLY</li> <li>MONTHLY</li> <li>QUARTERLY</li> </ul>	Restriction of xs:string (Enumeration)	None	N/A	Non-Sensitive

#### 4.13.2.1.7 Gas Debt Recovery Type

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
DebtRecoveryRate	Debt recovery rate in Currency Units per unit time for the first time-based debt recovery register when the Meter is using Time-based Debt Recovery in Prepayment Mode.	xs:integer	None	1000 <sup>th</sup> Pence / cent per Day	Non-Sensitive
DebtRecoveryRatePeriod	The unit time in which DebtRecoveryRate1 will apply. <ul style="list-style-type: none"> <li>HOURLY</li> <li>DAILY</li> </ul>	Restriction of xs:string (Enumeration)	None	N/A	Non-Sensitive

#### Sample Response

<pre> &lt;ra:ReadPrepaymentConfigurationRsp MessageSuccess="true"&gt;   &lt;ra:DebtRecoveryPerPayment&gt;25&lt;/ra:DebtRecoveryPerPayment&gt;   &lt;ra:DebtRecoveryRateCap&gt;50&lt;/ra:DebtRecoveryRateCap&gt;   &lt;ra:DisablementThreshold&gt;10000&lt;/ra:DisablementThreshold&gt;   &lt;ra:EmergencyCreditLimit&gt;50&lt;/ra:EmergencyCreditLimit&gt;   &lt;ra:EmergencyCreditThreshold&gt;500000&lt;/ra:EmergencyCreditThreshold&gt;   &lt;ra:LowCreditThreshold&gt;500000&lt;/ra:LowCreditThreshold&gt;   &lt;ra:CreditMaxCreditThreshold&gt;500000&lt;/ra:CreditMaxCreditThreshold&gt;   &lt;ra:MaxCreditMaxMeterBalance&gt;500000&lt;/ra:MaxCreditMaxMeterBalance&gt;   &lt;ra:SuspendDebtDisabled&gt;true&lt;/ra:SuspendDebtDisabled&gt;   &lt;ra:SuspendDebtEmergency&gt;true&lt;/ra:SuspendDebtEmergency&gt;   &lt;ra:Electricity&gt;     &lt;ra:PaymentMode&gt;Prepayment&lt;/ra:PaymentMode&gt;   &lt;/ra:Electricity&gt; &lt;/ra:ReadPrepaymentConfigurationRsp&gt; </pre>	<p>← See <a href="#">Figure 146</a> for details of Electricity Non-Disablement Calendar →</p>
---	---

Figure 145 - Read Prepayment Configuration Parse Response Sample – Electricity

```
<ra:NonDisablementCalendar>
  <ra:ElectricitySpecialDays>
    <ra:SpecialDay index="1">
      <ra:Year>
        <ra:SpecifiedYear>2015</ra:SpecifiedYear>
      </ra:Year>
      <ra:Month>
        <ra:SpecifiedMonth>6</ra:SpecifiedMonth>
      </ra:Month>
      <ra:DayOfMonth>
        <ra:SpecifiedDayOfMonth>16</ra:SpecifiedDayOfMonth>
      </ra:DayOfMonth>
      <ra:DayOfWeek>
        <ra:NonSpecifiedDayOfWeek/>
      </ra:DayOfWeek>
    </ra:SpecialDay>
  </ra:ElectricitySpecialDays>
  <ra:ElectricityNonDisablementSchedule>
    <ra:NonDisablementScript>START</ra:NonDisablementScript>
    <ra:SpecialDaysApplicability>
      <ra:SpecialDayApplicability>
        <ra:SpecialDayID>1</ra:SpecialDayID>
      </ra:SpecialDayApplicability>
    </ra:SpecialDaysApplicability>
    <ra:DaysOfWeekApplicability>
      <ra:DayOfWeekApplicability>
        <ra:DayOfWeekID>Monday</ra:DayOfWeekID>
      </ra:DayOfWeekApplicability>
      <ra:DayOfWeekApplicability>
        <ra:DayOfWeekID>Tuesday</ra:DayOfWeekID>
      </ra:DayOfWeekApplicability>
    </ra:DaysOfWeekApplicability>
    <ra:ScheduleDatesAndTime>
      <ra:SwitchTime>01:01:01.00</ra:SwitchTime>
      <ra:StartDate>2015-09-07</ra:StartDate>
      <ra:EndDate>2020-12-31</ra:EndDate>
    </ra:ScheduleDatesAndTime>
  </ra:ElectricityNonDisablementSchedule>
</ra:NonDisablementCalendar>
```

**Figure 146 - Read Prepayment Configuration Parse Response Sample – Electricity Non-Disablement Calendar**

```
<ra:ReadPrepaymentConfigurationRsp MessageSuccess="true">
  <ra:DebtRecoveryPerPayment>25</ra:DebtRecoveryPerPayment>
  <ra:DebtRecoveryRateCap>500000</ra:DebtRecoveryRateCap>

  <ra:DisablementThreshold>10000</ra:DisablementThreshold>
  <ra:EmergencyCreditLimit>500000</ra:EmergencyCreditLimit>
  <ra:EmergencyCreditThreshold>500000</ra:EmergencyCreditThreshold>
  <ra:LowCreditThreshold>500000</ra:LowCreditThreshold>
  <ra:CreditMaxCreditThreshold>500000</ra:CreditMaxCreditThreshold>
  <ra:MaxCreditMaxMeterBalance>500000</ra:MaxCreditMaxMeterBalance>

  <ra:Gas>

  ← See Figure 148 for details of Gas Non-Disablement Calendar →
  <ra:DebtRecovery1>
    <ra:DebtRecoveryRate>500000</ra:DebtRecoveryRate>
    <ra:DebtRecoveryRatePeriod>DAILY</ra:DebtRecoveryRatePeriod>
  </ra:DebtRecovery1>
  <ra:DebtRecovery2>
    <ra:DebtRecoveryRate>500000</ra:DebtRecoveryRate>
    <ra:DebtRecoveryRatePeriod>DAILY</ra:DebtRecoveryRatePeriod>
  </ra:DebtRecovery2>
  </ra:Gas>
</ra:ReadPrepaymentConfigurationRsp>
```

**Figure 147 - Read Prepayment Configuration Parse Response Sample – Gas**

```
<ra:NonDisablementCalendar>
  <ra:DayProfiles>
    <ra:GasNonDisablementDayProfile>
      <ra:TimeStartAction index="1">
        <ra:StartTime>00:00:00.00</ra:StartTime>
        <ra:NonDisablementAction>START</ra:NonDisablementAction>
      </ra:TimeStartAction>
      <ra:TimeStartAction index="2">
        <ra:StartTime>01:00:00.00</ra:StartTime>
        <ra:NonDisablementAction>STOP</ra:NonDisablementAction>
      </ra:TimeStartAction>
      <ra:GasDayName>3</ra:GasDayName>
    </ra:GasNonDisablementDayProfile>
  </ra:DayProfiles>
  <ra:WeekProfiles>
    <ra:WeekProfile>
      <ra:WeekName>01</ra:WeekName>
      <ra:ReferencedDayName index="1">01</ra:ReferencedDayName>
      <ra:ReferencedDayName index="2">01</ra:ReferencedDayName>
      <ra:ReferencedDayName index="3">01</ra:ReferencedDayName>
      <ra:ReferencedDayName index="4">01</ra:ReferencedDayName>
      <ra:ReferencedDayName index="5">01</ra:ReferencedDayName>
      <ra:ReferencedDayName index="6">02</ra:ReferencedDayName>
      <ra:ReferencedDayName index="7">02</ra:ReferencedDayName>
    </ra:WeekProfile>
  </ra:WeekProfiles>
  <ra:SeasonProfiles>
    <ra:Season>
      <ra:SeasonStartDate>
        <ra:GasYearWithWildcards><ra:SpecifiedYear>2015</ra:SpecifiedYear></ra:GasYearWithWildcards>
        <ra:GasMonthWithWildcards><ra:SpecifiedMonth>12</ra:SpecifiedMonth></ra:GasMonthWithWildcards>
        <ra:GasDayOfMonthWithWildcards><ra:SpecifiedDayOfMonth>1</ra:SpecifiedDayOfMonth></ra:GasDayOfMonthWithWildcards>
        <ra:GasDayOfWeekWithWildcards>
          <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
        </ra:GasDayOfWeekWithWildcards>
      </ra:SeasonStartDate>
      <ra:ReferencedWeekName>1</ra:ReferencedWeekName>
    </ra:Season>
  </ra:SeasonProfiles>
  <ra:SpecialDays>
    <ra:SpecialDay>
      <ra:Date>
        <ra:GasYearWithWildcards><ra:SpecifiedYear>2015</ra:SpecifiedYear></ra:GasYearWithWildcards>
        <ra:GasMonthWithWildcards><ra:SpecifiedMonth>1</ra:SpecifiedMonth></ra:GasMonthWithWildcards>
        <ra:GasDayOfMonthWithWildcards><ra:SpecifiedDayOfMonth>1</ra:SpecifiedDayOfMonth></ra:GasDayOfMonthWithWildcards>
        <ra:GasDayOfWeekWithWildcards>
          <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
        </ra:GasDayOfWeekWithWildcards>
      </ra:Date>
      <ra:ReferencedDayName>1</ra:ReferencedDayName>
    </ra:SpecialDay>
    <ra:SpecialDay>
      <ra:Date>
        <ra:GasYearWithWildcards><ra:SpecifiedYear>2015</ra:SpecifiedYear></ra:GasYearWithWildcards>
        <ra:GasMonthWithWildcards><ra:SpecifiedMonth>12</ra:SpecifiedMonth></ra:GasMonthWithWildcards>
        <ra:GasDayOfMonthWithWildcards><ra:SpecifiedDayOfMonth>25</ra:SpecifiedDayOfMonth></ra:GasDayOfMonthWithWildcards>
        <ra:GasDayOfWeekWithWildcards>
          <ra:NonSpecifiedDayOfWeek></ra:NonSpecifiedDayOfWeek>
        </ra:GasDayOfWeekWithWildcards>
      </ra:Date>
      <ra:ReferencedDayName>3</ra:ReferencedDayName>
    </ra:SpecialDay>
  </ra:SpecialDays>
</ra:NonDisablementCalendar>
```

