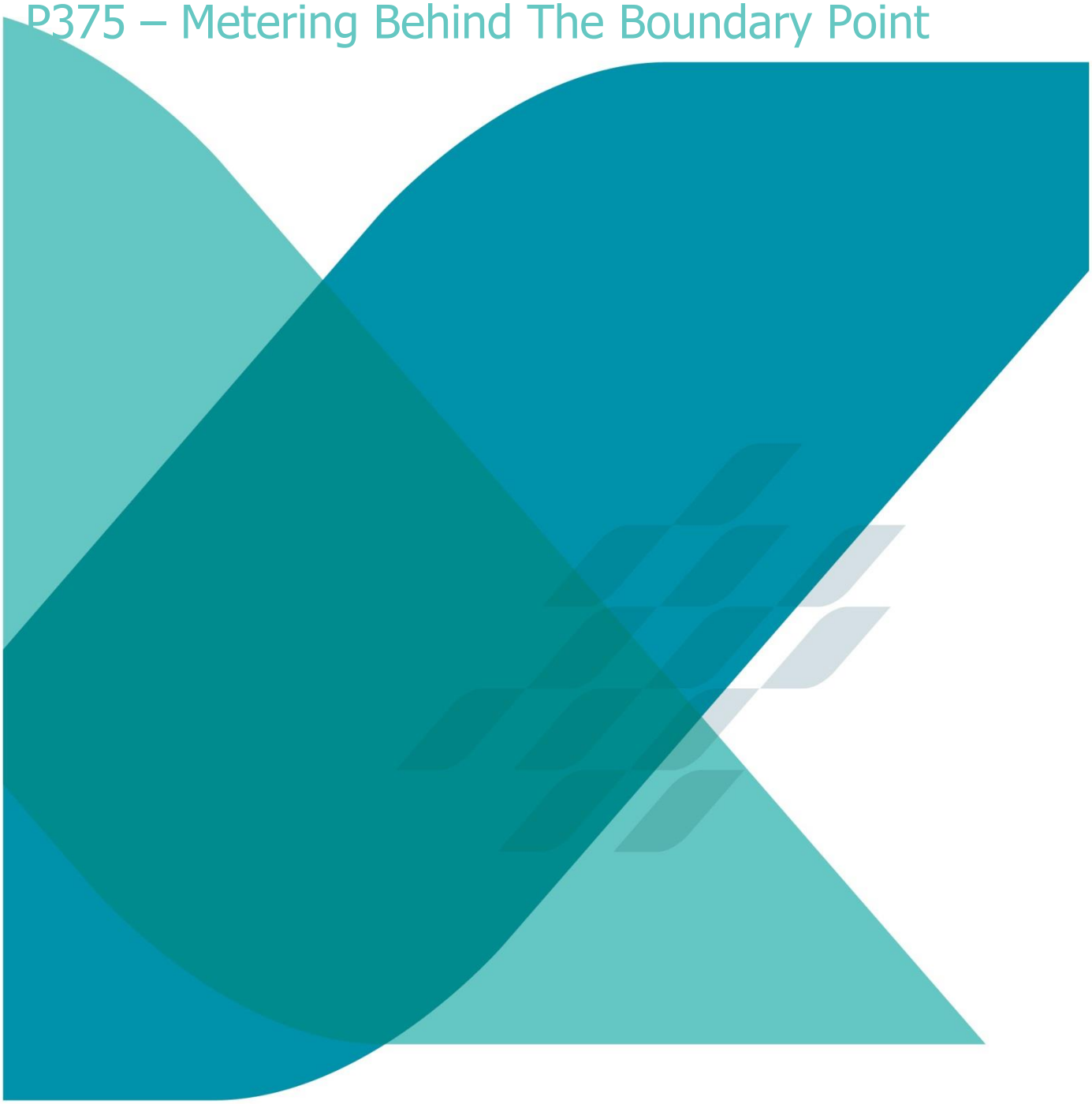
PUBLIC

BSC Change Business Requirements

P375 – Metering Behind The Boundary Point



Abidemi Akeredolu, Colin Berry

Version 0.16

8th December 2020

ELEXON

P375 BUSINESS REQUIREMENTS

Document History

Date	Version	Author	Reviewers	Description
17 April 2019	0.2	Paulina Stelmach	Tom Darwen	First draft
02 May 2019	0.4	Tom Darwen	Damian Clough	Second draft
09 May 2019	0.5	Paulina Stelmach	P375 Workgroup 3	Third draft
29 July 2019	0.8	Paulina Stelmach	Damian Clough	Fourth Draft
1 Aug 2019	0.9	Damian Clough	John Lucas	
7 August 2019	0.10	Paulina Stelmach	P375 Workgroup (ex-committee)	Workgroup feedback request
11 September 2019	0.11	Paulina Stelmach	John Lucas, Damian Clough, Iain Nicoll	Post workgroup revision
02/11/20	0.15	Abidemi Akeredolu	Damian Clough, Colin Berry	Gap Analysis
08/12/20	0.16	Abidemi Akeredolu	Colin Berry, Damian Clough, Iain Nicoll John Lucas, Jon Spence, Oliver Meggitt, Riccardo Lampini	Peer Review

Approvals

Date	Name	Role

P375 BUSINESS REQUIREMENTS

CONTENTS

Document History 2

Approvals 2

1. INTRODUCTION 4

1.1 Purpose 4

2. BSC Change Summary 4

2.1 BSC Change P375 Problem Statement 4

2.2 BSC Change P375 Objectives 5

2.3 BSC Change P375 Scope 6

2.4 BSC Change P375 Context Diagram 7

2.5 References 8

3. BUSINESS REQUIREMENTS 9

3.1 Current State (As-Is situation) 9

3.2 P375 Assumptions 9

3.3 High Level Business Requirements 12

3.4 Business Requirements 12

3.5 Non-Functional Requirements 34

3.6 Business Rules 35

3.7 Scenarios 36

4. GLOSSARY 42

APPENDIX A – Data Flows 44

APPENDIX B – P375 Logical Data Model 45

APPENDIX C – High Level End-To-End Process Map 46

APPENDIX D – AMSID Registration Process Map 47

APPENDIX E – Agent Appointment Process Map 48

APPENDIX F – Compliance Testing Process Map 49

APPENDIX G – Protocol Approval Process Map 56

APPENDIX H – Sending Metered Data Process Map 51

APPENDIX I – Data Aggregation Process Map 52

APPENDIX J – De-Registration process Map 53

APPENDIX K – AMSID Dispute Process Map 54

© ELEXON 2020

P375 BUSINESS REQUIREMENTS

1. INTRODUCTION

1.1 Purpose

The BSC Change Business Requirements document is produced as part of the 'End to End BSC Change Process' during the BSC Change Assessment stage. It is produced in line with ELEXON's standards for Business Analysis.

The purpose of this document is to communicate the Business Requirements of BSC Change P375 to industry members and service providers. It enables an initial impact assessment to be carried out by a Service Provider and any impacted stakeholder.

In addition, it describes the anticipated impact on BSCCo (people, processes and systems), BSC Agents, the BSC, Code Subsidiary Documents, and other Configurable Items as well as on BSC Parties and Party Agents.

2. BSC CHANGE SUMMARY

2.1 BSC Change P375 Problem Statement

The BSC currently requires Bid-Offer Acceptances and Replacement Reserve Acceptances to be settled using readings from Meters installed to measure flows of electricity at the defined Boundary Point. However, we anticipate that there will be a future need for new and/or different types of customers and business to participate in the Balancing Mechanism (BM) and other alternative balancing products through Secondary Balancing Mechanism Units (SBMU's). We have observed an increased interest in new business models with diverse and smaller scale assets such as electric vehicle (EV) charging units. These smaller assets tend to share a site with other demand and generation assets, whose flows are all measured and then settled using the Boundary meter. When providing a balancing service it is necessary to submit a Physical Notification to the National Electricity Transmission System Operator (NETSO). The Physical Notification is a forecast of flows for the relevant settlement period. This Physical Notification becomes the Final Physical Notification (FPN) at gate closure and is used by the NETSO to dispatch the asset and is subsequently used in the Settlement of the Balancing service.

