



# Swarco Evolt – Opticharge

mCMS Test Report - 2019

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## Introduction

Swarco are manufactures of EVSE (Electric Vehicle Supply Equipment). One product in our range is the Opticharge. Opticharge is a product designed to be retrofitted onto existing street lighting columns. Because the power supply to street lighting columns is unmetered we need to qualify this product using a measured Central Management System (mCMS).

## System Requirements

### Test Group 1 - Configuration Control

#### Test 1.1 CMS software version

The latest firmware version is 1.0.0 and hosted on bitbucket.org

#### Test 1.2 CMS operating platform and version

The CMS platform runs on Linux Ubuntu 16.04

#### Test 1.3 The technical details of the measurement device to be used

The measurement meter used for the tests is a Emlite EML M18 single phase MID meter. Class B (1%), to EN50470 1-3. [See apendix A.](#)

### Test Group 2 - Synchronisation to UTC

Opticharge EVSE unit. The Opticharge unit receives its UTC synchronisation from the back office central system via OCPP (Open Charge Point Protocol). The Opticharge will send a BootNotification when powered up to the back office central system. The response from the back office central system is BootNotificationResponse. This response includes the UTC time of the hosing server which allows the Opticharge to synchronise to UTC. Example: -

#### REQUEST

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://www.w3.org/2003/05/soap-envelope" xmlns:SOAP-ENC="http://www.w3.org/2003/05/soap-encoding" xmlns:cp="urn://Ocpp/Cp/2012/06/" xmlns:cs="urn://Ocpp/Cs/2012/06/" xmlns:wsa5="http://www.w3.org/2005/08/addressing" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
```

```
<SOAP-ENV:Header>
```

```
<cs:chargeBoxIdentity SOAP-ENV:mustUnderstand="true">EVC0036</cs:chargeBoxIdentity>
```

```
<wsa5:MessageID>urn:uuid:ae51b5a9-8412-47ec-9871-2429ab03ba2c</wsa5:MessageID>
```

```
<wsa5:From>
```

```
<wsa5:Address>http://172.30.198.203:9080</wsa5:Address>
```

```
</wsa5:From>
```

```
<wsa5:To SOAP-
```

```
ENV:mustUnderstand="true">http://10.29.108.26:8044/CentralSystemService15</wsa5:To>
```

```
<wsa5:Action SOAP-ENV:mustUnderstand="true">/BootNotification</wsa5:Action>
```

```
</SOAP-ENV:Header>
```

```
<SOAP-ENV:Body>
```

```
<cs:bootNotificationRequest>
```

```
<cs:chargePointVendor>CIRCONTROL</cs:chargePointVendor>
```

```
<cs:chargePointModel>WBM-SMART</cs:chargePointModel>
```

```
<cs:chargePointSerialNumber/>
```

```
<cs:chargeBoxSerialNumber/>
```

```
<cs:firmwareVersion>2.5b rc5</cs:firmwareVersion>
```

```
<cs:iccid/>
```

```
<cs:imsi/>
```

```
<cs:meterType/>
```

```
<cs:meterSerialNumber/>
```

```

</cs:bootNotificationRequest>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

### RESPONSE (time highlighted)

```

:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope">
  <S:Body>
    <ns2:bootNotificationResponse xmlns:ns2="urn://Ocupp/Cs/2012/06/">
      <ns2:status>Accepted</ns2:status>
      <ns2:currentTime>2018-07-31T10:20:51.700Z</ns2:currentTime>
      <ns2:heartbeatInterval>60</ns2:heartbeatInterval>
    </ns2:bootNotificationResponse>
  </S:Body>
</S:Envelope>

```

## Data Input and Storage Requirements

Test Group 3a – Detailed Inventory Information

Test 3.1 Add, delete, modify manually or electronically

Opticharge lighting column charge points installed on unmetered supplies are added to the inventory file manually. The detailed information is added to the file following the steps outlined below: -

Ordered not Installed – This sheet on the Inventory detailed Chargepoint that have been ordered but have not been installed.

DNO 1 (2, 3 etc) – These sheets on the Inventory detail all chargers that have been installed and commissioned for relevant DNO's. This is the version sent to the DNO.

Inventory Control Information - Excel																	
File Home Insert Page Layout Formulas Data Review View Tell me what you want to do																	
J29																	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Detailed Inventory Information - DNO 1																
2		Road Reference	Town, Parish, District	Road Name	Location	Unit Type	Unit Identity	CMS Unit Reference	Charge Code	Number of Items	Switch Regime	Number of Controls	Control Charge Code	Ordinance Survey Grid ref 'East' or Latitude	Ordinance Survey Grid ref 'North' or Longitude	Exit Point	Audit Trail
3																	
4																	
5		Charger 1															
6		Charger 2															
7		Charger 3															
8		Charger 4															
9		Charger 5															
10		Charger 6															
11		Charger 7															
12		Charger 8															
13		Charger 9															
14		Charger 10															
15		Charger 11															
16		Charger 12															
17		Charger 13															
18		Charger 14															
19		Charger 15															
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35																	
36																	
37																	
38																	
39																	
40																	

Test 3.1.1 Road Reference – We will use the postcode for this reference. This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.2 Town, Parish, District - This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.3 Road Name - This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.4 Location – This is a written description of the charger's location on the street in reference to a feature such as a post box for example. It may also include the lighting column reference number if available. This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.5 Unit Type – This will be our lighting column charger "Opticharge". This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.6 Unit Identity – This will be the same as the CPID (Charge Point Identification) marked on the charger. This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.7 CMS Unit Reference - This will be the same as the CPID (Charge Point Identification) marked on the charger. This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.8 Charge Code – 8901000000100 – Car Charging Point. This value remains constant.

Test 3.1.9 Number of Items – The Opticharge chargepoint is a single item.

Test 3.1.10 Switch Regime – 999. This value remains constant.

Test 3.1.11 Number of Controls - The Opticharge chargepoint has only 1 control system.

Test 3.1.12 Control Charge Code – We do not have this yet from Elexon.

Test 3.1.13 Ordinance Survey Grid ref 'East' or Latitude – We use Latitude on the Inventory. This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.14 Ordinance Survey Grid ref 'North' or Longitude – We use Longitude on the Inventory. This can be seen in the screen shot of the Inventory in section 3.1 above.

Test 3.1.15 Exit Point – Y. This value remains constant.

Test 3.2 Audit Trail – All changes to the Inventory are detailed in the Audit Log sheet. The screenshot below details the information we capture.



Inventory Control Information - Excel						
File Home Insert Page Layout Formulas Data Review View Tell me what you want to do						
C28						
A	B	C	D	E	F	G
1						
2	<b>Audit Log</b>					
3						
4	Change Number	Date of Charge	Name of Auditor	Unit Identity	New Value	Previous Value
5	1					
6	2					
7	3					
8	4					
9	5					
10	6					
11	7					
12	8					
13	9					
14	10					
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

### 3.3 Add, delete, modify manually or electronically

Test 3.3.1 Sub-meter ID – To be agreed with MA (Meter Administrator).

Test 3.3.2 Effective From Date – Inventory will be sent on a monthly basis (or as changes are made/or requested by the UMSO).

Test 3.3.3 CMS Unit Reference – This is detailed on the inventory file.

Test 3.3.4 Number of Lines - This is detailed on the inventory file.

Test 3.3.5 Switch Regime - This is detailed on the inventory file.

Test 3.3.6 Charge Code - This is detailed on the inventory file.

### Test Group 4 – Equipment Control information

#### 4.1 Add, delete, modify manually or electronically

Test 4.1.1 CMS Unit Reference - This is detailed on the inventory file.