Figure 148 - Read Prepayment Configuration Parse Response Sample – Gas Non-Disablement Calendar

#### 4.14 Read Prepayment Daily Read Log (4.14)

Service Request Name	ReadPrepaymentDailyReadLog
Service Reference	4.14
Service Request Variant Name	ReadPrepaymentDailyReadLog

Service Reference Variant	4.14
Service Request Objective	To enable a DCC Service User to obtain a Daily Read Log entry from an ESME, GPF/GSME for a specified date-time period.
Business Context Statement	Enables a DCC Service User to request the retrieval of a stored Daily Read Log entry for a specific date period (Enables a reading at a specific time (e.g. midnight) to be retrieved at a later time (for example on change of Supplier).
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>
Security Classification	Non-critical, Request is non-sensitive and Response is sensitive GBCS XREF: SME.C.NC
Service Request Narrative	<ol style="list-style-type: none"> <li>The <i>Prepayment Daily Read Log</i>, as defined by SMETS, is a log capable of storing thirty one UTC date and time stamped entries of; <ul style="list-style-type: none"> <li><i>Meter Balance</i></li> <li><i>Emergency Credit Balance</i>,</li> <li><i>Accumulated Debt Register</i>,</li> <li><i>Payment Debt Register</i> and</li> <li><i>Time Debt Registers [1 ... 2]</i></li> </ul> <p>arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten.</p> </li> <li>This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule). In all cases, if the sender is not authorised to read data for the entire period requested, an error will be returned.</li> <li>Ad-hoc: Available to User Roles with access to the Device during the entire date-time range requested. This could be the 'current' or the 'old' Registered Supplier. Because this Service Request returns Sensitive data, URPs (i.e. the 'old' Registered Supplier), have to include in the Request the Public Security Credentials they want the Device to sign the Response with. <ol style="list-style-type: none"> <li>Access Control will allow the 'old' Registered Import Supplier and the 'current' Registered Import Supplier to read the Prepayment Daily Read Log entry for a CoS Date identified from registration data.</li> </ol> </li> <li>DSP Scheduled: Available to User Roles with access to the Device at the time the Schedule is created. This will never be the 'old' Registered Supplier. Note also that this Service Request should not be scheduled for a GSME as the GSME will reject the commands if sent by the DSP as part of a schedule. The GPF should be the target device for DSP Scheduled commands.</li> <li>This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents.</li> </ol>

	<p>6. For reading the prepayment daily read log values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</p> <p>7. Only the registered GIS may successfully request RetrieveBillingCalendarTriggeredBillingDataLog data from the GSME direct, all previously registered GIS Users must target the Service Request to the GPF.</p> <p>8. Due to variable device implementation, DSP adds one second to the end time to ensure that results will always include the end time of the period required. However, this means that if the intention is to exclude the end time then the DCC Service User should subtract two seconds from the end time of the period to ensure exclusivity. For example:</p> <ul style="list-style-type: none"> <li>To ensure inclusive, use 20/11/2018 00:00:00,</li> <li>To ensure exclusive, use 19/11/2018 23:59:58</li> </ul> <p>9.</p>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0034	0x0096
GBCS Use Case	ECS21b	GCS16b
GBCS Use Case Name	Read Electricity (Prepayment) Daily Read Log	Read GSME Daily Read log(s) (prepayment)
SMETS1 Applicability	No	No

**Table 148 Read Prepayment Daily Read Log Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.14.1 Service Request

### 4.14.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadPrepaymentDailyReadLog XML element defines this Service Request and contains the date interval for which the log is to be retrieved, for URP the Key Agreement Public Security Credentials and, for Future Dated, the Execution Date Time.

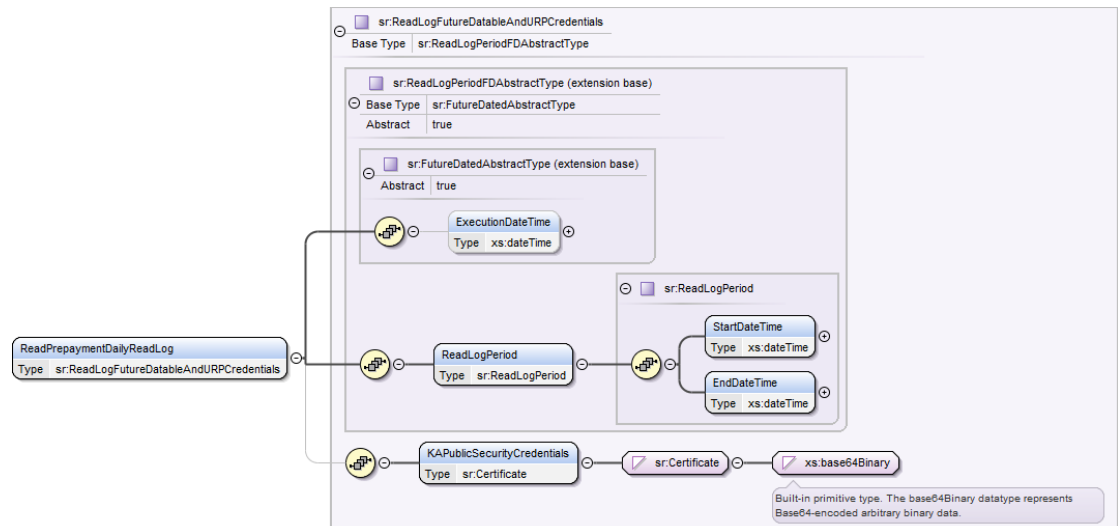


Figure 149 Read Prepayment Daily Read Log Service Request Structure (Ad-hoc)

Create Schedule: Its DSPReadPrepaymentDailyReadLog XML element defines this Service Request and contains the date-time interval for which the log is to be retrieved, defined relative to the current date at the point each Service Request is generated from the schedule. See Annex section 17 ReadLogPeriodOffset definition.