If this FPN is inaccurate, it can lead to Imbalance and/or Non-delivery charges in settlement. As the Boundary Meter measures total flows for the site and not just the asset, Virtual lead Parties (VLPs) have stated difficulties in being able to forecast accurately the FPN and state this as a significant blocker for the provision of Balancing Services. This creates a need to allow Settlement to acquire data from metering behind the Boundary Point, i.e. at the asset, which is delivering the Balancing Service. By allowing this, the VLP can install metering or use existing metering which can isolate the flows, which the VLP can therefore forecast accurately in its FPN.

This Issue arose through the development of the Project TERRE (Trans European Replacement Reserves Exchange) arrangements through BSC Modification Proposal P344 'Project TERRE implementation into GB market arrangements', but may become relevant to other Balancing Services in the future. Whilst P344 will allow GB users to offer the TERRE product it also opens up access to the Balancing Mechanism for aggregators. Therefore, P375 removes a barrier to the BM and Balancing services settled through the BM and not just the TERRE product.

© ELEXON 2020

P375 BUSINESS REQUIREMENTS

Element	Description
The problem of…	Settling only Balancing Service Metered Volumes collected at a Boundary Point
Affects…	Virtual Lead Parties (VLPs) BSCCo SVAA Suppliers (through more accurate FPN and delivered volumes) HHDCs
The impact of which…	Means that the metering at the site Boundary Point does not allow for differentiation between the delivery of Balancing Services and other independent actions on site. As a result, there may be a difference between the forecasted metering volumes of the site (Physical Notification) and the Settled metered volumes due to the inability to differentiate. This difference may create an adverse Imbalance Position or Non Delivery Charge to the Provider (Virtual Lead Party) of the Balancing Services and/or an incorrect adjustment or lack of adjustment to the Primary's Suppliers metered volumes, which may not be related to the actual delivery of the Balancing Service and impact upon the System.
A successful solution would…	Allow the VLP to register asset meters and create a new Asset MSID, which can then be nominated within a SBMU. The AMSID will be associated with all Boundary Point MSID pair(s), which it may impact on. VLPs will also then be able to utilise asset metering installed on site and registered with SVAA to calculate all other flows on site not metered through Asset metering flows thus negating the need to install extra asset meters. The metering installed will meet Code Of Practice standards in terms of requirements and accuracy. Performance Assurance will work to ensure Settlement Risk is mitigated when using asset metering. The solution will allow Settlement of the Balancing Service to use both metering installed at the asset with volumes adjusted by Line Loss Factors (LLF) up to the GSP (equivalent of Boundary Point volumes) and Boundary Point meters. The VLP will decide which metering option best suits their needs from a commercial perspective The submission of the FPN and how it is used within settlement will not alter due to P375, but opening up the option to use Asset Metering will allow VLP's to potentially submit more accurate FPN's thus removing a significant barrier.

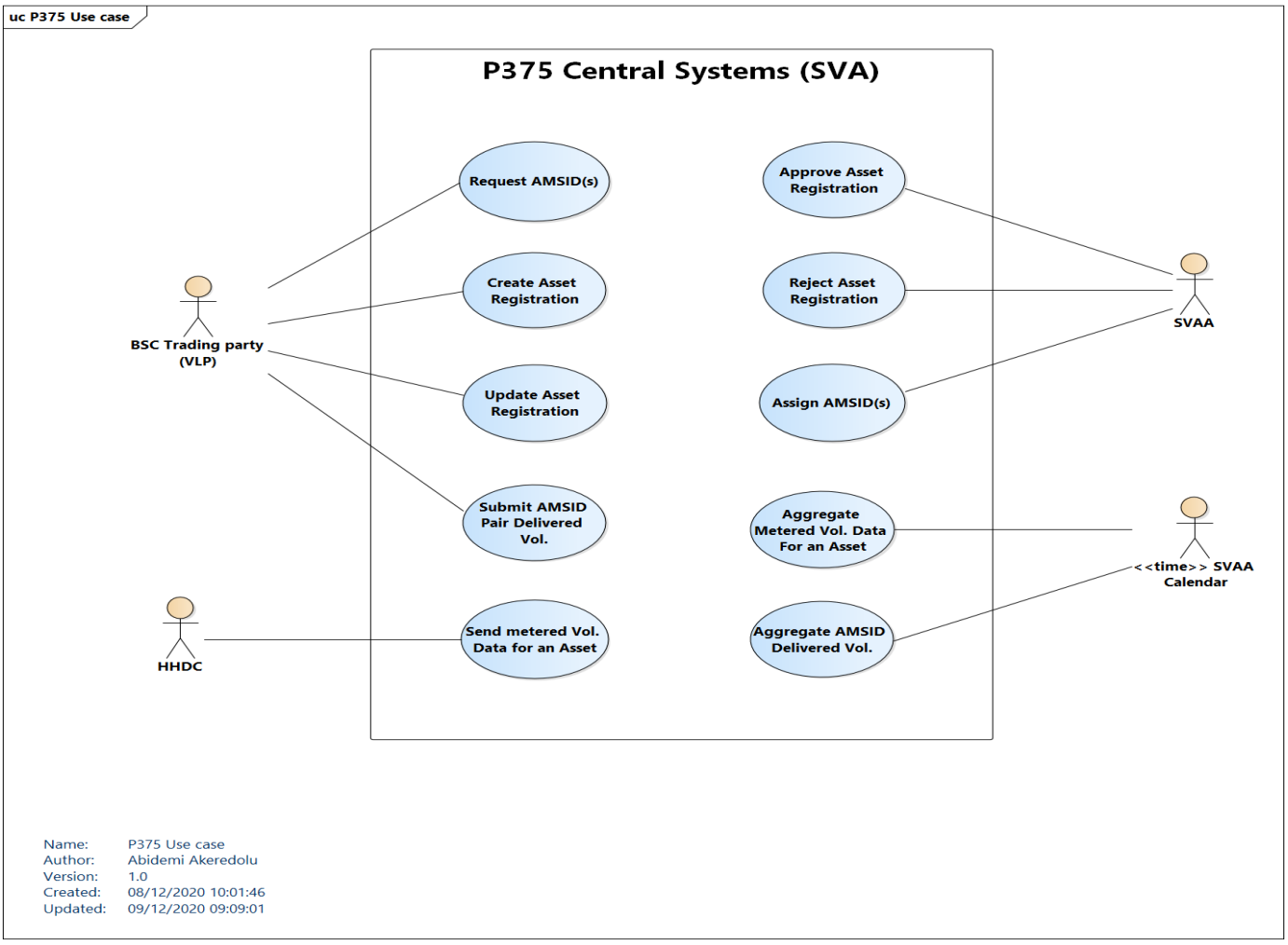
2.2 BSC Change P375 Objectives

The objective of the P375 solution is to define the standards of metering for the behind the Boundary Point meters, the application of Line Loss Factors methodology and establishment of assurance measures required for a VLP when performing the P375 process. A centrally administered meter registration system will be introduced for the Asset Meters with the requisite changes to the accompanying Code Subsidiary Documents and Configurable Items. The P375 solution will also enable the balancing position of the site's Supplier to be accurately adjusted if there are balancing actions taken by the VLP behind the Supplier's meter.

© ELEXON 2020

2.3 BSC Change P375 Scope

The scope of P375 are amendments to BSC procedures and systems to enable the registration and compliance of asset meters for use by the Virtual Lead Party (VLP) Secondary Balancing Mechanism Unit. The diagram below represents a high-level main use case (SVAA core process) reflecting P375 deliverables.