Test 4.1.2 Sum of CMS Controller devices - This is detailed on the inventory file.

Test 4.1.3 Switch Regime - This is detailed on the inventory file.

Test 4.1.4 Charge Code - This is detailed on the inventory file.

## Process Requirements

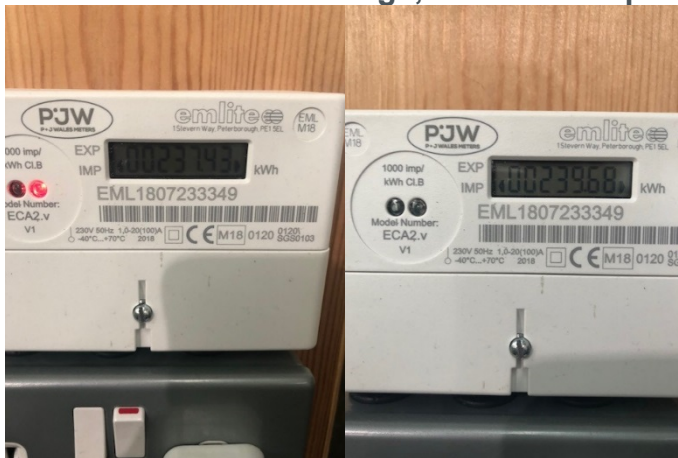
### Test Group 5 – CMS Event Driven Measurement

#### 5.1 – Scenario 1 –

#### On and Off test CPID LPi000000002

This charge started at 10:26 on the 25/01/2019 with a meter value of 237.43 kWh. The charge ended at 11:38 on the 25/01/2019 with a meter value of 239.68 kWh. The total consumption for this period was 2.25 kWh.

#### Scenario 1 Meter Readings, start and stop



#### Scenario 1 charge event log from Swarco Econnect

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/25/19 12:00:00 AM To: 1/25/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPP) [16] [-]	1/25/19 11:38:38.907 AM	1/25/19 11:38:41.096 AM	/172.27.161.40:56584	Yes	LPi000000002	1
StartTransaction (OCPP) [16] [-]	1/25/19 10:26:49.759 AM	1/25/19 10:26:50.717 AM	/172.27.161.40:56584	Yes	LPi000000002	1

Rows 1 to 2 from a total of 2. Page 1 of 1.

#### Scenario 1 Log file

```

aptev1220190125001.log - Notepad
File Edit Format View Help
Haptev1220190125001
LPi0000000001000000000.000
LPi0000000002102715188.000
LPi0000000002103015186.590
LPi0000000002110019184.890
LPi0000000002113022185.610
LPi0000000002113823000.000
LPi0000000003141301180.700
LPi0000000003143003181.330
LPi0000000003145235000.000
T00000011

```

#### 5.2 – Scenario 2 –

#### Two Events with Disconnection in Between CPID LPi000000001

This charge started at 13:25 on the 18/01/19 with a meter value of 234.43 kWh. The charge was stopped at 14:07 on the 18/01/19 with a meter value of 235.77 kWh. The charge was then started



again at 15:15 on the 19/01/19 with a meter value of 235.77 kWh. The charge was then stopped at 15:56 on the 18/01/19 with a meter value of 237.12 kWh. The total consumption for this period was 2.69 kWh.

## Scenario 2 Meter Readings, start and stop



## Scenario 2 charge event log from Swarco Econnect

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/17/19 12:00:00 AM To: 1/18/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/18/19 3:56:59.508 PM	1/18/19 3:57:03.230 PM	/172.27.33.40:40494	Yes	LPi000000001	1
StartTransaction (OCPPJ16) [-]	1/18/19 3:15:15.546 PM	1/18/19 3:15:16.476 PM	/172.27.33.40:40494	Yes	LPi000000001	1
StopTransaction (OCPPJ16) [-]	1/18/19 2:07:31.336 PM	1/18/19 2:07:34.221 PM	/172.27.33.40:40494	Yes	LPi000000001	1
StartTransaction (OCPPJ16) [-]	1/18/19 1:25:41.439 PM	1/18/19 1:25:42.840 PM	/172.27.33.40:40494	Yes	LPi000000001	1

Rows 1 to 4 from a total of 4. Page 1 of 1.

## Scenario 2 Log file

```

aptev1220190118001.log - Notepad
File Edit Format View Help
Haptev1220190118001
LPi000000001132535192.000
LPi000000001132605190.500
LPi000000001133005189.680
LPi000000001140008188.980
LPi000000001140709000.000
LPi000000001151509185.810
LPi000000001151540191.370
LPi000000001153011190.060
LPi000000001155644000.000
LPi000000002000000000.000
LPi000000003101223192.000
LPi000000003101253191.980
LPi000000003103025191.480
LPi000000003110028194.520
LPi000000003113001194.180
LPi000000003113531000.000
T0000018

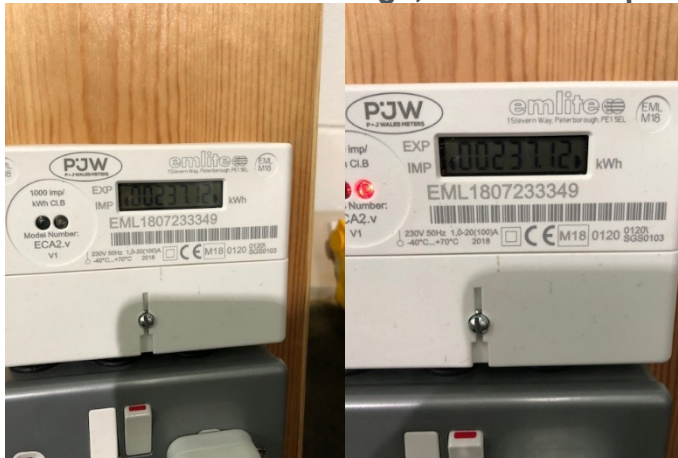
```

### 5.3 – Scenario 3 –

#### No Connection, No Consumption CPID LPi000000001

This test was started at 15:38 on the 24/01/19 with a meter value of 237.43 kWh. The test was then stopped at 09:36 on the 25/01/19 with a meter value of 237.43 kWh. The total consumption for this period was 0 kWh.

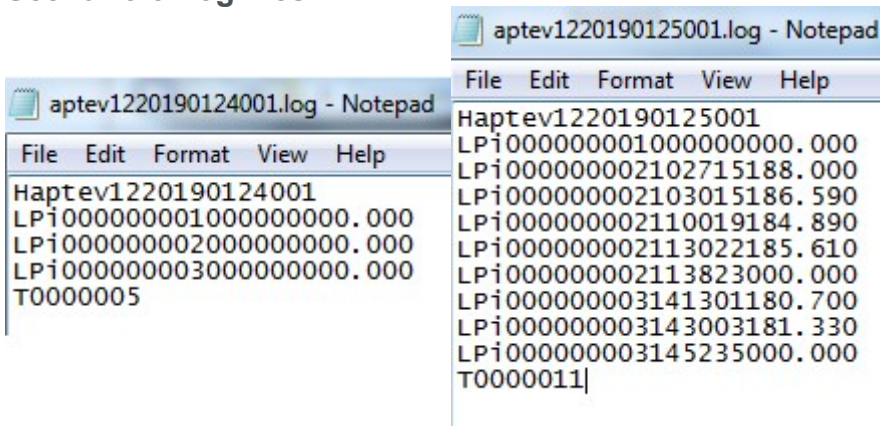
### Scenario 3 Meter Readings, start and stop



### Scenario 3 charge event log from Swarco Econnect

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/24/19 12:00:00 AM To: 1/25/19 11:59:59 PM			Select	Selected	
No messages found.						
Rows 0 to 0 from a total of 0. Page 1 of 1.						