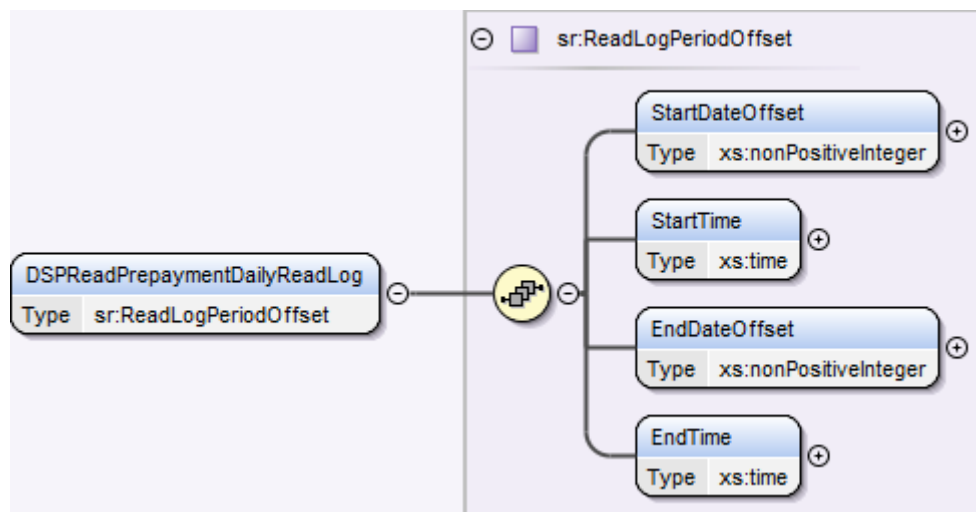


Figure 150 Read Prepayment Daily Read Log Service Request Structure (Create Schedule)

#### 4.14.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

##### 4.14.1.2.1.1 ReadPrepaymentDailyReadLog (Ad-hoc)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Old Registered Supplier)	sr:Certificate (xs:base64Binary)	Registered Supplier: N/A Old Registered Supplier <sup>1</sup> : Yes	None	N/A	Non-Sensitive

Table 149 Read Prepayment Daily Read Log Service Request Data Items (Ad-hoc)

<sup>1</sup> Mandatory for User Roles EIS and GIS that were registered parties (KRPs) to the Device for the required time period, but they no longer are

#### 4.14.1.2.1.2 DSPReadPrepaymentDailyReadLog (Create Schedule)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPReadPrepaymentDailyReadLog	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriod Offset (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

Table 150 Read Prepayment Daily Read Log Service Request Data Items (Create Schedule)

#### 4.14.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
No	Yes	No	DSP	Yes

Table 151 Read Prepayment Daily Read Log Modes of Operation

#### 4.14.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
Yes	Yes	Yes	No	No	No	No	No

Table 152 Read Prepayment Daily Read Log Command Variant Values (Ad-hoc)

#### 4.14.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for Execution Date Time, Key Agreement Public Security Credentials and Read Log Period, Public Security Credentials and Device Applicability validation.

Create Schedule: See also Annex section 17.2 for Read Log Period Offset and Device Applicability validation.

#### 4.14.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadPrepaymentDailyReadLog>
  <ReadLogPeriod>
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>
  </ReadLogPeriod>
</ReadPrepaymentDailyReadLog>
```

**Figure 151 Sample Read Prepayment Daily Read Log Service Request Format (Ad-hoc)**

#### 4.14.2 Responses

The response messages for a "Read Prepayment Daily Read Log" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device). Service Response Specific Payload
- Command for Local Delivery
- Parse Output

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

When this Service Request is run as DSP Scheduled, the Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

##### 4.14.2.1 Parse Output Format

###### 4.14.2.1.1 Format - ReadPrepaymentDailyReadLogRsp

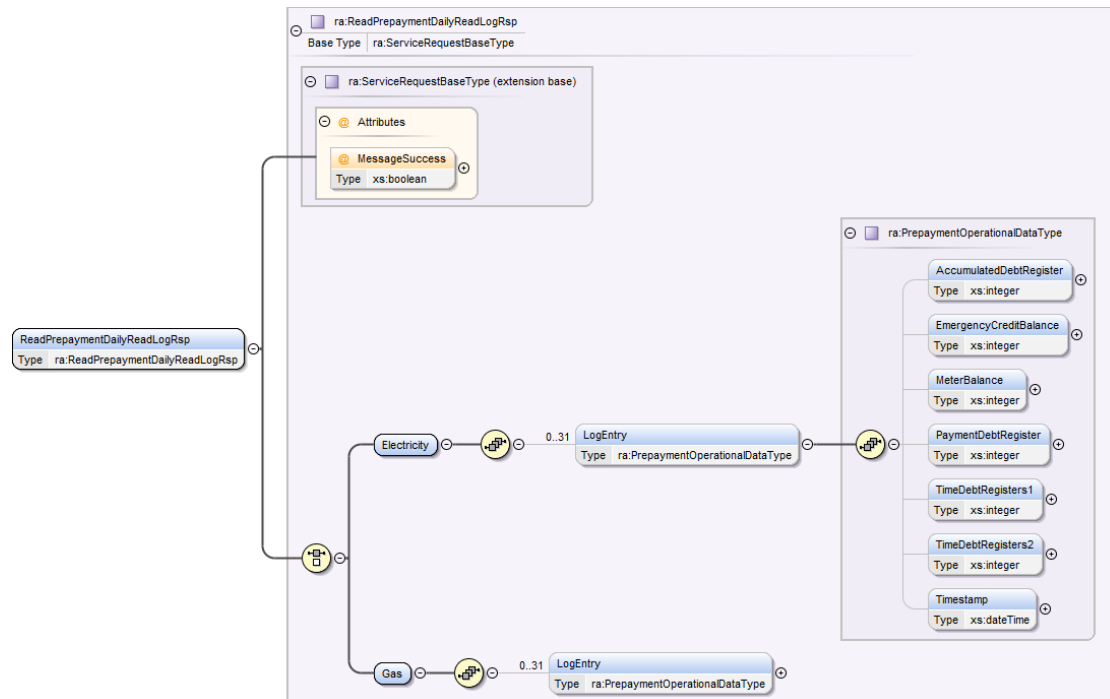


Figure 152 - Read Prepayment Daily Read Log Parse Response Structure

#### 4.14.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0034	0096
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS21b</i>	<i>GCS16b</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read Electricity (Prepayment) Daily Read Log</i>	<i>Read GSME Daily Read log(s) (prepayment)</i>
SupplementaryRemotePartyID	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryRemotePartyCounter	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryOriginatorCounter	Present where originator is a URP	Present where originator is a URP
Timestamp	Not Present	Not Present

Table 153 - Read Prepayment Daily Read Log Parse Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

#### 4.14.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LogEntry <sup>1</sup>	Each of the up to 31 entries of the Prepayment Daily Read Log. This log is capable of storing thirty one UTC date and time stamped entries of Meter Balance, Emergency Credit Balance, Accumulated Debt Register, Payment Debt Register and Time Debt Registers [1 ..2] arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten. Only log entries within the date range specified in the Service Request will be returned.	ra:PrepaymentOperationalDataType (see section 4.14.2.1.4)	None	N/A	Sensitive

Table 154 - Read Prepayment Daily Read Log Parse Response Body Data Items

<sup>1</sup> Maximum 31

#### 4.14.2.1.4 PrepaymentOperationalDataType Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
AccumulatedDebtRegister	The debt resulting from the collection of Standing Charge and/or time-based debt when Emergency Credit is in Use as configured by Suspend Debt Emergency, when operating in Prepayment Mode	xs:integer	None	1000th pence / cent	Sensitive
EmergencyCreditBalance	The amount of Emergency Credit available to the Consumer after it has been activated by the Consumer.	xs:integer	None	1000th pence / cent	Sensitive
MeterBalance	When operating in Prepayment Mode, the Meter Balance represents the Smart Meter's determination of the amount of credit available to the Consumer (excluding any Emergency Credit Balance)	xs:integer	None	1000th pence / cent	Sensitive
PaymentDebtRegister	Amount of debt to be recovered as a percentage of payment when using Payment-based Debt Recovery in Prepayment Mode	xs:integer	None	1000th pence / cent	Sensitive
TimeDebtRegisters 1	One of two registers recording independent debts to be recovered over time when operating Time-based Debt Recovery in Prepayment Mode	xs:integer	None	1000th pence / cent	Sensitive
TimeDebtRegisters 2	One of two registers recording independent debts to be recovered over time when operating Time-based Debt Recovery in Prepayment Mode	xs:integer	None	1000th pence / cent	Sensitive
Timestamp	The UTC date-time at which the corresponding log entry was taken	xs:dateTime	None	UTC Date-Time	Sensitive

Table 155 - Read Prepayment Daily Read Log Parse Response - PrepaymentOperationalDataTypeSpecific Data Items

#### 4.14.2.1.5 Sample Response body

```
<ra:ReadPrepaymentDailyReadLogRsp MessageSuccess="true">
  <ra:Electricity>
    <ra:LogEntry>
      <ra:AccumulatedDebtRegister>250000</ra:AccumulatedDebtRegister>
      <ra:EmergencyCreditBalance>100000</ra:EmergencyCreditBalance>
      <ra:MeterBalance>123000</ra:MeterBalance>
      <ra:PaymentDebtRegister>500</ra:PaymentDebtRegister>
      <ra:TimeDebtRegisters1>70</ra:TimeDebtRegisters1>
      <ra:TimeDebtRegisters2>80</ra:TimeDebtRegisters2>
      <ra:Timestamp>2014-08-24T00:01:02.00</ra:Timestamp>
    </ra:LogEntry>
  </ra:Electricity>
</ra:ReadPrepaymentDailyReadLogRsp>
```

Figure 153 - Read Prepayment Daily Read Log Parse Response Sample – Electricity