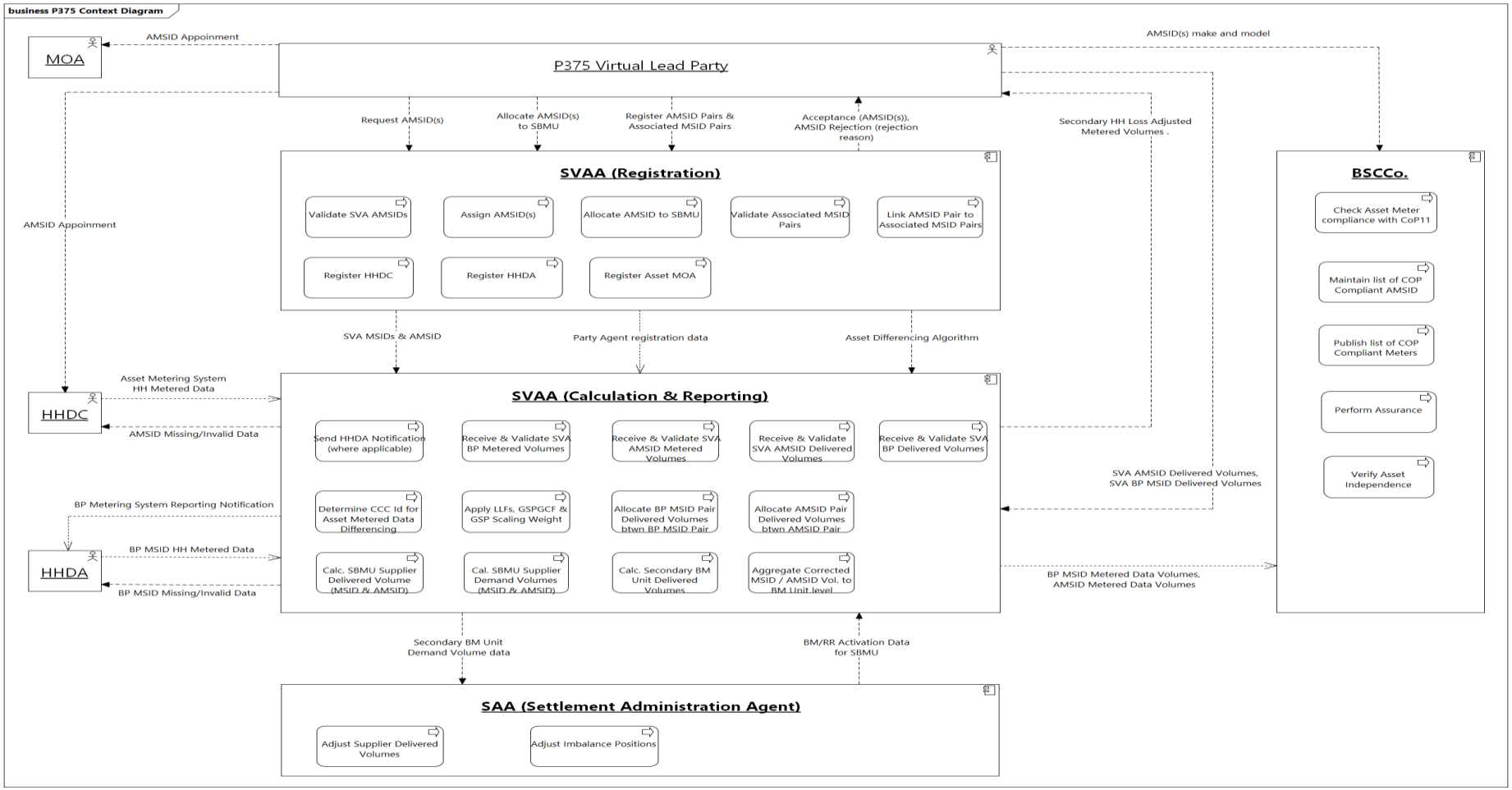
However, the process will also affect the following areas:

- Imbalance Position adjustment by SAA
- Metering Code of Practice (definitions)
- Metering Dispensations
- Line Loss Factor process
- Trading Disputes
- Performance Assurance for new metering
- Customer Operations

© ELEXON 2020

2.4 BSC Change P375 Context Diagram

The context diagram below illustrates the scope for the BSC change P375 at a glance. Illustrating the BSC processes and relationships with Virtual Lead Parties and BSC Party Agents for the purpose of BSC Change P375.



2.5 References

We will use existing flows created for TERRE (where possible) and new flows where new data is required. Their use for the TERRE process is outlined in BSCP602 SVA Metering System Register. Please see Appendix A for the complete list of flows that exist for VLPs. This means minimum system changes are needed to the Data Transfer Network (DTN) and existing flows. We would also need to introduce a definition for Asset Metering System Identifiers (AMSIDs) and add the additional/optional fields in the Supplier Volume Allocation Data Catalogue.

Document	Author	Date
P375: 'Settlement of Secondary BM Units using metering behind the site Boundary Point' BSC Modification proposal	Saskia Barker, Flexitricity	5 January 2017
P375 Initial Written Assessment	Steven Bradford	11 December 2018
P375 Assessment Report Consultation	Tom Darwen	
BSP602 'Supplier Volume Allocation Metering System Balancing Services Register' (see relevant flows below)	ELEXON	
Supplier Volume Allocation Data Catalogue Volume 1: Data Interfaces	ELEXON	
P344 Project TERRE Business Requirements	ELEXON	

3. BUSINESS REQUIREMENTS

3.1 Current State (As-Is situation)

The process for collecting and aggregating Metered Volume data for the Assets located behind the Boundary Point does not exist yet. However, we introduced a similar process as a part of BSC Modification P344 "Project TERRE implementation into GB market arrangements". Under P344, the Virtual Lead Parties register with Supplier Volume Allocation Agent (SVAA) the Boundary Point Metering System Identifiers (MSID). These MSIDs are registered against the Secondary BM Units. SVAA validates the information provided by the VLP and upon successful registration, it then instructs a HHDA to report Metered Volume data for a given MSID in line with the SVAA calendar. VLPs are obligated to provide the Delivered Volumes to SVAA for adjustment of the Supplier Imbalance position. SVAA then aggregates both Metered Volume and Delivered Volume data and passes it on to SAA, which in turn adjust Imbalance Position of the BSC Party who is a Registrant of the Boundary Point MSID used by the VLP.

SVAA holds a central register of MSIDs that are registered against Secondary BM Units for all VLPs.

3.2 P375 Validated Assumptions

The following list represents assumptions that should be taken into consideration when reading the Business Requirements. Please note that for the purpose of this document an 'assumption' is defined as a thing (e.g. action, person, document, data item etc.) that is believed to be true provided that P375 is implemented and becomes a part of Business As Usual (BAU) process (i.e. we do not aim to change any of these assumptions).

1. Only Virtual Lead Parties with a Secondary BM Unit(s) will be able to participate in the process introduced by P375.
2. Where a Company wishes to participate in the provision of the Balancing Services and the Balancing Mechanism by using Assets located 'behind the Boundary Point then that Company needs to become a signatory to the Balancing and Settlement Code, i.e. a VLP. The process for becoming a VLP for P375 will remain the same as the process introduced for P344. For more information please see P344 Business Requirements[1] (BR1 and BR2), as well as BSCP65 – Registration of Parties and Exit Procedures.
3. A VLP will have a choice to either deliver Balancing Services measured at a Boundary Point (BP) MSID (as-is process introduced by P344) or measured at Asset Metering System located behind the BP MSID (new process introduced by P375). Where one VLP chooses to use the BP MSID for Settlement another VLP cannot then use that same BP MSID pair. Any other VLP with assets located 'behind' that BP wishing to participate in Balancing Mechanism will be mandated to apply for an AMSID(s) and register AMSID Pair(s).
4. A VLP could register to its Secondary BM Unit(s) a mix of MSID Pairs and AMSID Pairs. See Scenario 9 in section 3.5 of this document.
5. AMSIDs allocated by the SVAA will take the same format as MSID. SVAA will reserve a Distributor Short Code in the Market Domain Data to ensure that AMSIDs are easily recognised by all Market Participants and BSC central systems. For the avoidance of doubt, an AMSID should not be mistaken for neither a Primary MSID nor a Secondary MSID[2].
6. An 'AMSID Pair' means one Import AMSID and, where applicable, one Export AMSID relating to an Asset Meter situated behind one or more Boundary Points for the purposes of providing Replacement Reserve

[1] P344 Final Modification Report, P344-FMR-C-P344-Business-Requirements-v5.0.pdf
[2] BSCP550 'Shared SVA Meter Arrangement' Section 1.3.