### Scenario 3 Log files



#### 5.4 – Scenario 4 –

#### Connection, No Consumption CPID LPi000000003

This charge was started at 13:09 on the 21/01/19 with a meter value of 237.12 kWh. The charge was then stopped at 15:01 on the 22/01/19 with a meter value of 237.43 kWh. The total consumption for this period was 0.31 kWh. This is due to the LED on the test box.

## Scenario 4 Meter Readings, start and stop



## Scenario 4 charge event log from Swarco Econnect

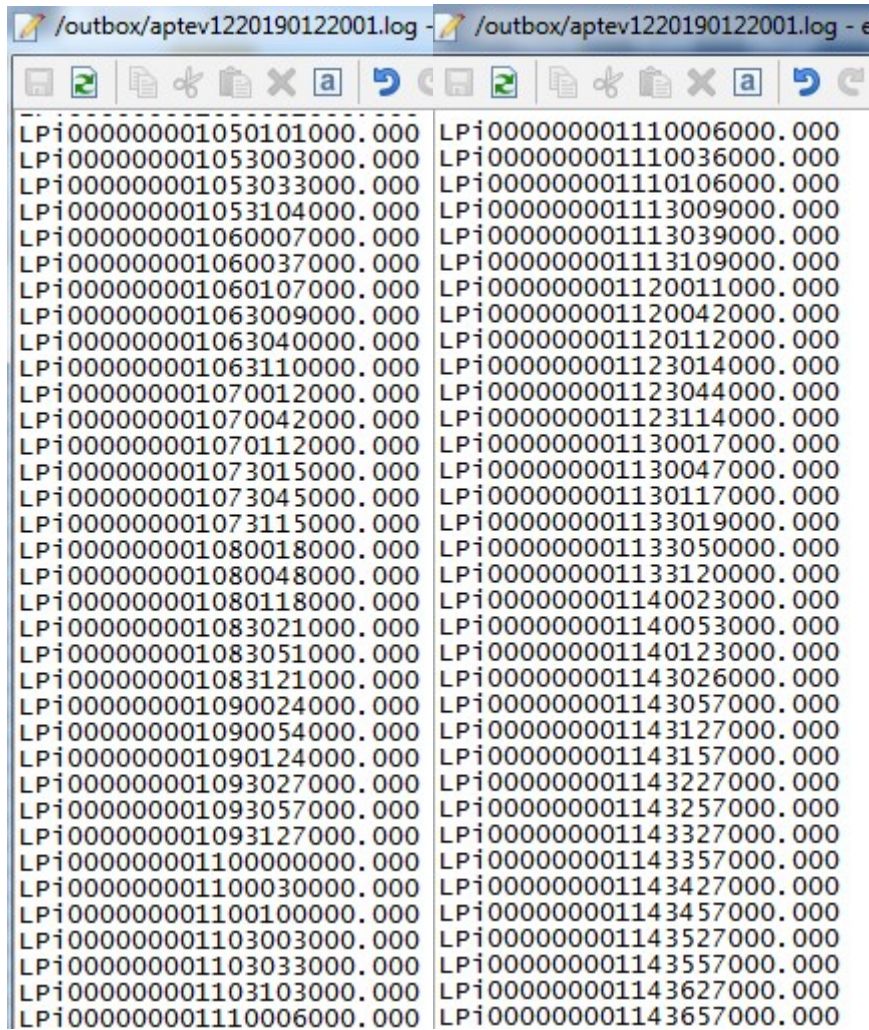
Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From 1/21/19 12:00:00 AM To 1/22/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/22/19 3:00:55.047 PM	1/22/19 3:00:56.894 PM	/172.27.33.40:39366	Yes	LPi000000001	1
StartTransaction (OCPPJ16) [-]	1/21/19 1:09:59.733 PM	1/21/19 1:10:00.523 PM	/172.27.33.40:48308	Yes	LPi000000001	1

Rows 1 to 2 from a total of 2. Page 1 of 1.

## Scenario 4 log file



/outbox/aptev1220190121001.log	/outbox/aptev1220190121001.log	/outbox/aptev1220190122001.log
HapteV1220190121001	LPi000000001173122000.000	HapteV1220190122001
LPi000000001130956000.000	LPi000000001180025000.000	LPi000000001000001000.000
LPi000000001131026000.000	LPi000000001180055000.000	LPi000000001000031000.000
LPi000000001131056000.000	LPi000000001180125000.000	LPi000000001000101000.000
LPi000000001133028000.000	LPi000000001183029000.000	LPi000000001003004000.000
LPi000000001133058000.000	LPi000000001183059000.000	LPi000000001003034000.000
LPi000000001133128000.000	LPi000000001183129000.000	LPi000000001003104000.000
LPi000000001140001000.000	LPi000000001190002000.000	LPi000000001010007000.000
LPi000000001140031000.000	LPi000000001190102000.000	LPi000000001010107000.000
LPi000000001140101000.000	LPi000000001193004000.000	LPi000000001013010000.000
LPi000000001143004000.000	LPi000000001193034000.000	LPi000000001013040000.000
LPi000000001143034000.000	LPi000000001200007000.000	LPi000000001013110000.000
LPi000000001143104000.000	LPi000000001200037000.000	LPi000000001020013000.000
LPi000000001150007000.000	LPi000000001200107000.000	LPi000000001020043000.000
LPi000000001150037000.000	LPi000000001203010000.000	LPi000000001020113000.000
LPi000000001150107000.000	LPi000000001203040000.000	LPi000000001023016000.000
LPi000000001153010000.000	LPi000000001203111000.000	LPi000000001023046000.000
LPi000000001153040000.000	LPi000000001210014000.000	LPi000000001023116000.000
LPi000000001153110000.000	LPi000000001210044000.000	LPi000000001030019000.000
LPi000000001160013000.000	LPi000000001210114000.000	LPi000000001030049000.000
LPi000000001160043000.000	LPi000000001213017000.000	LPi000000001030119000.000
LPi000000001160113000.000	LPi000000001213047000.000	LPi000000001033022000.000
LPi000000001163016000.000	LPi000000001213117000.000	LPi000000001033052000.000
LPi000000001163046000.000	LPi000000001220019000.000	LPi000000001033122000.000
LPi000000001163116000.000	LPi000000001220050000.000	LPi000000001040024000.000
LPi000000001170019000.000	LPi000000001220120000.000	LPi000000001040054000.000
LPi000000001170049000.000	LPi000000001223022000.000	LPi000000001040124000.000
LPi000000001170119000.000	LPi000000001223052000.000	LPi000000001043027000.000
LPi000000001173022000.000	LPi000000001223122000.000	LPi000000001043058000.000
LPi000000001173052000.000	LPi000000001230025000.000	LPi000000001043128000.000
LPi000000001173122000.000	LPi000000001230055000.000	LPi000000001050000000.000
LPi000000001180025000.000	LPi000000001230125000.000	LPi000000001050031000.000
	LPi000000001233028000.000	LPi000000001050101000.000
	LPi000000001233058000.000	LPi000000001053003000.000
	LPi000000001233128000.000	
	LPi000000002000000000.000	