```
<ra:ReadPrepaymentDailyReadLogRsp MessageSuccess="true">
  <ra:Gas>
    <ra:LogEntry>
      <ra:AccumulatedDebtRegister>250000</ra:AccumulatedDebtRegister>
      <ra:EmergencyCreditBalance>100000</ra:EmergencyCreditBalance>
      <ra:MeterBalance>123000</ra:MeterBalance>
      <ra:PaymentDebtRegister>500</ra:PaymentDebtRegister>
      <ra:TimeDebtRegisters1>70</ra:TimeDebtRegisters1>
      <ra:TimeDebtRegisters2>80</ra:TimeDebtRegisters2>
      <ra:Timestamp>2014-08-24T00:01:02.00</ra:Timestamp>
    </ra:LogEntry>
  </ra:Gas>
</ra:ReadPrepaymentDailyReadLogRsp>
```

Figure 154 - Read Prepayment Daily Read Log Parse Response Sample – Gas

### 4.15 Read Load Limit Data (4.15)

Service Request Name	ReadLoadLimitData
Service Reference	4.15
Service Request Variant Name	ReadLoadLimitData
Service Reference Variant	4.15
Service Request Objective	To enable a DCC Service User to read the Load Limit Data on a specified Electricity Smart Meter.
Business Context Statement	When a customer has a load limited tariff and the DCC Service User needs to read how many times the load limiter has activated.
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Electricity Network Operator (ENO)</li> </ul>
Security Classification	Non-critical and non-sensitive SMETS2 or later: GBCS XREF: SME.C.NC

Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>This Service Request reads the following data item values as defined in SMETS <ul style="list-style-type: none"> <li><i>Load Limit Counter</i></li> <li><i>Load Limit Supply State</i></li> <li><i>Load Limit Power Threshold</i></li> <li><i>Load Limit Period</i></li> <li><i>Load Limit Restoration Period</i></li> </ul> </li> <li>This Service Request returns the Load Limit Data available at the meter. It isn't possible to request a subset of it.</li> <li>This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule).</li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0042	N/A
GBCS Use Case	ECS27	N/A
GBCS Use Case Name	Read ESME Load Limit Data	N/A
SMETS1 Applicability	Yes	N/A
Service Request Narrative (SMETS1)	<p>The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices except:</p> <ol style="list-style-type: none"> <li>The DCC shall set the values of LoadLimitPeriod and LoadLimitRestorationPeriod in the SMETS1 Response to the relevant Unsupported Values (see section 19.9).</li> </ol>	

**Table 156 Read Load Limit Data Service Request**

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.15.1 Service Request

### 4.15.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadLoadLimitData XML element defines this Service Request and, for Future Dated Requests, contains the Execution Date Time.

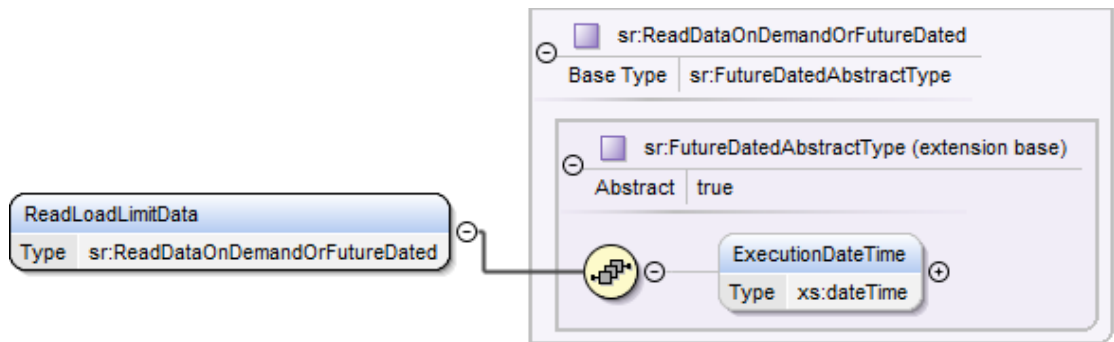


Figure 155 Read Load Limit Data Service Request Structure (Ad-hoc)

Create Schedule: Its DSPReadLoadLimitData XML element defines this Service Request and doesn't contain any data items.



Figure 156 Read Load Limit Data Service Request Structure (Create Schedule)

#### 4.15.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

##### 4.15.1.2.1.1 ReadLoadLimitData (Ad-hoc)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive

Table 157 Read Load Limit Data Service Request Data Items (Ad-hoc)

##### 4.15.1.2.1.2 DSPReadLoadLimitData (Create Schedule)

N/A.

#### 4.15.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	Yes
SMETS1	No	Yes	No	DSP	Yes

Table 158 Read Load Limit Data Modes of Operation

#### 4.15.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 159 Read Load Limit Data Command Variant Values (Ad-hoc)

#### 4.15.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for Execution Date Time validation.

#### 4.15.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadLoadLimitData>  
<ExecutionDateTime>2014-03-01T02:00:00.00Z</ExecutionDateTime>  
</ReadLoadLimitData>
```

Figure 157 Sample Read Load Limit Data Service Request Format (Ad-hoc)

### 4.15.2 Responses

The response messages for a "Read Load Limit Data" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output / SMETS1 Response

When this Service Request is run as DSP Scheduled, the SMETS2 or later Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1 and the SMETS1 Service Response (from Device) is a variation of the generic one and it follows the structure defined in section 4.8.1.2.2 for Service Request 4.8.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.15.2.1 Parse Output / SMETS1 Response Format

##### 4.15.2.1.1 Format - ReadLoadLimitDataRsp

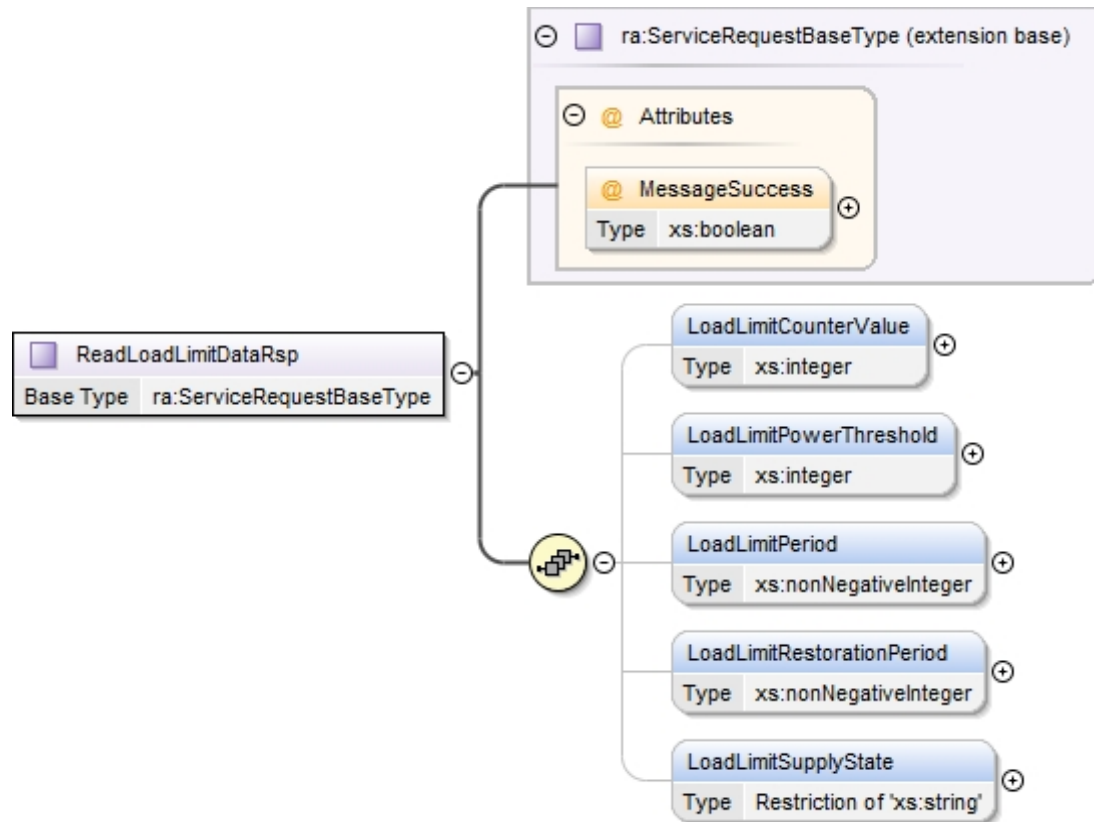


Figure 158 - Read Load Limit Data Parse Response / SMETS1 Response Structure

#### 4.15.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	0042
<i>GBCS Use Case Number (for information only - not in header)</i>	<i>ECS27</i>
<i>GBCS Use Case Name (for information only - not in header)</i>	<i>Read ESME Load Limit Data</i>
SupplementaryRemotePartyID	Present where DSP scheduled
SupplementaryRemotePartyCounter	Present where DSP scheduled
SupplementaryOriginatorCounter	Not Present
Timestamp	Not Present