© ELEXON 2020

(RR) or Balancing Mechanism (BM) Services. To clarify an AMSID Pair must contain a SVA Import Asset Metering System but does not always have to have to contain a SVA Export Asset Metering System.

7. As a part of the P375 AMSID Pair registration process, the VLP will be mandated to list all Boundary Point MSID Pairs through which the Metered Volumes for a given Asset may be recorded. This relationship will be used when validating a VLP's allocated delivered volumes to a BP MSID pair. During the validation of registration data, SVAA will identify and store information on the Half-Hourly Data Aggregator(s) for each of the Boundary Point MSIDs listed by the VLP and Suppliers.
8. Where the AMSID Pairs were successfully registered by the VLP, SVAA will have to instruct the Half Hourly Data Aggregator for the affected Boundary Point MSIDs to provide data for each MSID in the Boundary Point MSID Pairs listed by the VLP. This will be necessary for assurance purposes.
9. Where on a given site, there is more than one asset located behind the Boundary Point, the SVAA may be required to calculate actual metered volumes for an AMSID pair using a new residual balancing process. For example, the VLP may request that metered volumes equals BP MSID volumes less other AMSID's volumes relating to the BP MSID. The process will be analogous to the existing difference metering[3] process. The 'differencing' will be applied during aggregation of Metered Data up to a Secondary BM Unit level.
10. When submitting the Final Physical Notification (FPN) to the NGESO, a VLP will have to ensure that their FPN reflects the sum of metered data expected at a Boundary Point MSID Pair or AMSID Pair, depending on what is registered in the VLP's Secondary BM Unit. Please note that the VLP will have to account for losses to/from the Asset Meter as well as from the Boundary Point to the GSP when submitting the FPN. For avoidance of doubt – P375 will not change the process of FPN submission to the NGESO or adjust the FPN when it is used in settlement.
11. Once an AMSID Pair is registered into SVAA as located behind a given Boundary Point MSID Pair, that association (i.e. the location of the AMSID Pair) is fixed, i.e. AMSID Pair cannot be moved to a different location in the country. However, we recognise that the configuration of a given site can change (e.g. the Metering System is exchanged or part of the network decommissioned); Therefore, AMSID Pair can gain new associations In such instance, VLP will have to provide SVAA with a proof that the Boundary Point MSID Pair has changed (or a new one was added). SVAA (after reviewing the evidence) will change the associations in line with the changes to the site configuration.
12. The Asset Metering System must conform to the relevant Code of Practice (COP) requirements. A new Code of Practice (COP11) will be construed to describe requirements for Asset Metering System. In addition, Asset Meter must be installed and maintained by either a BSC Qualified Meter Operator Agent (MOA) in accordance with provisions of BSC Section J, or a 'BSC MOA alternative'. VLP can elect to use a 'BSC MOA Alternative' only where the Asset Meter [meets the criteria of Codes of Practice 4 or 5]. The 'BSC MOA Alternative' will install, commission, test, maintain, and rectify faults in respect of SVA Asset Metering Equipment. They will also produce an equivalent of Meter Technical Details (MTD) for a new Asset Meter. However, it will be the responsibility of the Virtual Lead Party to store, maintain and send to its agents the MTDs for the Asset Meter. The criteria for 'BSC MOA alternative' will be set out in one of the Code Subsidiary Documents, as a part of P375 document change process. For avoidance of doubt, the Asset Meters that meet the criteria of COP1, COP2 and COP3 (Asset Metering Types 1, 2 and 3) must be maintained by a BSC Qualified MOA.
13. Where a device is not on the list of the COP11 approved devices, an applicant will be mandated to apply to BSCCo to add a given Metering device to the approved list. An applicant is any party who wishes to add the device to the list. This can be done concurrently to the AMSID Pair registration process. For avoidance of doubt, AMSID registered against non-approved Asset Meter device will be allowed to provide Balancing

[3] 8.4.3 BSCP514 'SVA Operations for Metering Systems Registered in SMRS'

© ELEXON 2020

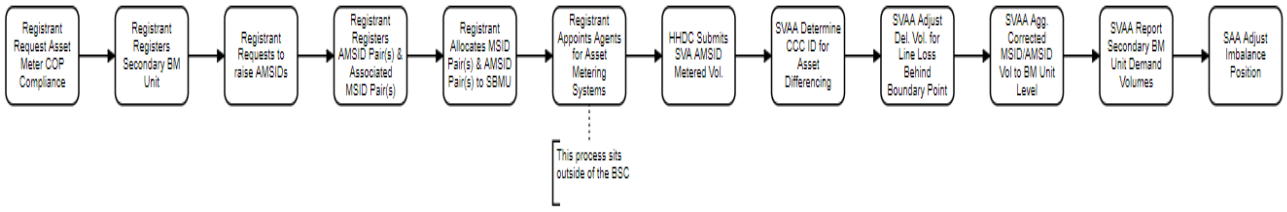
Services (provided all other conditions are met), as long as the Party applied to add the device to the approved list. If an Asset Meter device is found not to conform to the COP11 requirements, SVAA will have a remit to stop collating Metered Volume data for AMSID until a compliant Asset Meter is installed.

14. Where a device qualifies for a MOA Alternative, the VLP can elect to use a party that will dial the Asset Meter and pass on the metered data to HHDC ('Party responsible for dialling the Asset Meter'). Such a party can be the VLP, HHDC, MOA Alternative or the Asset Meter manufacturer. Such a party must pass the protocol testing to prove that they can access the data from the Asset Meter and convert such data to a format suitable for submission to the HHDC. We will amend the provisions of BSCP601 to outline the process. For avoidance of doubt, the Asset Meters that Half Hourly Integral Outstations that are designed to meet the criteria of Asset Metering Types 1, 2 and 3 within COP11 must be dialled and protocol tested by a BSC Qualified HHDC.
15. A VLP will have to put in place contractual arrangement and appoint a BSC Qualified MOA or CSD compliant MOA ('BSC MOA Alternative') who will install and maintain a COP compliant Asset Metering System. The processes for appointing a MOA should closely follow the existing provisions.
16. A VLP will have to put in place contractual arrangement and appoint a BSC Qualified Half Hourly Data (HHDC) Collector who will record and forward to SVAA Metered Volumes. The processes for appointing a HHDC should closely follow the existing provisions.
17. The P375 process shall distinguish two VLP roles.
    i) A VLP can be an 'Asset Metering System Registrant' who is responsible for requesting AMSID to provide AMSID Pair delivered volumes to SVAA in place of MSID Pair delivered volumes, appointment of Agents and metering systems compliance against COP); or
    ii) A VLP may wish to register such an AMSID against their Secondary BM Unit for the purposes of differencing.
18. A VLP that is an 'Asset Metering System Registrant' will provide SVAA with Delivered Volumes for each AMSID Pair whenever a Balancing Service was delivered.
19. The reason for distinguishing the two roles is to allow two VLPs to use the same AMSID at the same time (i.e. where a differencing arrangement is used and one VLP uses it 'as-is' Metered Volume data and the other VLP needs the AMSID to obtain the 'remainder'). In such instance, although two VLPs would use the same AMSID for Settlement, only one of them would be responsible for the metering and Agent appointments. However, please note that where a VLP is the only VLP on site and the Asset Meter cannot be installed at the asset, such a VLP would fulfil both roles.
20. As P375 will use some of the data at a different level of granularity, some existing SVAA calculation steps of Metered Volume for a Secondary BM Unit and Delivered Volume for a Secondary BM Unit will be affected. However, the following steps will remain the same:
    - Secondary BM Unit Delivered Volume calculation. SVAA calculates Secondary BM Unit Delivered Volume ('$QVBMD_{i2NLKji}$') by grouping the Metering System Delivered Volume ('$QVMD_{Kj}$') by the Secondary BM Unit in line with the information provided by the VLP in the SVA Metering System Register.
    - Secondary BM Unit Supplier Delivered Volume calculation. As part of each SVA aggregation Run, SVAA aggregates the Line Loss and GSP Group Correction Factor adjusted Delivered Volume data. For avoidance of doubt, the aggregation will now include the AMSID Pair related data submitted for P375 purposes, as well as MSID Pair related data submitted for P344 related purposes. Both should feed into calculation of Secondary BM Unit Supplier Delivered Volume ('$VBMUSDV_{i2ji}$') in MWh for each Secondary BM Unit. Once calculated, SVAA should report the Secondary BM Unit Demand Volume data to the Settlement Administration Agent (SAA).