LPi000000001050101000.000	LPi000000001110006000.000
LPi000000001053003000.000	LPi000000001110036000.000
LPi000000001053033000.000	LPi000000001110106000.000
LPi000000001053104000.000	LPi000000001113009000.000
LPi000000001060007000.000	LPi000000001113039000.000
LPi000000001060037000.000	LPi000000001113109000.000
LPi000000001060107000.000	LPi000000001120011000.000
LPi000000001063009000.000	LPi000000001120042000.000
LPi000000001063040000.000	LPi000000001120112000.000
LPi000000001063110000.000	LPi000000001123014000.000
LPi000000001070012000.000	LPi000000001123044000.000
LPi000000001070042000.000	LPi000000001123114000.000
LPi000000001070112000.000	LPi000000001130017000.000
LPi000000001073015000.000	LPi000000001130047000.000
LPi000000001073045000.000	LPi000000001130117000.000
LPi000000001073115000.000	LPi000000001133019000.000
LPi000000001080018000.000	LPi000000001133050000.000
LPi000000001080048000.000	LPi000000001133120000.000
LPi000000001080118000.000	LPi000000001140023000.000
LPi000000001083021000.000	LPi000000001140053000.000
LPi000000001083051000.000	LPi000000001140123000.000
LPi000000001083121000.000	LPi000000001143026000.000
LPi000000001090024000.000	LPi000000001143057000.000
LPi000000001090054000.000	LPi000000001143127000.000
LPi000000001090124000.000	LPi000000001143157000.000
LPi000000001093027000.000	LPi000000001143227000.000
LPi000000001093057000.000	LPi000000001143257000.000
LPi000000001093127000.000	LPi000000001143327000.000
LPi000000001100000000.000	LPi000000001143357000.000
LPi000000001100030000.000	LPi000000001143427000.000
LPi000000001100100000.000	LPi000000001143457000.000
LPi000000001103003000.000	LPi000000001143527000.000
LPi000000001103033000.000	LPi000000001143557000.000
LPi000000001103103000.000	LPi000000001143627000.000
LPi000000001110006000.000	LPi000000001143657000.000



```

/outbox/aptev1220190122001.log -
LPi000000001143657000.000
LPi000000001143727000.000
LPi000000001143757000.000
LPi000000001143827000.000
LPi000000001143857000.000
LPi000000001143927000.000
LPi000000001143957000.000
LPi000000001144028000.000
LPi000000001144058000.000
LPi000000001144128000.000
LPi000000001144158000.000
LPi000000001144228000.000
LPi000000001144258000.000
LPi000000001144328000.000
LPi000000001144358000.000
LPi000000001144428000.000
LPi000000001144458000.000
LPi000000001144528000.000
LPi000000001144558000.000
LPi000000001144628000.000
LPi000000001144658000.000
LPi000000001144728000.000
LPi000000001144758000.000
LPi000000001144828000.000
LPi000000001144858000.000
LPi000000001144929000.000
LPi000000001144959000.000
LPi000000001145029000.000
LPi000000001145059000.000
LPi000000001145129000.000
LPi000000001145159000.000
LPi000000001145159000.000
T0000152

```

```

aptev1220190122001.log - Notepad
File Edit Format View Help
LPi000000001145159000.000
LPi000000001145229000.000
LPi000000001145259000.000
LPi000000001145329000.000
LPi000000001145359000.000
LPi000000001145429000.000
LPi000000001145459000.000
LPi000000001145529000.000
LPi000000001145559000.000
LPi000000001145629000.000
LPi000000001145659000.000
LPi000000001145729000.000
LPi000000001145759000.000
LPi000000001145829000.000
LPi000000001145859000.000
LPi000000001145929000.000
LPi000000001150000000.000
LPi000000001150030000.000
LPi000000002000000000.000
LPi000000003000000000.000

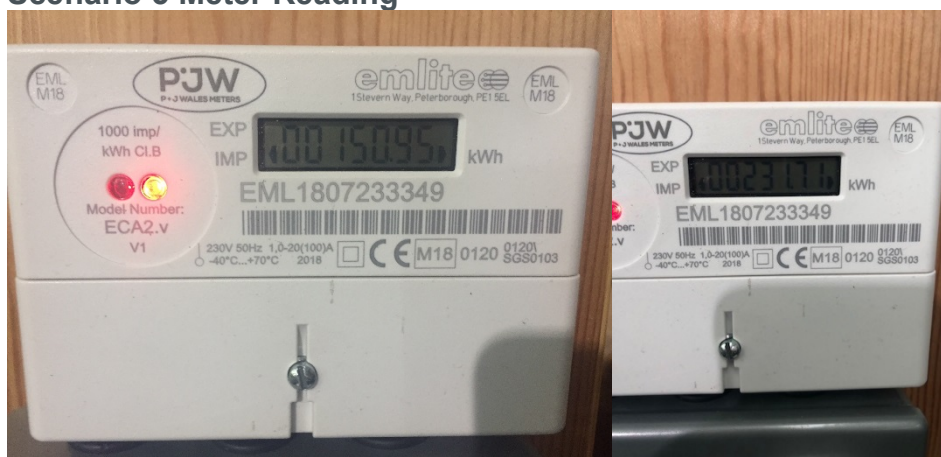
```

### 5.5 – Scenario 5 –

#### Consumption Over Midnight CPID LPi000000003

This charge was started at 15:40 on the 15/01/19 with a meter value of 150.95 kWh. The charge was then stopped at 09:10 on the 17/01/19 with a meter value of 231.71 kWh. The total consumption for this period was 80.76 kWh.

#### Scenario 5 Meter Reading





## Scenario 5 charge event log from Swarco Econnect

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector	
Selected	From: 1/15/19 12:00:00 AM To: 1/18/19 12:00:00 AM			Select	Selected		
StopTransaction (OCPPJ16) [-]	1/17/19 9:10:29.449 AM	1/17/19 9:10:31.474 AM	/172.27.33.40:39923	Yes	LPi000000003	1	
StartTransaction (OCPPJ16) [-]	1/15/19 3:40:31.359 PM	1/15/19 3:40:31.999 PM	/172.27.33.40:55214	Yes	LPi000000003	1	

Rows 1 to 2 from a total of 2. Page 1 of 1.

## Scenario 5 Log file

File	Edit	Format	View	Help
Haptev1220190116001				
LPi000000001000000000.000				
LPi000000002000000000.000				
LPi000000003000011191.880				
LPi000000003003014191.080				
LPi000000003010017192.190				
LPi000000003013019194.480				
LPi000000003020022194.880				
LPi000000003023025194.480				
LPi000000003030028193.710				
LPi000000003033001193.880				
LPi000000003040004194.680				
LPi000000003043007193.780				
LPi000000003050009191.080				
LPi000000003053012191.280				
LPi000000003060015193.880				
LPi000000003063018192.880				
LPi000000003070021193.880				
LPi000000003073024193.680				
LPi000000003080027189.440				
LPi000000003083000189.980				
LPi000000003090004190.680				
LPi000000003093007189.480				
LPi000000003100010189.880				
LPi000000003103013189.880				
LPi000000003110016190.280				
LPi000000003113019190.080				
LPi000000003120022189.590				
LPi000000003123024192.880				
LPi000000003130027193.500				
LPi000000003133000193.880				
LPi000000003140003193.880				

aptev1220190116001.log - Notepad					aptev1220190117001.log - Notepad				
File	Edit	Format	View	Help	File	Edit	Format	View	Help
LPi000000003140003193.880					Hapte1220190117001				
LPi000000003143006192.790					LPi000000001000000000.000				
LPi000000003150008188.980					LPi000000002000000000.000				
LPi000000003153012189.880					LPi000000003000004193.480				
LPi000000003160015189.190					LPi000000003003007193.080				
LPi000000003163017189.280					LPi000000003010010191.480				
LPi000000003170020193.680					LPi000000003013013191.880				
LPi000000003173023193.880					LPi000000003020016193.370				
LPi000000003180026193.280					LPi000000003023020194.080				
LPi000000003183029194.110					LPi000000003030023194.080				
LPi000000003190002192.370					LPi000000003033026192.880				
LPi000000003193006193.280					LPi000000003040029192.690				
LPi000000003200009194.280					LPi000000003043002192.480				
LPi000000003203012191.680					LPi000000003050005191.480				
LPi000000003210015194.280					LPi000000003053008190.080				
LPi000000003213018192.570					LPi000000003060011191.790				
LPi000000003220022191.080					LPi000000003063013190.080				
LPi000000003223025192.480					LPi000000003070016191.280				
LPi000000003230028190.360					LPi000000003073019193.480				
LPi000000003233000191.180					LPi000000003080022192.080				
T0000052					LPi000000003083025190.680				
					LPi000000003090028191.030				
					LPi000000003090959000.000				
					T0000024				