Table 160 - Read Load Limit Data Parse Response Header Data Items

#### 4.15.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LoadLimitCounterValue	The count of load limit events since last reset	xs:integer	None	N/A	Non-Sensitive
LoadLimitPowerThreshold	The Active Power threshold above which the measurement of a Load Limit Period is commenced	xs:integer	None	W	Non-Sensitive
LoadLimitPeriod	The length of time which the Active Power Import needs to continuously exceed the Load Limit Power Threshold before a load limiting event is deemed to have occurred SMETS1: The DCC shall set this value to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter.	xs:nonNegativeInteger	None	Seconds	Non-Sensitive
LoadLimitRestorationPeriod	The length of time after the Supply has been Armed following a Load Limiting Event before the Supply is Enabled by the Electricity Smart Meter SMETS1: The DCC shall set this value to the relevant Unsupported Value (see section 19.9) to indicate that the Device does not support that parameter.	xs:nonNegativeInteger	None	Seconds	Non-Sensitive
LoadLimitSupplyState	A setting to control the state of the Supply in the case of a load limiting occurring, being: <ul style="list-style-type: none"> <li>Disable</li> <li>Unchanged</li> </ul>	Restriction of xs:string (Enumeration)	None	N/A	Non-Sensitive

**Table 161 - Read Load Limit Data Parse Response / SMETS1 Response Body Data Items**

#### 4.15.2.1.4 Sample Response body

```
<ra:ReadLoadLimitDataRsp MessageSuccess="true">
  <ra:LoadLimitCounterValue>7</ra:LoadLimitCounterValue>
  <ra:LoadLimitPowerThreshold>10</ra:LoadLimitPowerThreshold>
  <ra:LoadLimitPeriod>300</ra:LoadLimitPeriod>
  <ra:LoadLimitRestorationPeriod>600</ra:LoadLimitRestorationPeriod>
  <ra:LoadLimitSupplyState>Unchanged</ra:LoadLimitSupplyState>
</ra:ReadLoadLimitDataRsp>
```

**Figure 159 - Read Load Limit Data Parse Response Sample**

## 4.16 Read Active Power Import (4.16)

Service Request Name	ReadActivePowerImport
Service Reference	4.16
Service Request Variant Name	ReadActivePowerImport
Service Reference Variant	4.16

Service Request Objective	To enable a DCC Service User to read the Active Power Import value(s) on a specified Electricity Smart Meter.	
Business Context Statement	To enable a DCC Service User to read the Active Power Import value(s) on a specified Electricity Smart Meter.	
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Electricity Network Operator (ENO)</li> </ul>	
Security Classification	Non-critical and non-sensitive SMETS2 or later: GBCS XREF: <i>SME.C.NC</i>	
Service Request Narrative (SMETS2 or later)	1. This Service Request will return all the Active Power Import Registers. 2. This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule).	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0028	N/A
GBCS Use Case	ECS17c	N/A
GBCS Use Case Name	Read ESME Energy Registers (Power)	N/A
SMETS1 Applicability	Yes	N/A
Service Request Narrative (SMETS1)	The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices.	

Table 162 Read Active Power Import Service Request

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.16.1 Service Request

### 4.16.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its ReadActivePowerImport XML element defines this Service Request and doesn't contain any data items.

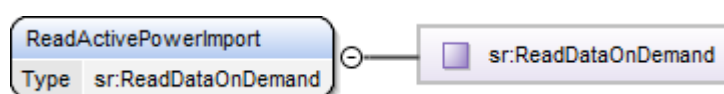
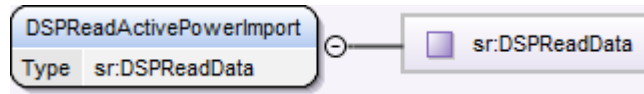


Figure 160 Read Active Power Import Service Request Structure (Ad-hoc)

Create Schedule: Its DSPReadActivePowerImport XML element defines this Service Request and doesn't contain any data items.



**Figure 161 Read Active Power Import Service Request Structure (Create Schedule)**

#### 4.16.1.2 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	No	Yes
SMETS1	No	Yes	No	No	Yes

**Table 163 Read Active Power Import Modes of Operation**

#### 4.16.1.3 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

**Table 164 Read Active Power Import Command Variant Values (Ad-hoc)**

#### 4.16.1.4 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks.

#### 4.16.1.5 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<ReadActivePowerImport/>
```

**Figure 162 Sample Read Active Power Import Service Request Format (Ad-hoc)**

### 4.16.2 Responses

The response messages for a "Read Active Power Import" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery

- Parse Output / SMETS1 Response

When this Service Request is run as DSP Scheduled, the SMETS2 or later Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1 and the SMETS1 Service Response (from Device) is a variation of the generic one and it follows the structure defined in section 4.8.1.2.2 for Service Request 4.8.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.16.2.1 Parse Output / SMETS1 Response Format

##### 4.16.2.1.1 Format - ReadActivePowerImportRsp

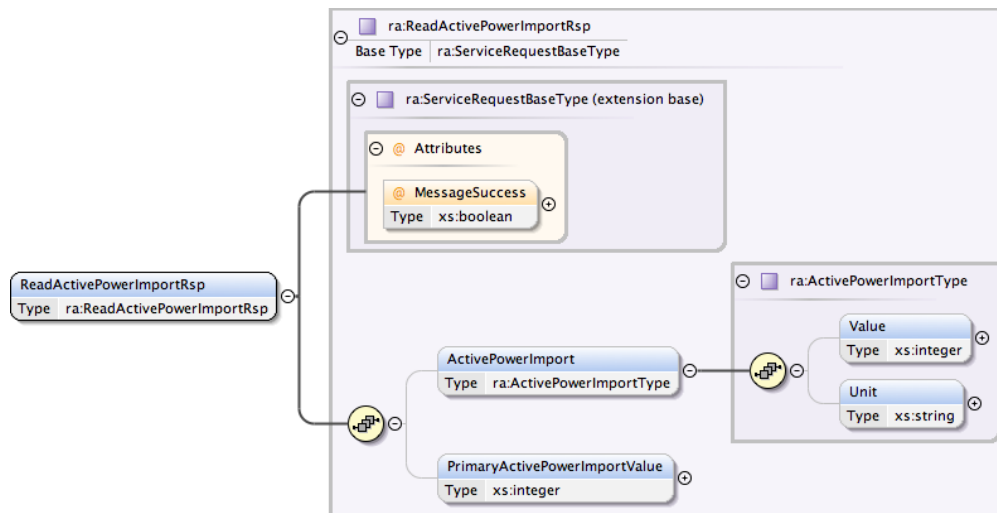


Figure 163 - Read Active Power Import Parse Response / SMETS1 Response Structure

##### 4.16.2.1.2 Specific Header Data Items

Data Item	Electricity Response
GBCSHexadecimalMessageCode	0028
GBCS Use Case Number (for information only - not in header)	ECS17c
GBCS Use Case Name (for information only - not in header)	Read ESME Energy Registers (Power)
SupplementaryRemotePartyID	Present where DSP scheduled
SupplementaryRemotePartyCounter	Present where DSP scheduled
SupplementaryOriginatorCounter	Not Present
Timestamp	Present

Table 165 - Read Active Power Import Parse Response Header Data Items

#### 4.16.2.1.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
ActivePowerImportType.Value	The total active Power from all elements on the Meter	xs:integer	None	W	Non-Sensitive
ActiveImportType.Unit	W	xs:string	W	N/A	Non-Sensitive
PrimaryActivePowerImportValue	The total active Power from the first element on the Meter	xs:integer	None	W	Non-Sensitive

Table 166 - Read Active Power Import Parse Response / SMETS1 Response Body Data Items

#### 4.16.2.1.4 Sample Response