© ELEXON 2020

3.3 High Level Business Requirements

This below diagram provides an illustration of the sequence of events that make up the BSC Change P375.



Please refer to the Appendix C for the BSC Change P375 End-To-End Process Map

3.4 Business Requirements

The following table lists the business requirements for P375. The requirements are split into five main areas of the process:

- Registration of Asset Metering Systems and receipt of AMSID
- Allocation of AMSID Pairs to a Secondary BM Unit
- Appointments
- Aggregation and Imbalance
- Assurance

The requirements are grouped by process area they belong to (e.g., 'Registering AMSIDs and appointing agents' category). Each requirement is stated at high-level and additional description is provided where necessary.

Please note that items in **bold** in the following Business Requirements tables are defined in the Glossary section of this document. For ease of reading, these items are in bold only the first time they appear in the Business Requirements. The items that have their respective meaning set out in either in the Balancing and Settlement Code or any of the Code Subsidiary Documents are not listed in the Glossary.

Ref. no	Business Requirement
Registering Asset Metering System, allocating AMSIDs and appointing agents	
	Before any Asset Metering System can be used in Settlement, a VLP (acting as an 'Asset Metering System Registrant' for that Asset Metering System) shall register the Asset Metering System with SVAA, ensure that appropriate Settlement Metering Equipment in installed, and appoint a Qualified HHDC and Qualified Asset MOA

© ELEXON 2020

P375 BUSINESS REQUIREMENTS

P375-BR1	SVAA shall create and maintain a Register of Asset Meters. For the purposes of these Business Requirements, we shall call this register the **Asset Meter Register** (AMR).

P375-BR2	**Asset Meter Register** must store the following information.
	
	Requirement Description
	
	Within the Asset Meter Register (AMR), SVAA must be able to receive and store details of all **Asset Metering Systems** (AMS) registered by **Virtual Lead Parties** (VLPs).
	
	The details (data) to be stored:
	• P375 Registrant MPID
	• P375 Asset Metering System Reference
	• Asset(s) and for each:
	  ○ Import AMSID
	  ○ Export AMSID (Optional)
	• Data Collector Id (MPID[4]) for Import AMSID/Export AMSID
	  ○ HHDC Effective from Date
	  ○ HHDC Effective to Date
	• Asset Meter Operator Id [MPID] for Import AMSID/Export AMSID
	  ○ Asset MOA Effective from Date
	  ○ Asset MOA Effective to Date
	• Associated Supplier Boundary Point Import MSID(s)
	  ○ The connection voltage of the Asset Metering System
	  ○ The connection voltage of the Supplier Boundary Point MSID
	  ○ Balancing delivery capacity of the asset in kW
	• Asset type (e.g. diesel generator, battery storage unit, Electric Vehicle charging unit)
	• Measurement Class AMS make and model
	• AMS IEC standard
	• Asset Meter Serial Number
	• Secondary BM Unit Id
	• GSP Group Id
	• Indicator/Flag of how to use the MSID/AMSID Pair in Settlement (Refer to BR25).

P375-BR2a	SVAA shall ensure all AMSID(s) relating to a VLP Registrant can be associated with each other and key relationships maintained. SVAA shall map the following relationships for P375: • Map MSID to MSID Pair • Map AMSID to AMSID Pair • Map AMSID Pair to Associated MSID Pair • Map VLP to AMSID(s) • Map VLP to MSID(s) • Map VLP to Secondary BM unit • Map Secondary BM Unit to AMSID(s) • Map Secondary BM Unit to MSID(s) • Map MSID(s) to HHDA appointment • Map MSID(s) to Supplier

[4] As defined in the SVA Data Catalogue volume 2.

© ELEXON 2020

	• Map AMSID(s) to HHDC appointment • Map AMSID(s) to Asset MOA appointment • Map AMSID(s) to GSP Group • Map MSID(s) to GSP Group • Map GSP Group to Secondary BM Unit • Map effective from date and effective to date of the above relationships • Map MSID to Non-Chargeable Imports Please see Appendix B for the P375 Logical Data Model
Asset Meter Registration Service The SVAA shall provide an Asset Meter Registration Service for VLPs to register details of Asset Metering Systems for which they will become the Registrant	
P375-BR2b	The VLP shall – **after** successful verification of AMSID COP conformity approval with BSCCo request AMSIDs for all Asset Metering Systems on a P375 site with SVAA. Requirement Description When completing a registration of an Asset Metering System so as to receive an AMSID Pair, the VLP who will fulfil the role of 'Asset Metering System Registrant' must provide the following information: • All Boundary Meters on the site have been registered. For the purposes of these Business Requirements these will be called **Associated MSID Pairs** • The connection voltage at the Asset Meter System • The connection voltage at the Supplier Boundary Point MSID • Asset type (e.g. diesel generator, battery storage unit, Electric Vehicle charging unit) • AMS make and model • AMS IEC standard • Asset Meter Serial Number **Optional Information** The optional information will not be checked and is not a requirement but could provide useful information for Industry • Balancing delivery capacity of the asset in kW • Asset Type i.e. Diesel, Battery, Demand Reduction, Electric Vehicle charging unit The VLP shall also have the option to request AMSID(s) via email or other electronic means of its reason.
P375-BR3	SVAA must validate AMSID request. Requirement Description On receipt of the request to raise AMSIDs (BR2) the SVAA shall validate the request.