#### 5.6 – Scenario 6 –

#### Communications Failure CPID LPi000000003

This charge started at 14:12 on the 25/01/19 with a meter value of 239.68 kWh. The charge was stopped at 14:52 on the 25/01/19 with a meter value of 240.91 kWh. The charge was then started again at 16:04 on the 25/01/19 with a meter value of 240.91 kWh. The charge was then stopped at 16:41 on the 25/01/19 with a meter value of 242.10 kWh. The communications were cut at 14:52 on the 25/01/19 and then re-established at 16:14 on the 28/01/19. The total consumption for this period was 2.42 kWh.

#### Scenario 6 Meter Readings, start and stop





## Scenario 6 charge event log from Swarco Econnect version 1

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From 1/25/19 12:00:00 AM To 1/26/19 12:00:00 AM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/25/19 2:52:47.227 PM	1/25/19 2:52:49.092 PM	/172.27.161.40:44323	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [-]	1/25/19 2:12:37.618 PM	1/25/19 2:12:38.297 PM	/172.27.161.40:44323	Yes	LPi000000003	1

Rows 1 to 2 from a total of 2. Page 1 of 1.

## Scenario 6 charge event log from Swarco Econnect version 2

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From 1/25/19 12:00:00 AM To 2/28/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/28/19 3:45:32.239 PM	1/28/19 3:45:35.414 PM	/172.27.33.40:60807	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [-]	1/28/19 3:41:55.365 PM	1/28/19 3:41:56.597 PM	/172.27.33.40:60807	Yes	LPi000000003	1
StopTransaction (OCPPJ16) [-]	1/25/19 2:52:47.227 PM	1/25/19 2:52:49.092 PM	/172.27.161.40:44323	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [-]	1/25/19 2:12:37.618 PM	1/25/19 2:12:38.297 PM	/172.27.161.40:44323	Yes	LPi000000003	1

Rows 1 to 4 from a total of 4. Page 1 of 1.

## Scenario 6 Log file version 1

```

aptev1220190125001.log - Notepad
File Edit Format View Help
Haptev1220190125001
LPi0000000001000000000.000
LPi0000000002102715188.000
LPi0000000002103015186.590
LPi0000000002110019184.890
LPi0000000002113022185.610
LPi0000000002113823000.000
LPi0000000003141301180.700
LPi0000000003143003181.330
LPi0000000003145235000.000
T0000011

```

## Scenario 6 Log file version 2

```

aptev1220190125002.log - Notepad
File Edit Format View Help
Haptev1220190125002
LPi0000000001000000000.000
LPi0000000002102715188.000
LPi0000000002103015186.590
LPi0000000002110019184.890
LPi0000000002113022185.610
LPi0000000002113823000.000
LPi0000000003141301180.700
LPi0000000003143003181.330
LPi0000000003145235000.000
LPi0000000003160439204.000
LPi0000000003160509193.050
LPi0000000003163012189.530
LPi0000000003164113000.000
T0000015

```

Test Group 6 – Record operational switching times and power levels

6.1 – Record operational switching times and power levels

Details of the charge operational switching times for scenarios 1 to 6 are shown below.

## 6.2 - Scenario 1 –

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/25/19 12:00:00 AM To: 1/25/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/25/19 11:38:38.907 AM	1/25/19 11:38:41.096 AM	/172.27.161.40:56584	Yes	LPi000000002	1
StartTransaction (OCPPJ16) [-]	1/25/19 10:26:49.759 AM	1/25/19 10:26:50.717 AM	/172.27.161.40:56584	Yes	LPi000000002	1

Rows 1 to 2 from a total of 2. Page 1 of 1.

## 6.3 - Scenario 2 –

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/17/19 12:00:00 AM To: 1/18/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/18/19 3:56:59.508 PM	1/18/19 3:57:03.230 PM	/172.27.33.40:40494	Yes	LPi000000001	1
StartTransaction (OCPPJ16) [-]	1/18/19 3:15:15.546 PM	1/18/19 3:15:16.476 PM	/172.27.33.40:40494	Yes	LPi000000001	1
StopTransaction (OCPPJ16) [-]	1/18/19 2:07:31.336 PM	1/18/19 2:07:34.221 PM	/172.27.33.40:40494	Yes	LPi000000001	1
StartTransaction (OCPPJ16) [-]	1/18/19 1:25:41.439 PM	1/18/19 1:25:42.840 PM	/172.27.33.40:40494	Yes	LPi000000001	1

Rows 1 to 4 from a total of 4. Page 1 of 1.

## 6.4 - Scenario 3 –

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/24/19 12:00:00 AM To: 1/25/19 11:59:59 PM			Select	Selected	
No messages found.						

Rows 0 to 0 from a total of 0. Page 1 of 1.

## 6.5 - Scenario 4 –

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/21/19 12:00:00 AM To: 1/22/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/22/19 3:00:55.047 PM	1/22/19 3:00:56.894 PM	/172.27.33.40:39366	Yes	LPi000000001	1
StartTransaction (OCPPJ16) [-]	1/21/19 1:09:59.733 PM	1/21/19 1:10:00.523 PM	/172.27.33.40:48308	Yes	LPi000000001	1

Rows 1 to 2 from a total of 2. Page 1 of 1.

## 6.6 - Scenario 5 –

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/15/19 12:00:00 AM To: 1/18/19 12:00:00 AM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/17/19 9:10:29.449 AM	1/17/19 9:10:31.474 AM	/172.27.33.40:39923	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [-]	1/15/19 3:40:31.359 PM	1/15/19 3:40:31.999 PM	/172.27.33.40:55214	Yes	LPi000000003	1

Rows 1 to 2 from a total of 2. Page 1 of 1.

## 6.7 - Scenario 6 –

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/25/19 12:00:00 AM To: 1/26/19 12:00:00 AM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/25/19 2:52:47.227 PM	1/25/19 2:52:49.092 PM	/172.27.161.40:44323	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [-]	1/25/19 2:12:37.618 PM	1/25/19 2:12:38.297 PM	/172.27.161.40:44323	Yes	LPi000000003	1

Rows 1 to 2 from a total of 2. Page 1 of 1.

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From: 1/25/19 12:00:00 AM To: 2/28/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPPJ16) [-]	1/28/19 3:45:32.239 PM	1/28/19 3:45:35.414 PM	/172.27.33.40:60807	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [-]	1/28/19 3:41:56.597 PM	1/28/19 3:41:56.597 PM	/172.27.33.40:60807	Yes	LPi000000003	1
StopTransaction (OCPPJ16) [-]	1/25/19 2:52:47.227 PM	1/25/19 2:52:49.092 PM	/172.27.161.40:44323	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [-]	1/25/19 2:12:37.618 PM	1/25/19 2:12:38.297 PM	/172.27.161.40:44323	Yes	LPi000000003	1

Rows 1 to 4 from a total of 4. Page 1 of 1.

## 6.2 – Audit Trail

Charging events are not deleted from the CMS, these can be retrieved via Swarco E.connect CMS.