```
<ra:ReadActivePowerImportRsp MessageSuccess="true">
  <ra:ActivePowerImport>
    <ra:Value>100000</ra:Value>
    <ra:Unit>W</ra:Unit>
  </ra:ActivePowerImport>
  <ra:PrimaryActivePowerImportValue>100000</ra:PrimaryActivePowerImportValue >
</ra:ReadActivePowerImportRsp>
```

Figure 164 - Read Active Power Import Parse Response Sample

### 4.17 Retrieve Daily Consumption Log (4.17)

Service Request Name	RetrieveDailyConsumptionLog
Service Reference	4.17
Service Request Variant Name	RetrieveDailyConsumptionLog
Service Reference Variant	4.17
Service Request Objective	To enable a DCC Service User to read the specified Daily Consumption Log entry(s) on the specified meter.
Business Context Statement	The DCC Service user needs to measure, over a period of up to two years, the consumption profile changes on a particular meter.
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> <li>Electricity Network Operator (ENO)</li> <li>Gas Network Operator (GNO)</li> <li>Other User (OU)</li> </ul>
Security Classification	Non-critical, Request is non-sensitive and Response is sensitive: GBCS XREF: SME.C.NC

Service Request Narrative	<ol style="list-style-type: none"> <li>1. The <i>Daily Consumption Log</i> as defined by SMETS is a log capable of storing 731 date stamped entries of Consumption arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten.</li> <li>2. This Service Request can be run Ad-hoc or be DSP Scheduled (via Create Schedule). In all cases, if the sender is not authorised to read data for the entire period requested, an error will be returned.</li> <li>3. Ad-hoc: Available to User Roles with access to the Device during the entire date-time range requested. In the case of Import Supplier, this could be the 'current' or the 'old' Registered Supplier. Because this Service Request returns Sensitive data, URPs (i.e. the 'old' Registered Supplier and 'Other User'), have to include in the Request the Public Security Credentials they want the Device to sign the Response with.</li> <li>4. DSP Scheduled: Available to User Roles with access to the Device at the time the Schedule is created. In the case of Import Supplier, this will never be the 'old' Registered Supplier. The URP Public Security Credentials (applicable to 'Other User') for the Device to sign the Response are included in the Create Schedule Service Request. See Annex section 5.1.</li> <li>5. This Service Request (Gas) can't be part of a Sequence, because the Command Response status is encrypted and the DSP is not able to check its contents.</li> <li>6. This Service Request (Gas) is only available on the GPF.</li> <li>7. This Service Request returns records from the target device where the timestamp on the Daily Consumption Log falls between the Start Date time and End Date Time.</li> <li>6. Due to variable device implementation, DSP adds one second to the end time to ensure that results will always include the end time of the period required. However, this means that if the intention is to exclude the end time then the DCC Service User should subtract two seconds from the end time of the period to ensure exclusivity. For example: <ul style="list-style-type: none"> <li>• To ensure inclusive, use 20/11/2018 00:00:00,</li> <li>• To ensure exclusive, use 19/11/2018 23:59:58</li> </ul> </li> </ol>	
GBCS Cross Reference	Electricity	Gas
GBCS Message Code	0x0060	0x00A0
GBCS Use Case	ECS66	GCS61
GBCS Use Case Name	Read ESME Daily Consumption Log	Read gas Daily Consumption Log
SMETS1 Applicability	No	No

**Table 167 Retrieve Daily Consumption Log Service Request**

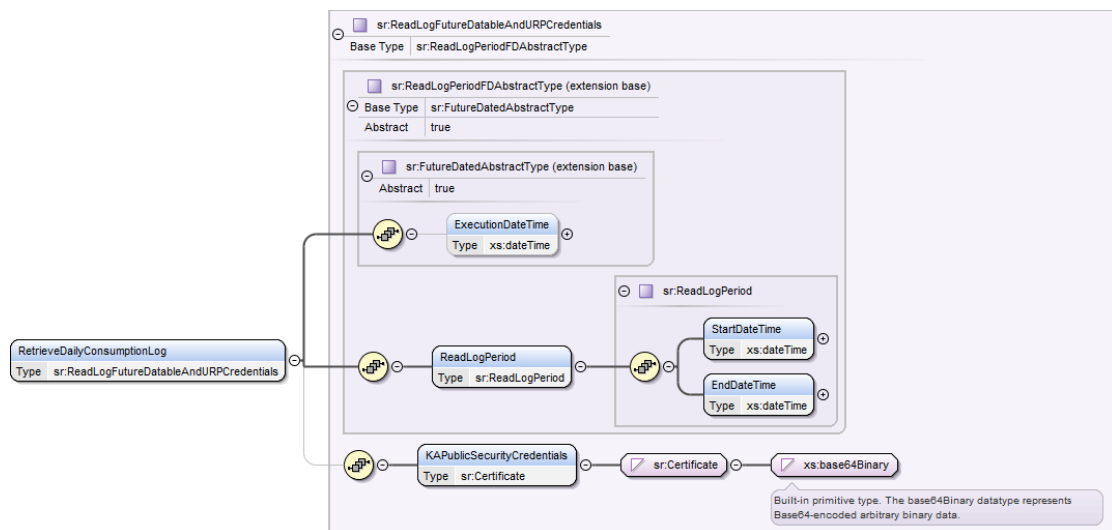
This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.17.1 Service Request

### 4.17.1.1 Format

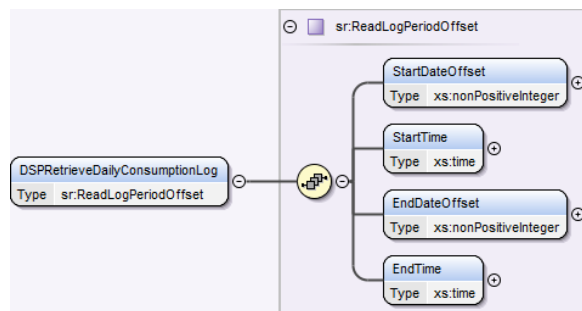
The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests.

Ad-hoc: Its RetrieveDailyConsumptionLog XML element defines this Service Request (Ad-hoc) and contains the date-time interval for which the log is to be retrieved, for URP the Key Agreement Public Security Credentials and, for Future Dated, the Execution Date Time.



**Figure 165 Retrieve Daily Consumption Log Service Request Structure (Ad-hoc)**

Create Schedule: Its DSPRetrieveDailyConsumptionLog XML element defines this Service Request and contains the date-time interval for which the log is to be retrieved, defined relative to the current date at the point each Service Request is generated from the schedule. See Annex section 17 ReadLogPeriodOffset definition.



**Figure 166 Retrieve Daily Consumption Log Service Request Structure (Create Schedule)**

### 4.17.1.2 Specific Data Items Definition

The Data Items applicable depend on whether the Request is Ad-hoc or DSP Scheduled.

#### 4.17.1.2.1.1 RetrieveDailyConsumptionLog (Ad-hoc)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	The UTC date and time the DCC Service User requires the command to be executed on the Device ID <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	None	UTC Date-Time	Non-Sensitive
ReadLogPeriod	The Start and End Date-Times for which the data is required	sr:ReadLogPeriod (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive
KAPublicSecurityCredentials	The Key Agreement Public Security Credentials (of the requesting party) to be used where the request is from an Unknown Remote Party (i.e. Other User)	sr:Certificate (xs:base64Binary)	User Role <sup>1</sup> EIS, GIS, ENO, GNO: N/A User Role OU: Yes	None	N/A	Non-Sensitive

Table 168 Retrieve Daily Consumption Log Service Request Data Items (Ad-hoc)

<sup>1</sup> Also Mandatory for User Roles EIS and GIS that were registered parties (KRPs) to the Device for the required time period, but they no longer are

#### 4.17.1.2.1.2 DSPRetrieveDailyConsumptionLog (Create Schedule)

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
DSPRetrieveDailyConsumptionLog	The Start and End Date Offsets from the current date and the Start and End Times which together define the date-time period for which the data is required	sr:ReadLogPeriod Offset (see Annex section 17 for details)	Yes	None	N/A	Non-Sensitive

Table 169 Retrieve Daily Consumption Log Service Request Data Items (Create Schedule)

#### 4.17.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
No	Yes	No	DSP	Yes

Table 170 Retrieve Daily Consumption Log Modes of Operation

#### 4.17.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
Yes	Yes	Yes	No	No	No	No	No

Table 171 Retrieve Daily Consumption Log Command Variant Values (Ad-hoc)

#### 4.17.1.5 Validation

This Service Request specific validation is as follows. See Main Document of this documentation set section 7 for generic access control checks.

Ad-hoc: See also Annex section 17.2 for Execution Date Time, Read Log Period and Key Agreement Public Security Credentials validation.

Create Schedule: See also Annex section 17.2 for Read Log Period Offset validation.

Validation Check	Process	Response Code
Does the requested time period span at least 1 midnight?	Check that the ReadLogPeriod (ad-hoc) or the ReadLogPeriodOffset (Create Schedule) spans at least 1 midnight	E041701

Table 172 Retrieve Daily Consumption Service Request Validation

#### 4.17.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