© ELEXON 2020

P375-BR3a	The SVAA shall check that the required details for requesting AMSID is complete and valid. • Self-Service i.e. digitalised online form data entry by the VLP – Immediately after completion of the AMSID request, SVAA must check that the AMSID request is complete and valid. • Email or other electronic means i.e. manual form data entry by the SVAA – Within 1 Working Day (WD) of receiving a request for a new AMSID(s), the SVAA must check that the AMSID request is complete and valid. SVAA shall use information contained within its own database or in external databases (e.g. SVAA shall use, but is not limited to ECOES, OFGEM Register to check the completeness, accuracy and validity of a request. SVAA shall perform the following check: • Each Associated MSID in the request is connected (i.e. not disconnected) • Each Associated MSID in the request is registered. • Each Associated MSID in the request is energised • Each Associated MSID in the request is an Import/Export MSID • Identify appointed HHDA for each Associated MSID • Identify HHDA Effective From Date for each Associated MSID • Each Associated MSID in the request is not already registered within a SBMU (see BR16 and BR22) • The organisation submitting the request is a VLP Please note that SVAA should not be limited to the above checks and could deploy a different check where appropriate.
P375-BR3b	If any mandatory data item is missing from the AMSID request, then the SVAA shall liaise with the VLP (Registrant) to seek additional information, corrections or a resubmission of the AMSID request (as set out in BSCP602). • Self-Service i.e. digitalised online form data entry by the VLP – Immediately after validating the request for AMSID(s), SVAA shall notify the VLP of any missing data. • Email or other electronic means i.e. requires manual form data entry by the SVAA – Within 2WD of validating the request for AMSID(s), SVAA shall notify the VLP of any missing data.
P375-BR3c	If, after following any liaison between SVAA and the VLP (Registrant), SVAA believes the AMSID request to be invalid, then SVAA will reject the request and notify the VLP by email or other electronic means of its reason.
P375-BR4	SVAA must assign AMSIDs. Requirement Description Where the validation was successful for a given Asset Metering System, then the SVAA must assign AMSID to each Asset Metering System(s)
P375-BR4a	The SVAA shall log the AMSIDs in the Asset Metering System Register immediately after completion of the validation of the request.

© ELEXON 2020

P375-BR5	SVAA must notify VLP Registrant of AMSID application outcome. Requirement Description • Self-Service i.e. digitalised online form data entry by the VLP – Immediately after validating the request for AMSID(s), SVAA shall notify AMSID(s) application validation outcome (whether to approve or reject) to the VLP. • Email or other electronic means i.e. requires manual form data entry by the SVAA – The SVAA shall notify the VLP Registrant of the AMSIDs raised in relation to the Request by the end of the [3rd] full WD after validating the Request for AMSIDs (i.e. [5] WD from the receipt of a valid request).
P375-BR6	SVAA shall not allow AMSID to be registered for other processes than P375 (e.g. such MSID cannot be registered against a Primary BM Unit). Where an AMSID is found to be registered for other processes other than the P375, the SVAA shall reject the AMSID request.
P375-BR7	The AMSIDs created by SVAA shall be unique, i.e. they cannot be a duplication of standard MSIDs nor the Secondary MSIDs. SVAA shall assign a thirteen digit "AMSID" to each Asset Meter from a list that identifies the GSP Group that the Asset Meter is situated within (in the same way that MSIDs do (i.e. through a 2-digit identifier at the beginning of the MSID)), but excludes eligible MSID Numbers (which are calculated according to a specific algorithm).
P375-BR7a	For each valid "Request for AMSIDs", the SVAA shall log the new AMSIDs in the Asset Meter Register, tagged as "for the purposes of P375". By automatically generating AMSID(s) using a distinct Distributor Id, there will be no overlap with a 'real' MSID.
P375-BR8	The VLP can list more than one meters against one AMSID as long as the Metering Systems measure the Metered Volumes for Assets located on the same site 'below' the same Boundary Point(s). For avoidance of doubt, the use of asset metering is a commercial choice. The VLP will decide what metering solution best suits each individual site.

P375-BR9	VLP shall submit AMSID Pair(s) Registration Details to the SVAA
	
	• P375 Registration MPID
	• P375 Asset Metering System Reference
	• Asset(s) and for each:
	  ○ Import AMSID
	  ○ Export AMSID (Optional)
	  ○ Asset type (e.g. diesel generator, battery storage unit, Electric Vehicle charging unit)
	  ○ Measurement Class
	  ○ AMS make and model
	  ○ AMS IEC standard
	  ○ Asset Meter Serial Number
	• Data Collector Id (MPID[5]) for Import AMSID/Export AMSID
	  ○ HHDC Effective from Date

[5] As defined in the SVA Data Catalogue volume 2.

© ELEXON 2020

	○ HHDC Effective to Date • Asset Meter Operator Id [MPID] for Import AMSID/Export AMSID ○ Asset MOA Effective from Date ○ HHDC Effective to Date • Associated Supplier Boundary Point Import MSID(s) ○ The connection voltage of the Asset Metering System ○ The connection voltage of the Supplier Boundary Point MSID ○ Balancing delivery capacity of the asset in kW • Secondary BM Unit Id • GSP Group Id • Indicator/Flag of how to use the MSID/AMSID Pair in Settlement (Refer to BR25). Noteworthy, the HHDC and Asset MOA appointment details shall include both the initial appointments and any subsequent changes to the appointments. The VLP shall use the Self-Service Gateway to submit an online form to register AMSID(s). The VLP shall also have the option to register AMSID(s) via email or other electronic means of its reason.
P375-BR10	The Asset MOA must install and maintain Code of Practice (COP) compliant Asset Metering System. <u>Requirement Description</u> Asset Metering Systems must conform to the COP11 requirements. Following meter installation, the Asset MOA should send information about the meter (AMS make and model, AMS IEC standard, Asset Meter Serial Number) to the VLP. For existing Asset equipment that have not yet being registered in the AMR the VLP may provide these details to the Asset MOA.
P375-BR11	VLP must appoint HHDC. <u>Requirement Description</u> **After** the VLP has received the AMSIDs for the P375 site Asset Metering System from the SVAA, the VLP shall appoint a Qualified Half Hourly Data Collector (HHDC) for each AMSID within an AMSID Pair. The process must mirror existing appointment process performed by Suppliers in line with BSCP502 Section 3.2. Amend BSCP502 to include the introduction of VLP variant for notifying HHDC appointment. The workgroup confirmed that instruction from SVAA would not be required. VLP, upon HHDC appointment will instruct HHDC to provide Metered Data for AMSID to SVAA.
P375-BR12	VLP must appoint an Asset MOA. <u>Requirement Description</u> After the VLP Registrant has received the AMSIDs for the P375 site Asset Metering System from the SVAA, the VLP, the VLP shall appoint a Qualified Meter Operator Agent or Meter Operator Agent Alternative for each AMSID within AMSID Pair. The process must mirror existing appointment performed by Suppliers in line with BSCP514 Section 5.2. Amend relevant CSD to include the introduction of VLP variant for notifying Asset MOA appointment.
<u>Compliance Testing of Meters</u> BSCCo shall perform Compliance Testing and Protocol Approval of Asset Meters.	

© ELEXON 2020

P375-BR13	BSCCo must publish and maintain a list of COP compliant Asset Meter make and models and data collectors with protocol approval for that Asset Meter. Requirement Description On an Ad Hoc basis i.e. when there is an update to the COP list, BSCCo must publish onto the BSC Website and maintain a list of COP compliant Asset Meter make and models. BSCCo shall use reasonable endeavours to ensure that the list is at all times publicly available on the BSC Website. BSCCo shall publish the following new data items for the Asset Metering: • Name of Manufacturer • Asset Meter Model • Asset Meter Type • Outstation with a fixed multiplier of 1 • DTN Data Item J0471 'Outstation Type' – Depending on whether we are using DTN on the solution the reference to Data Item may not be relevant • Meter Compliance against which CoP11 Asset Metering Type(s) • HHDC.VLP with Protocol Approval
P375-BR13a	Business Rules to Support P375-BR13 • There must be at least one entity that can dial the Asset Meter • The Asset Meter has been protocol approved before that Asset Meter can be added the approved list. • All entities that can dial that Asset Meter Type will be listed under the protocol-approved section for the relevant Asset Meter type.
P375-BR13b	Where BSCCo has received a request from an Applicant to assess an Asset Meter compliance with the relevant CoP, the BSCCo shall perform any necessary checks to ascertain whether the Asset Meter is compliant with the relevant CoP. The approval process will be included in BSCP601.
P375-BR13c	If BSCCo ascertains that the Asset Meter is compliant with the relevant CoP, BSCCo shall amend the list of CoP compliant Asset Meter(s) and publish the revised list on the BSCCo Website as per BR13 above.
375-BR13d	Upon verification (compliant or non-compliant) of the Asset Meter compliance check with the COP list, BSCCo shall send a notification of approval or rejection (with rejection reason) back to the Applicant by email or other electronic means within 1WD of validation.
375-BR13e	Where BSCCo has received a request from a data collector to assess whether they have the protocol to communicate with an Asset Meter, the BSCCo shall perform any necessary checks to ascertain whether the data collector's protocol is compliant for an Asset Meter type. The approval process shall be included in BSCP601.