Message	Request timestamp	Response timestamp	Remote IP address	Successful?	Charging station	Connector
Selected	From 1/25/19 12:00:00 AM To 2/28/19 11:59:59 PM			Select	Selected	
StopTransaction (OCPPJ16) [<]	1/28/19 3:45:32.239 PM	1/28/19 3:45:35.414 PM	/172.27.33.40:60807	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [<]	1/28/19 3:41:55.365 PM	1/28/19 3:41:56.597 PM	/172.27.33.40:60807	Yes	LPi000000003	1
StopTransaction (OCPPJ16) [<]	1/25/19 2:52:47.227 PM	1/25/19 2:52:49.092 PM	/172.27.161.40:44323	Yes	LPi000000003	1
StartTransaction (OCPPJ16) [<]	1/25/19 2:12:37.618 PM	1/25/19 2:12:38.297 PM	/172.27.161.40:44323	Yes	LPi000000003	1

Rows 1 to 4 from a total of 4, Page 1 of 1.

Test Group 7 – Generate Operational Event Log – normal processing and communications failure.

#### 7.1 – Scenario 1

```

aptev1220190125001.log - Notepad
File Edit Format View Help
HapteV1220190125001
LPi0000000001000000000.000
LPi0000000002102715188.000
LPi0000000002103015186.590
LPi0000000002110019184.890
LPi0000000002113022185.610
LPi0000000002113823000.000
LPi0000000003141301180.700
LPi0000000003143003181.330
LPi0000000003145235000.000
T0000011

```

#### 7.2 – Scenario 2

```

aptev1220190118001.log - Notepad
File Edit Format View Help
HapteV1220190118001
LPi0000000001132535192.000
LPi0000000001132605190.500
LPi0000000001133005189.680
LPi0000000001140008188.980
LPi0000000001140709000.000
LPi0000000001151509185.810
LPi0000000001151540191.370
LPi0000000001153011190.060
LPi0000000001155644000.000
LPi0000000002000000000.000
LPi0000000003101223192.000
LPi0000000003101253191.980
LPi0000000003103025191.480
LPi0000000003110028194.520
LPi0000000003113001194.180
LPi0000000003113531000.000
T0000018

```



## 7.3 – Scenario 3

```

aptev1220190124001.log - Notepad
File Edit Format View Help
HapteV1220190124001
LPi00000000010000000000.000
LPi00000000020000000000.000
LPi00000000030000000000.000
T0000005

```

```

aptev1220190125001.log - Notepad
File Edit Format View Help
HapteV1220190125001
LPi00000000010000000000.000
LPi0000000002102715188.000
LPi0000000002103015186.590
LPi0000000002110019184.890
LPi0000000002113022185.610
LPi0000000002113823000.000
LPi0000000003141301180.700
LPi0000000003143003181.330
LPi0000000003145235000.000
T0000011|

```

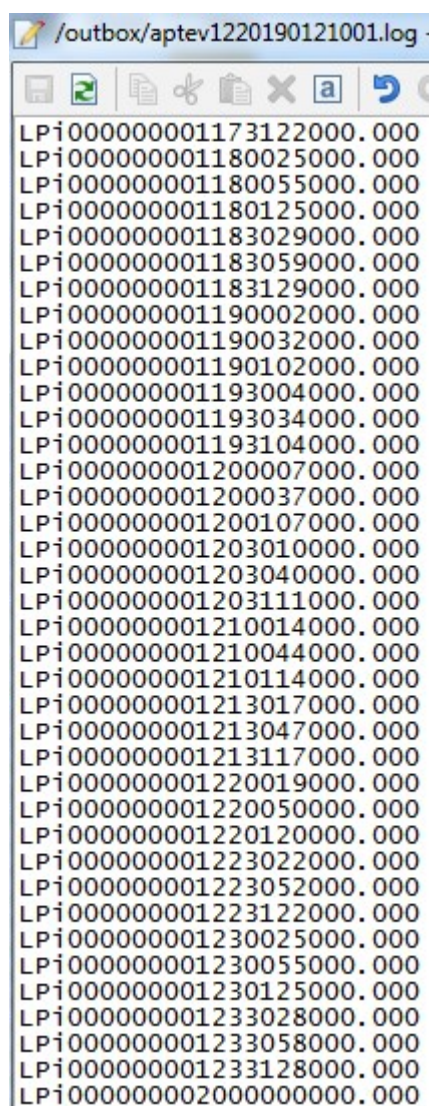
## 7.4 – Scenario 4

```

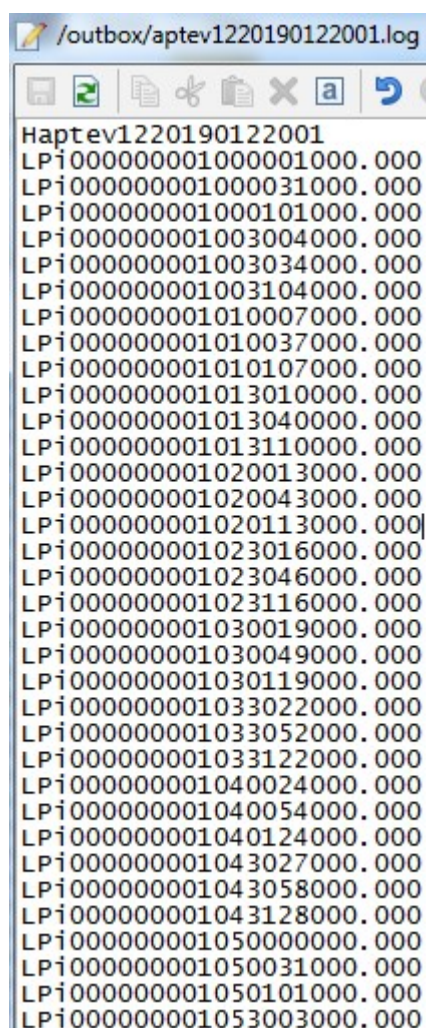
/outbox/aptev1220190121001.log
File Edit Format View Help
HapteV1220190121001
LPi0000000001130956000.000
LPi0000000001131026000.000
LPi0000000001131056000.000
LPi0000000001133028000.000
LPi0000000001133058000.000
LPi0000000001133128000.000
LPi0000000001140001000.000
LPi0000000001140031000.000
LPi0000000001140101000.000
LPi0000000001143004000.000
LPi0000000001143034000.000
LPi0000000001143104000.000
LPi0000000001150007000.000
LPi0000000001150037000.000
LPi0000000001150107000.000
LPi0000000001153010000.000
LPi0000000001153040000.000
LPi0000000001153110000.000
LPi0000000001160013000.000
LPi0000000001160043000.000
LPi0000000001160113000.000
LPi0000000001163016000.000
LPi0000000001163046000.000
LPi0000000001163116000.000
LPi0000000001170019000.000
LPi0000000001170049000.000
LPi0000000001170119000.000
LPi0000000001173022000.000
LPi0000000001173052000.000
LPi0000000001173122000.000
LPi0000000001180025000.000