```
<RetrieveDailyConsumptionLog>  
  <ReadLogPeriod>  
    <StartDateTime>2014-01-01T00:00:00.00Z</StartDateTime>  
    <EndDateTime>2014-01-31T23:59:59.00Z</EndDateTime>  
  </ReadLogPeriod>  
</RetrieveDailyConsumptionLog>
```

Figure 167 Sample Retrieve Daily Consumption Log Service Request Format (Ad-hoc)

#### 4.17.2 Responses

The response messages for a "Retrieve Daily Consumption Log" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery
- Parse Output

See Main Document of this documentation set section 4 for Response IDs returned to DCC Service Users that are Known Remote Parties (KRP) or Unknown Remote Parties (URP) to the Device.

When this Service Request is run as DSP Scheduled, the Service Response (from Device) is a variation of the generic one and it is defined in section 4.8.1.2.1.

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

##### 4.17.2.1 Unsuccessful Response

The Response Codes specific to this Service Request are:

Response Code	Response Code Name	Response Code Type	Description
E041701	Failed Validation – Log period does not span at least 1 midnight	Error	The ReadLogPeriod (or ReadLogPeriodOffset) does not span at least 1 midnight

Table 173 Failed Retrieve Daily Consumption Log Service Request Response Codes

#### 4.17.2.2 Parse Output Format

##### 4.17.2.2.1 Format - RetrieveDailyConsumptionLogRsp

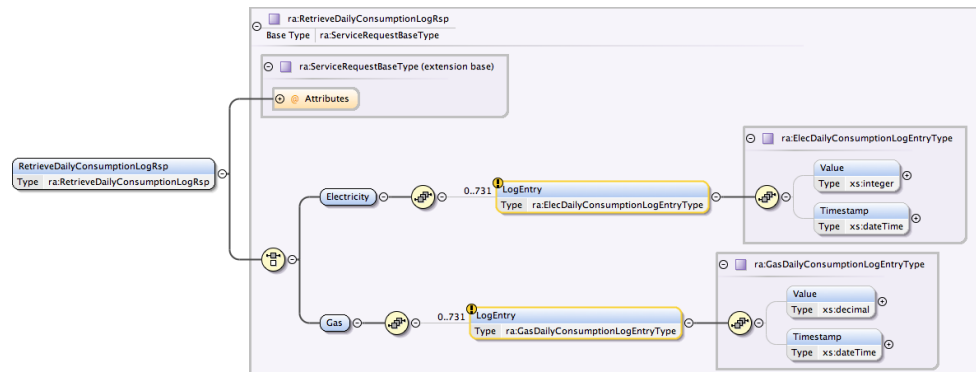


Figure 168 - Retrieve Daily Consumption Log Parse Response Structure

##### 4.17.2.2.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0060	00A0
GBCS Use Case Number (for information only - not in header)	ECS66	GCS61
GBCS Use Case Name (for information only - not in header)	Read ESME Daily Consumption Log	Read gas Daily Consumption Log
SupplementaryRemotePartyID	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryRemotePartyCounter	Present where DSP scheduled or originator is a URP	Present where DSP scheduled or originator is a URP
SupplementaryOriginatorCounter	Present where originator is a URP	Present where originator is a URP
Timestamp	Not Present	Not Present

Table 174 - Retrieve Daily Consumption Log Parse Response Header Data Items

See DUGIDS main document sections 8.1.1 and 4 for circumstances in which Users are a KRP or URP to a Device.

##### 4.17.2.2.3 Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
LogEntry <sup>1</sup>	Each of the up to 731 date stamped entries of Consumption arranged as a circular buffer such that when full, further writes shall cause the oldest entry to be overwritten. Only log entries within the date range specified in the Service Request will be returned.	See section 4.17.2.2.4 (Electricity) or 4.17.2.2.5 (Gas)	None	N/A	Sensitive

**Table 175 - Retrieve Daily Consumption Log Parse Response Body Data Items**

<sup>1</sup> Electricity: Maximum 731 Log Entries. Note that a value of 731 is considered as 'Unbounded' by the XSD validation

#### 4.17.2.2.4 ElecDailyConsumptionLogEntryType Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Value	Consumption for that day	xs:integer	None	Wh	Sensitive
Timestamp	The UTC date-time at which the corresponding log entry was taken	xs:dateTime	None	UTC Date-Time	Sensitive

**Table 176 - Retrieve Daily Consumption Log Parse Response - DailyConsumptionLogEntryType Specific Data Items**

#### 4.17.2.2.5 GasDailyConsumptionLogEntryType Specific Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
Value	Consumption for that day Multiplier (value of 1) and divisor (value of 1000) applied as defined in GBCS	xs:decimal	None	m <sup>3</sup>	Sensitive
Timestamp	The UTC date-time at which the corresponding log entry was taken	xs:dateTime	None	UTC Date-Time	Sensitive

**Table 177 - Retrieve Daily Consumption Log Parse Response - DailyConsumptionLogEntryType Specific Data Items**

#### 4.17.2.2.6 Sample Response

```
<ra:RetrieveDailyConsumptionLogRsp MessageSuccess="true">
  <ra:Electricity>
    <ra:LogEntry>
      <ra:Value>3</ra:Value>
      <ra:Timestamp>2014-08-24T00:01:02.00</ra:Timestamp>
    </ra:LogEntry>
  </ra:Electricity>
</ra:RetrieveDailyConsumptionLogRsp>
```

**Figure 169 - Retrieve Daily Consumption Log Parse Response Sample – Electricity**