© ELEXON 2020

375-BR13f	If BSCCo ascertains that the protocol is compliant for an Asset Meter, BSCCo shall amend the list of CoP protocol approved data collectors for the relevant Asset Meter type and publish the revised list on the BSCCo Website as per BR13 above.
375-BR13g	Upon verification (compliant or non-compliant) of the data collector protocol check for an Asset Meter type, BSCCo shall send a notification of approval or rejection (with rejection reason) back to the applicant by email or other electronic means within 1WD of validation.
P375-BR14	An Applicant shall submit a request to add a new Asset Meter make and model to the COP 11 Meter list to the BSCCo Requirement Description Where an Applicant wishes to register an Asset Meter and with the relevant Asset Metering Type which is not included in the BSCCo list of approved devices, the applicant must contact the BSCCo to request that the BSCCo assess Metering System's compliance with the relevant COP. The approval process will be included in BSCP601. The applicant can be any person, company or an entity who wishes that a given device were added to the list.
Registering AMSID Pairs against Secondary BM Unit The Lead Party of a Secondary BM Unit shall be required to notify the SVAA of any AMSID Pairs to be treated as belonging to that Secondary BM Unit; and details of the associated BP MSID Pairs.	
P375-BR15	**SVA Metering System Register** must store the following information. Requirement Description Within the SVA Metering System Register, SVAA must be able to receive and store details of all AMSID Pairs against the Secondary BM Units. The details (data) to be stored: • The Secondary BM Unit Id • Associated MSID Pairs • AMSID Pair Ref • Import AMSID • Export AMSID (where applicable) • GSP Group Id • The AMSID Pair Effective From Settlement Date • The AMSID Pair Effective To Settlement Date • Indicator of how to use the MSID/AMSID Pair in Settlement i.e. whether to apply Asset Differencing or Balancing Service.
P375-BR16	VLP shall allocate AMSID Pair(s) to the Secondary BM Units. Requirement Description Where a VLP Registrant wishes to use a given AMSID within their Secondary BM Unit for a provision of Balancing Services, the VLP must register the AMSID Pair in a SVA Metering System Register. Such a VLP must provide the following information: • The Secondary BM Unit Id • Associated MSID Pairs • AMSID Pair Ref • Import AMSID • Export AMSID

© ELEXON 2020

	• GSP Group Id • The AMSID Pair Effective From Settlement Date • The AMSID Pair Effective To Settlement Date • Indicator of how to use the MSID/AMSID Pair in Settlement i.e. whether to apply Asset Differencing This information shall be done in conjunction with the information required to register the Asset Metering System for the Asset Meter Register (See BR2). VLP shall send this information to SVAA at least 5 WD prior to the Effective from Date of the AMSID Pair. The VLP shall use the Self-Service Gateway to submit an online form to allocate AMSID(s) to their Secondary BM Unit. The VLP shall also have the option to allocate AMSID(s) via email or other electronic means of its reason.
P375-BR16a	A VLP (who is not the Asset Metering System Registrant) can re-allocate AMSID Pair(s) to their SBMUs for a provision of Balancing Services. Such VLP shall register the AMSID Pair in a SVA Metering System Register by providing the data items in line with BR16 above.
P375-BR16b	A VLP can allocate AMSID to the SBMUs based on following SBMU events lifecycle: • An existing VLP that already have existing SBMU (i.e. under P344 arrangement) they are currently trading against can allocate AMSIDs into existing SBMU post P375 Go-Live. • A VLP can raise new SBMU and allocate AMSIDs against the new SBMU • A VLP Registrant can re-allocate AMSIDs between SBMU within its own Party. • A VLP can re-allocate AMSIDs against other VLPs SBMU
P375-BR16c	Business Rule to Support BR16 • At any point in time only two VLPs can allocate a given AMSID Pair to their SBMU. • Only one VLP can use the AMSID Pair data in full for the provision of Balancing Services. • Whereas another VLP can use the AMSID where an Asset Differencing solution is required.
P375-BR17	SVAA shall notify 'Asset Metering System Registrant' where the differencing is applied. <u>Requirement Description</u> • Where a VLP that is not the 'Asset Metering System Registrant' allocated an AMSID Pair to their SBMU for Asset Differencing, then the VLP who acts as an 'Asset Metering System Registrant' must be notified. Self-Service i.e. digitalised online form data entry by the VLP – Immediately after successful allocation of the differencing AMSID Pair to the Secondary BM Unit, the SVAA shall notify the 'Asset Metering System Registrant' Email or other electronic means i.e. manual form data entry by the SVAA – Within 1WD of successful allocation of the differencing AMSID Pair to the Secondary BM Unit, the SVAA shall notify the 'Asset Metering System Registrant'.

© ELEXON 2020

	Where a VLP allocates to its SBMU an AMSID Pair for which it is the 'Asset Metering System Registrant', then SVAA will not issue a notification.
P375-BR18	VLP shall register all affected Boundary Point MSID Pair(s) with SVAA when registering AMSID Pairs. These are known as **Associated MSID Pairs** Requirement Description Where a VLP decides to use an Asset Metering System to participate in Balancing Services, **in addition** to registering a new AMSID Pair, a VLP must also register **Associated** Boundary MSID Pair in the SVA Metering System Register' where not already registered. For the avoidance of doubt, AMSID Pair will not be allocated to a Secondary BM Unit if the associated Boundary Point MSID Pairs are not registered in the SVA Metering System Register'. To register the MSID Pair the VLP will provide the following details: • The Secondary BM Unit Id • The GSP Group Id; • The MSID of the Import Metering System • The MSID of the Export Metering System (where applicable) • The MSID Pair Effective From Settlement Date • The MSID Pair Effective To Settlement Date For the avoidance of doubt, where there is more than one VLP operating Assets located 'behind' a given Boundary Point Metering System, each VLP will have to register the same Associated MSID Pair against its AMSID Pair. This will not act as a change of ownership. (see BR16-BR16c)
P375-BR19	SVAA must validate the AMSID Pair registration. Requirement Description On receipt of the AMSID Pair registration (in BR9), the SVAA shall check that the registration is complete and valid. • Self-Service i.e. digitalised online form data entry by the VLP – Immediately after the completion of the AMSID Pair registration, SVAA must check that the registration is complete and valid. • Email or other electronic means i.e. manual electronic form data entry by the SVAA – Within 1 WD of receiving all required AMSID Pair registration details the SVAA must check that the registration is complete and valid. SVAA shall liaise with the VLP that submitted the registration to seek additional information, corrections or a resubmission of the registration. The completeness of the registration will be validated against the defined flow format published in the Code Subsidiary Document on ELEXON website. For avoidance of doubt, if, following any liaison between SVAA and the VLP, any information is missing, SVAA will reject the registration and notify the VLP by email with the rejection reasons.