```



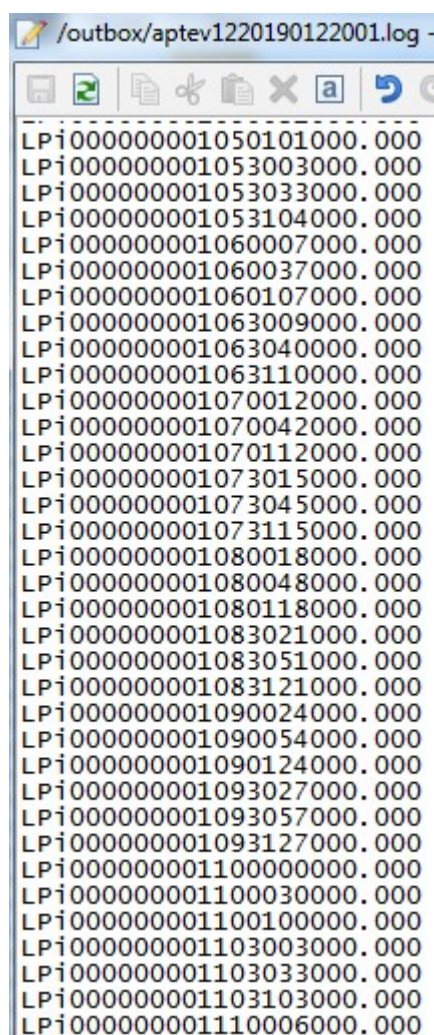
A screenshot of a text editor window showing a log file. The title bar reads "/outbox/aptev1220190121001.log". The window contains a list of 40 lines, each starting with "LPi" followed by a 12-digit hexadecimal number and ".000". The numbers range from 1173122000 to 2000000000 in increments of 1000.

```
/outbox/aptev1220190121001.log
LPi0000000001173122000.000
LPi0000000001180025000.000
LPi0000000001180055000.000
LPi0000000001180125000.000
LPi0000000001183029000.000
LPi0000000001183059000.000
LPi0000000001183129000.000
LPi0000000001190002000.000
LPi0000000001190032000.000
LPi0000000001190102000.000
LPi0000000001193004000.000
LPi0000000001193034000.000
LPi0000000001193104000.000
LPi0000000001200007000.000
LPi0000000001200037000.000
LPi0000000001200107000.000
LPi0000000001203010000.000
LPi0000000001203040000.000
LPi0000000001203111000.000
LPi0000000001210014000.000
LPi0000000001210044000.000
LPi0000000001210114000.000
LPi0000000001213017000.000
LPi0000000001213047000.000
LPi0000000001213117000.000
LPi0000000001220019000.000
LPi0000000001220050000.000
LPi0000000001220120000.000
LPi0000000001223022000.000
LPi0000000001223052000.000
LPi0000000001223122000.000
LPi0000000001230025000.000
LPi0000000001230055000.000
LPi0000000001230125000.000
LPi0000000001233028000.000
LPi0000000001233058000.000
LPi0000000001233128000.000
LPi0000000002000000000.000
```

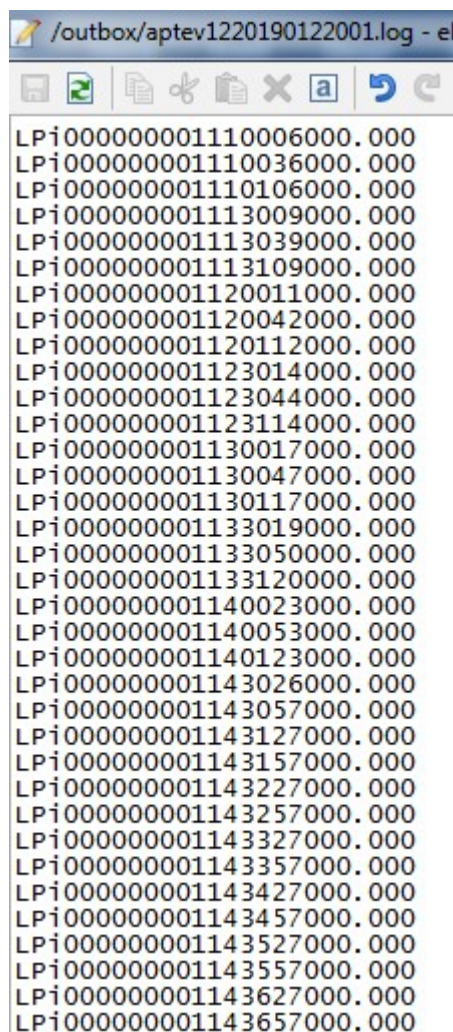
A screenshot of a text editor window showing a log file. The title bar reads "/outbox/aptev1220190122001.log". The window contains a list of log entries, each starting with "Hapte" followed by a long alphanumeric string and a timestamp in the format ".000". The entries are listed vertically, with some lines wrapped. The text is in a monospaced font.

/outbox/aptev1220190122001.log

Hapte1220190122001  
LPi0000000001000001000.000  
LPi0000000001000031000.000  
LPi0000000001000101000.000  
LPi0000000001003004000.000  
LPi0000000001003034000.000  
LPi0000000001003104000.000  
LPi0000000001010007000.000  
LPi0000000001010037000.000  
LPi0000000001010107000.000  
LPi0000000001013010000.000  
LPi0000000001013040000.000  
LPi0000000001013110000.000  
LPi0000000001020013000.000  
LPi0000000001020043000.000  
LPi0000000001020113000.000  
LPi0000000001023016000.000  
LPi0000000001023046000.000  
LPi0000000001023116000.000  
LPi0000000001030019000.000  
LPi0000000001030049000.000  
LPi0000000001030119000.000  
LPi0000000001033022000.000  
LPi0000000001033052000.000  
LPi0000000001033122000.000  
LPi0000000001040024000.000  
LPi0000000001040054000.000  
LPi0000000001040124000.000  
LPi0000000001043027000.000  
LPi0000000001043058000.000  
LPi0000000001043128000.000  
LPi0000000001050000000.000  
LPi0000000001050031000.000  
LPi0000000001050101000.000  
LPi0000000001053003000.000

A screenshot of a text editor window showing a log file. The title bar reads "/outbox/aptev1220190122001.log". The window contains a list of 32 lines, each starting with "LPi" followed by a 12-digit hexadecimal number and ".000". The numbers are: 000000001050101000, 000000001053003000, 000000001053033000, 000000001053104000, 000000001060007000, 000000001060037000, 000000001060107000, 000000001063009000, 000000001063040000, 000000001063110000, 000000001070012000, 000000001070042000, 000000001070112000, 000000001073015000, 000000001073045000, 000000001073115000, 000000001080018000, 000000001080048000, 000000001080118000, 000000001083021000, 000000001083051000, 000000001083121000, 000000001090024000, 000000001090054000, 000000001090124000, 000000001093027000, 000000001093057000, 000000001093127000, 000000001100000000, 000000001100030000, 000000001100100000, 000000001103003000, 000000001103033000, 000000001103103000, 000000001110006000.

```
LPi000000001050101000.000
LPi000000001053003000.000
LPi000000001053033000.000
LPi000000001053104000.000
LPi000000001060007000.000
LPi000000001060037000.000
LPi000000001060107000.000
LPi000000001063009000.000
LPi000000001063040000.000
LPi000000001063110000.000
LPi000000001070012000.000
LPi000000001070042000.000
LPi000000001070112000.000
LPi000000001073015000.000
LPi000000001073045000.000
LPi000000001073115000.000
LPi000000001080018000.000
LPi000000001080048000.000
LPi000000001080118000.000
LPi000000001083021000.000
LPi000000001083051000.000
LPi000000001083121000.000
LPi000000001090024000.000
LPi000000001090054000.000
LPi000000001090124000.000
LPi000000001093027000.000
LPi000000001093057000.000
LPi000000001093127000.000
LPi000000001100000000.000
LPi000000001100030000.000
LPi000000001100100000.000
LPi000000001103003000.000
LPi000000001103033000.000
LPi000000001103103000.000
LPi000000001110006000.000
```