```
<ra:RetrieveDailyConsumptionLogRsp MessageSuccess="true">
  <ra:Gas>
    <ra:LogEntry>
      <ra:Value>3</ra:Value>
      <ra:Timestamp>2014-08-24T00:01:02.00</ra:Timestamp>
    </ra:LogEntry>
  </ra:Gas>
</ra:RetrieveDailyConsumptionLogRsp>
```

Figure 170 - Retrieve Daily Consumption Log Parse Response Sample - Gas

## 4.18 Read Meter Balance (4.18)

Service Request Name	ReadMeterBalance
Service Reference	4.18
Service Request Variant Name	ReadMeterBalance
Service Reference Variant	4.18
Service Request Objective	To enable a DCC Service User to read the Balance of an ESME or a GSME operating in Credit or Prepayment Mode
Business Context Statement	This Service Request is for reading the meter balance on the Electricity Smart Meter or on the Gas Smart Meter
User Role Access	<ul style="list-style-type: none"> <li>Electricity Import Supplier (EIS)</li> <li>Gas Import Supplier (GIS)</li> </ul>
Security Classification	Non-critical, non-sensitive SMETS2 or later: GBCS XREF: SME.C.NC
Service Request Narrative (SMETS2 or later)	<ol style="list-style-type: none"> <li>This Service Request is available in respect of ESME or GSME operating in Credit or Prepayment Mode.</li> <li>For reading the Meter balance values from the GSME, the DCC Service User should wherever possible request this to be read from the GPF as the primary use case. Only when the GPF is not available for query should this Service Request be targeted to the GSME. This will save battery life on the GSME for all Users.</li> <li>For ESME this Service Request returns a single MeterBalance, but for GSME two MeterBalance values are returned and must be interpreted by the Requester on the basis of the Devices Operational Mode; Credit or Prepayment.</li> <li>Values returned represent - For ESME: if positive, credit available; if negative, money due. For GSME (CreditMode): if positive, money due; cannot be negative. For GSME (PrepaymentMode): if positive, credit available; if negative, money due.</li> </ol>

GBCS Cross Reference	Electricity	Gas
GBCS Message Code prior to GBCS 4.2	0x0069	0x008D
GBCS Use Case prior to GBCS 4.2	ECS82	GCS60
GBCS Use Case Name prior to GBCS 4.2	Read Meter Balance for ESME	Read Meter Balance for GSME
GBCS Message Code v4.2 or later	0x0069	0x012A
GBCS Use Case v4.2 or later	ECS82	GCS60a
GBCS Use Case Name v4.2 or later	Read Meter Balance for ESME	Read Meter Balance for GSME
SMETS1 Applicability	Yes	Yes
Service Request Narrative (SMETS1)	The behaviour of DCC for this Service Request with regard to SMETS1 Devices is equivalent to the behaviour for SMETS2 or later Devices.	

Table 178 Read Meter Balance Service Request

This section should be read in conjunction with the Main Document of this documentation set section 9 (which describes the general formatting for all Service Requests and Service Responses) and with the XSD (XML Schema – document 3 of this documentation set).

## 4.18.1 Service Request

### 4.18.1.1 Format

The Request Body XML element of the XSD (see XML Schema – document 3 of this documentation set) defines the structure of all the Service Requests. Its ReadMeterBalance XML element defines this Service Request and it only contains the Execution Date Time for Future Dated Requests.

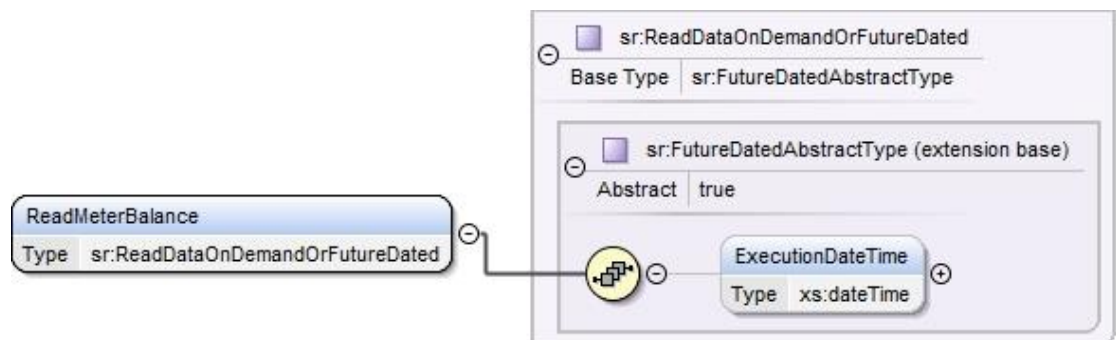


Figure 171 Read Meter Balance Service Request Structure

### 4.18.1.2 Specific Data Items Definition

The data items contained in the Service Request are defined as:

Data Item	Description / Valid Set	Type	Mandatory	Default	Units	Sensitivity
ExecutionDateTime	<p>The UTC date and time the DCC Service User requires the command to be executed on the device.</p> <ul style="list-style-type: none"> <li>Date-time in the future that is either &lt;= current date + 30 days or the date = 31/12/3000</li> </ul>	xs:dateTime	No	N/A	UTC Date-Time	Non-Sensitive

Table 179 Read Meter Balance Service Request Data Items

#### 4.18.1.3 Applicable Modes of Operation

The Modes of Operation applicable to this Service Request are (see Main Document of this documentation set section 2.3 for Modes of Operation definitions):

Service	Transform	On Demand	DCC Only	Future Dated	DSP Scheduled
SMETS2 or later	No	Yes	No	DSP	No
SMETS1	No	Yes	No	DSP	No

Table 180 Read Meter Balance Modes of Operation

#### 4.18.1.4 Applicable Command Variant Values

The Command Variant values applicable to this Service Request are (see Main Document of this documentation set section 3 for Command Variant definitions):

Service	CV = 1	CV = 2	CV = 3	CV = 4	CV = 5	CV = 6	CV = 7	CV = 8
SMETS2 or later	Yes	Yes	Yes	No	No	No	No	No
SMETS1	Yes	No	No	No	No	No	No	No

Table 181 Read Meter Balance Command Variant Values

#### 4.18.1.5 Validation

This Service Request has no specific validation. See Main Document of this documentation set section 7 for generic access control checks and Annex section 17.2 for Execution Date Time validation.

#### 4.18.1.6 Sample Request

Sample requests are given in Annex Introduction Appendix 2. The specific information for this Service Request (Body) is as follows:

<ReadMeterBalance/>
---------------------

Figure 172 Sample Read Meter Balance Service Request Format

### 4.18.2 Responses

The response messages for a "Read Meter Balance" request follow the generic format for all "Device" response messages, the generic responses applicable to this Service Request are;

- Acknowledgement
- Service Response (from Device) - GBCSPayload. Service Response Specific Payload
- Command for Local Delivery

- Parse Output / SMETS1 Response

Sample responses are given in Annex Introduction Appendix 1, response specific information details are given below.

#### 4.18.2.1 Parse Output / SMETS1 Response Format

##### 4.18.2.1.1 Format - ReadMeterBalanceRsp

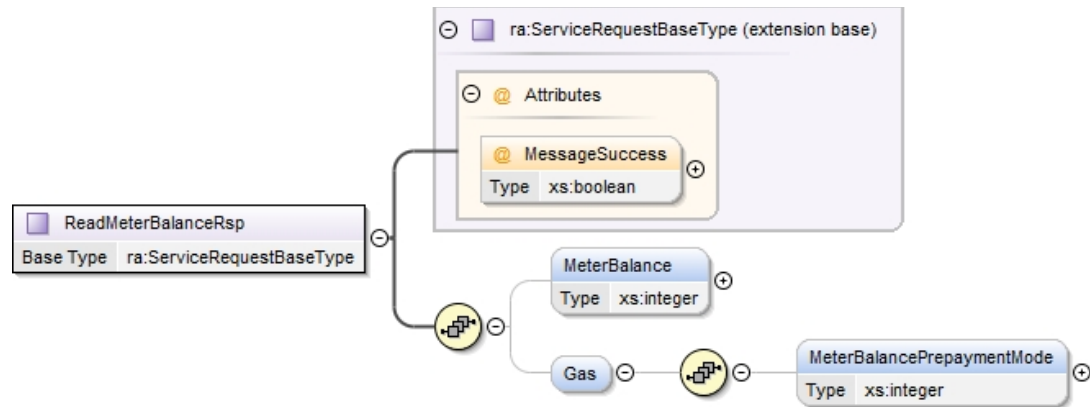


Figure 173 - Read Meter Balance Parse Response / SMETS1 Response Structure

##### 4.18.2.1.2 Specific Header Data Items

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0069	008D
GBCS Use Case Number (for information only - not in header)	ECS82	GCS60
GBCS Use Case Name (for information only - not in header)	Read Meter Balance for ESME	Read Meter Balance for GSME
SupplementaryRemotePartyID	Not Present	Not Present
SupplementaryRemotePartyCounter	Not Present	Not Present
SupplementaryOriginatorCounter	Not Present	Not Present
Timestamp	Not Present	Not Present

Table 182 - Read Meter Balance Parse/ SMETS1 Response Header Data Items prior to GBCS v4.2

Data Item	Electricity Response	Gas Response
GBCSHexadecimalMessageCode	0069	012A
GBCS Use Case Number (for information only - not in header)	ECS82	GCS60a
GBCS Use Case Name (for information only - not in header)	Read Meter Balance for ESME	Read Meter Balance for GSME
SupplementaryRemotePartyID	Not Present	Not Present
SupplementaryRemotePartyCounter	Not Present	Not Present
SupplementaryOriginatorCounter	Not Present	Not Present
Timestamp	Not Present	Present <sup>1</sup>

Table 183 Table 183.1- Read Meter Balance Parse/ SMETS1 Response Header Data Items – GBCS v4.2 or later

#### 4.18.2.1.3 <sup>1</sup> (SMETS2 only) Includes IsFromGSME and ClockStatus as described in Annex 18. Specific Body Data Items

Data Item	Description / Valid Set	Type	Default	Units	Sensitivity
MeterBalance	For ESME, a positive value represents the amount of credit available and a negative value is the amount of money due. For GSME, a positive value represents the amount of money due and a negative value is not permitted.	xs:integer	None	1000 <sup>th</sup> pence / cent	Non-Sensitive
MeterBalancePrepaymentMode	For GSME, a positive value represents the amount of credit available and a negative value is the amount of money due. Gas Only	xs:integer	None	1000 <sup>th</sup> pence / cent	Non-Sensitive

Table 183 - Read Meter Balance Parse Response / SMETS1 Response Body Data Items

#### 4.18.2.1.4 Sample Response body

```
<ra:ReadMeterBalanceRsp MessageSuccess="true">
  <ra:MeterBalance>10000</ra:MeterBalance>
</ra:ReadMeterBalanceRsp>
```

Figure 174 - Read Meter Balance Parse Response Sample – Electricity

```
<ra:ReadMeterBalanceRsp MessageSuccess="true">  
  <ra:MeterBalance>0</ra:MeterBalance>  
  <ra:Gas>  
    <ra:MeterBalancePrepaymentMode>15000</ra:MeterBalancePrepaymentMode>  
  </ra:Gas>  
</ra:ReadMeterBalanceRsp>
```

**Figure 175 - Read Meter Balance Parse Response Sample – Gas**