A screenshot of a text editor window. The title bar shows the file path "/outbox/aptev1220190122001.log - e". The toolbar includes icons for file operations (new, open, save, print, delete, copy, paste) and editing (undo, redo, find, replace). The main text area contains a list of 30 lines, each starting with "LPi" followed by a 12-digit hexadecimal number and ".000".

```
/outbox/aptev1220190122001.log - e
LPi000000001110006000.000
LPi000000001110036000.000
LPi000000001110106000.000
LPi000000001113009000.000
LPi000000001113039000.000
LPi000000001113109000.000
LPi000000001120011000.000
LPi000000001120042000.000
LPi000000001120112000.000
LPi000000001123014000.000
LPi000000001123044000.000
LPi000000001123114000.000
LPi000000001130017000.000
LPi000000001130047000.000
LPi000000001130117000.000
LPi000000001133019000.000
LPi000000001133050000.000
LPi000000001133120000.000
LPi000000001140023000.000
LPi000000001140053000.000
LPi000000001140123000.000
LPi000000001143026000.000
LPi000000001143057000.000
LPi000000001143127000.000
LPi000000001143157000.000
LPi000000001143227000.000
LPi000000001143257000.000
LPi000000001143327000.000
LPi000000001143357000.000
LPi000000001143427000.000
LPi000000001143457000.000
LPi000000001143527000.000
LPi000000001143557000.000
LPi000000001143627000.000
LPi000000001143657000.000
```



```

/outbox/aptev1220190122001.log -
LPi000000001143657000.000
LPi000000001143727000.000
LPi000000001143757000.000
LPi000000001143827000.000
LPi000000001143857000.000
LPi000000001143927000.000
LPi000000001143957000.000
LPi000000001144028000.000
LPi000000001144058000.000
LPi000000001144128000.000
LPi000000001144158000.000
LPi000000001144228000.000
LPi000000001144258000.000
LPi000000001144328000.000
LPi000000001144358000.000
LPi000000001144428000.000
LPi000000001144458000.000
LPi000000001144528000.000
LPi000000001144558000.000
LPi000000001144628000.000
LPi000000001144658000.000
LPi000000001144728000.000
LPi000000001144758000.000
LPi000000001144828000.000
LPi000000001144858000.000
LPi000000001144929000.000
LPi000000001144959000.000
LPi000000001145029000.000
LPi000000001145059000.000
LPi000000001145129000.000
LPi000000001145159000.000

aptev1220190122001.log - Notepad
File Edit Format View Help
LPi000000001145159000.000
LPi000000001145229000.000
LPi000000001145259000.000
LPi000000001145329000.000
LPi000000001145359000.000
LPi000000001145429000.000
LPi000000001145459000.000
LPi000000001145529000.000
LPi000000001145559000.000
LPi000000001145629000.000
LPi000000001145659000.000
LPi000000001145729000.000
LPi000000001145759000.000
LPi000000001145829000.000
LPi000000001145859000.000
LPi000000001145929000.000
LPi000000001150000000.000
LPi000000001150030000.000
LPi000000002000000000.000
LPi000000003000000000.000
T0000152

```

## 7.5 – Scenario 5

aptev1220190115001.log - Notepad

File Edit Format View Help

```
Haptev1220190115001
LPi0000000001000000000.000
LPi0000000002000000000.000
LPi0000000003154055193.350
LPi0000000003160028189.750
LPi0000000003163000189.680
LPi0000000003170003190.480
LPi0000000003173006191.480
LPi0000000003180009191.480
LPi0000000003183012189.880
LPi0000000003190015190.680
LPi0000000003193018193.480
LPi0000000003200021192.990
LPi0000000003203023193.190
LPi0000000003210025193.080
LPi0000000003213028191.680
LPi0000000003220001193.190
LPi0000000003223003189.680
LPi0000000003230006192.590
LPi0000000003233008193.880
T0000019
```

aptev1220190116001.log - Notepad

File Edit Format View Help

```
Haptev1220190116001
LPi0000000001000000000.000
LPi0000000002000000000.000
LPi0000000003000001191.880
LPi0000000003003014191.080
LPi0000000003010017192.190
LPi0000000003013019194.480
LPi0000000003020022194.880
LPi0000000003023025194.480
LPi0000000003030028193.710
LPi0000000003033001193.880
LPi0000000003040004194.680
LPi0000000003043007193.780
LPi0000000003050009191.080
LPi0000000003053012191.280
LPi0000000003060015193.880
LPi0000000003063018192.880
LPi0000000003070021193.880
LPi0000000003073024193.680
LPi0000000003080027189.440
LPi0000000003083000189.980
LPi0000000003090004190.680
LPi0000000003093007189.480
LPi0000000003100010189.880
LPi0000000003103013189.880
LPi0000000003110016190.280
LPi0000000003113019190.080
LPi0000000003120022189.590
LPi0000000003123024192.880
LPi0000000003130027193.500
LPi0000000003133000193.880
LPi0000000003140003193.880
```



aptev1220190116001.log - Notepad

File Edit Format View Help

```
LPi000000003140003193.880
LPi000000003143006192.790
LPi000000003150008188.980
LPi000000003153012189.880
LPi000000003160015189.190
LPi000000003163017189.280
LPi000000003170020193.680
LPi000000003173023193.880
LPi000000003180026193.280
LPi000000003183029194.110
LPi000000003190002192.370
LPi000000003193006193.280
LPi000000003200009194.280
LPi000000003203012191.680
LPi000000003210015194.280
LPi000000003213018192.570
LPi000000003220022191.080
LPi000000003223025192.480
LPi000000003230028190.360
LPi000000003233000191.180
T0000052
```

aptev1220190117001.log - Notepad

File Edit Format View Help

```
Haptev1220190117001
LPi000000001000000000.000
LPi000000002000000000.000
LPi000000003000004193.480
LPi000000003003007193.080
LPi000000003010010191.480
LPi000000003013013191.880
LPi000000003020016193.370
LPi000000003023020194.080
LPi000000003030023194.080
LPi000000003033026192.880
LPi000000003040029192.690
LPi000000003043002192.480
LPi000000003050005191.480
LPi000000003053008190.080
LPi000000003060011191.790
LPi000000003063013190.080
LPi000000003070016191.280
LPi000000003073019193.480
LPi000000003080022192.080
LPi000000003083025190.680
LPi000000003090028191.030
LPi000000003090959000.000
T0000024
```

#### 7.6 – Scenario 6

aptev1220190125001.log - Notepad

File Edit Format View Help

```
Haptev1220190125001
LPi000000001000000000.000
LPi000000002102715188.000
LPi000000002103015186.590
LPi000000002110019184.890
LPi000000002113022185.610
LPi000000002113823000.000
LPi000000003141301180.700
LPi000000003143003181.330
LPi000000003145235000.000
T0000011
```

```

aptev1220190125002.log - Notepad
File Edit Format View Help
aptev1220190125002
LPi0000000001000000000.000
LPi0000000002102715188.000
LPi0000000002103015186.590
LPi0000000002110019184.890
LPi0000000002113022185.610
LPi0000000002113823000.000
LPi0000000003141301180.700
LPi0000000003143003181.330
LPi0000000003145235000.000
LPi0000000003160439204.000
LPi0000000003160509193.050
LPi0000000003163012189.530
LPi0000000003164113000.000
T0000015

```

#### 7.7 – Audit Trail

### Test Group 8 – Volume and Performance

Evidence of volume and performance provided to the accredited test agent.

### Data Output Requirements

#### Test group 9 – Operational Event Log

An example of an operational event log is shown below including all the specified parameters.

```

aptev1220190125001.log - Notepad
File Edit Format View Help
Haptev1220190125001
LPi0000000001000000000.000
LPi0000000002102715188.000
LPi0000000002103015186.590
LPi0000000002110019184.890
LPi0000000002113022185.610
LPi0000000002113823000.000
LPi0000000003141301180.700
LPi0000000003143003181.330
LPi0000000003145235000.000
T0000011

```