© ELEXON 2020

	SVAA shall use information contained within its own database or in external databases (e.g. SVAA may use, but is not limited to, ECOES) to check the completeness, accuracy and validity of the Associated MSID Pairs registration. SVAA shall perform the following ECOES check: • Each Associated MSID in the request exist i.e. registered in ECOES • Each Associated MSID in the request is energised. • Each Associated MSID in the request is connected (i.e. not disconnected) • Each Associated MSID in the request has an Import/export MSID • Identify appointed HHDA for each Associated MSID in the request • Identify HHDA Effective From Date for each Associated MSID in the request SVAA shall perform the following SVA Metering System Register check: • Whether each AMSID in the request exists • Each Associated MSID is not already registered within a SBMU (see BR16 and BR22) • Half Hourly Data Collector is appointment is effective before the AMSID Pair is live within the SBMU. • Meter Operator Agent is appointment is effective before the AMSID Pair is live within the SBMU. • Whether each AMSID is already registered against a different VLP. • The purpose of each AMSID i.e. Balancing Service or Asset Differencing. Please note that SVAA shall not be limited to the above checks and could deploy a different check where appropriate.
P375-BR20	SVAA shall notify validation outcome to VLP(s) upon reviewing AMSID Pair(s) registration. Requirement Description After reviewing the AMSID Pair(s) registration, SVAA will issue notification to the VLP. Where the registration was successful, SVAA will confirm that AMSID Pair is now registered and can be used for provision of Balancing Services as of 'Effective from Date'. • At the same time, SVAA will check whether Boundary Point MSID Pairs linked to that AMSID Pair are registered in 'SVA Metering System Register' for provision of Balancing Services in line with P344. A VLP cannot allocate an AMSID to their SBMU if an Associated MSID Pair is already being used for Balancing Services and has not being selected for Asset Differencing. If another AMSID pair is allocated behind a MSID Pair being used for Asset Differencing then all Parties will be notified when the AMSID is allocated. Self-Service i.e. digitalised online form data entry by the VLP – Immediately after validating the AMSID(s) registration, SVAA shall notify the validation outcome (whether to approve or reject) to the VLP. Email or other electronic means i.e. manual form data entry – Within 1 WD of validating the AMSID(s) registration, SVAA shall notify the validation outcome (whether to approve or reject) to the VLP. Where the registration was unsuccessful, SVAA will provide the rationale in the notification issued to the VLP.
P375-BR21	VLPs shall notify SVAA upon the change of VLP for an Asset.

© ELEXON 2020

	Requirement Description Virtual Lead Parties shall notify SVAA upon change of ownership of Asset Metering System at least 5WDs prior to the Effective from Date of the AMSID Pair. SVAA shall perform the same validation as for a registration of a new AMSID Pair (see BR19). Where the validation proved successful, SVAA will amend its records within both Asset Meter Central Register (to indicate the change of Asset Metering Registrant) and 'SVA Metering System Register (to indicate that the Pair should be aggregated under another SBMU)'.
P375-BR22	SVAA shall notify new and previous VLP of an AMSID Pair re-allocation. Requirement Description Where an AMSID Pair is re-allocated to a different VLPs Secondary BM Unit, the SVAA upon successful validation and amendment of records (in line with BR16), shall issue the following notification: • New VLP – a notification of re-allocation of AMSID Pair to their respective SBMU. • Losing VLP - a notification of change of VLP of Asset.
P375-BR23	VLP losing AMSID Pair shall be able to raise an AMSID dispute. Requirement Description Where a losing Party believes that the transfer of AMSID Pair occurred in an error, the relevant VLP shall follow the AMSID Pair Dispute process outlined in BSCP602. The losing Party will have 5WD since the SVAA notification was issued to raise such a dispute.
P375-BR24	VLP shall be able to de-register AMSID. Requirement Description Where a VLP wishes to stop using an AMSID Pair for Balancing Services and effectively de-register the AMSID Pair, The VLP shall follow an amended P344 process to request AMSID i.e. The VLP shall use the Self-Service Gateway to submit an online form to de-register AMSID(s). The VLP shall also have the option to de-register AMSID(s) via email or other electronic means of its reason.
P375-BR24a	SVAA shall validate an AMSID based on the following events lifecycle: • AMSID Pairs can switch between VLPs. • AMSID Pairs can switch between Secondary BM Units of same VLP operating within same GSP Group. • Asset MOA appointed to an AMSID can change. • HHDC appointed to an AMSID can change. • AMSID can be registered/unregistered. • AMSID can be energised/de-energised.
Registering BP MSID Pairs that are affected by and AMSID Pair(s) SVAA shall include details of BP MSID Pairs associated with the AMSID Pairs in the SVA Metering System Register	
P375-BR25	SVAA shall differentiate between different uses of MSID Pairs. Requirement Description

© ELEXON 2020

	Within the 'SVA Metering System Register' SVAA shall be distinguish between the MSID Pairs that a VLP uses for the Balancing Services purposes (P344) and the MSID Pairs that are registered by multiple VLPs (P375) for Asset Metering. We propose the introduction of an indicator to the 'SVA Metering System Register' to allow the differentiation. • "T" – True. MSID Pair Metered volumes are to be included in the Secondary BM Unit. This is the P344 option. • "A" – Asset Meter. MSID Pair Metered Volumes are not to be included in the Secondary BM Unit. This is the P375 option. The VLP will still be notifying Delivered Volumes for the MSID Pair (when a P375 asset behind the BP MSID Pair delivers a volume). • "D" – Differencing. MSID Pair Metered Volumes are to be included in the Secondary BM Unit (but with some specific AMSIDS netted off – these represent Plant and Apparatus not in the Secondary BM Unit). *Please note that the above list is just a proposal. We will finalise the solution architecture during the implementation phase.*
P375-BR26	SVAA shall approve the update to 'SVA Metering System Register'. Requirement Description Where the validation was successful for a given AMSID Pair, then the SVAA shall confirm changes to the 'SVA Metering System Register' made by the VLP, (i.e. addition of Boundary Point MSID Pair(s)) linked to that AMSID Pair (see BR19).
P375-BR27	SVAA shall instruct HHDA of the affected Boundary Point MSID Pair(s) For The avoidance of doubt, the existing P344/P354 processes regarding HHDA data is not affected by P375.
P375-BR27a	In the event of missing MSID Metering System Half Hourly Metered Data (D0385), SVAA shall use the existing P0034 (missing data) data flow to communicate missing data back to the HHDA (as outlined in BSCP508).
P375-BR27b	In the event of a validation exception, the SVAA shall use the existing P0035 (Invalid Data) data flow to communicate exceptions back to the HHDA (as outlined in BSCP508).
Submission of metered data by HHDCs HHDCs shall submit to SVAA metered data for AMSIDs to which they are appointed.	
P375-BR28	HHDC shall send AMSID Half Hourly Metered Volume data to SVAA for each AMSID for which they have been appointed by a VLP. This will be the equivalent of the Boundary point Metered Volume Data which HHDC's send to HHDA's for Boundary MSIDs. Requirement Description By the end of the 3rd Working Day after the relevant Settlement Day (i.e. in time for Interim Information Volume Allocation Run), the Half Hour Data Collector shall produce and send HH Metered Volumes for all AMSIDs it has been instructed to report on. The following information shall be submitted: • The 13-digit Asset Metering System Identifier (AMSID) • Metered Consumption in kWh

© ELEXON 2020

	• Measurement Quantity Id • Actual/Estimated Indicator • Settlement Date • Settlement Period Id The HHDC shall use the DTN to submit AMSID Half Hourly Metered Volume data to the SVAA (DXXXX). The new DTN data flow including these data items will be defined in the Data Transfer Catalogue and in the Code Subsidiary Documents together with the process that shall be followed when submitting the data. Noteworthy, the DTC name will be under new governance from REC Go-Live.
P375-BR28a	Upon validation of the AMSID Half Hourly Metered Data (DXXXX), if it fails validation, the SVAA shall notify the HHDC. SVAA shall use the existing P0035 (Invalid Data) data flow to communicate invalid data back to the HHDC (as outlined in BSCP508).
Aggregation of AMSID metered volumes Where a VLP has registered an AMSID Pair in a Secondary BM Unit, SVAA shall include the metered volumes for each AMSID provided by the HHDC(s) in the calculation of Secondary BM Unit Demand Volume (applying Line Loss Factors, GSP Group Correction Factors and GSP Scaling weight as appropriate).	
P375-BR29	SVAA shall determine the LLFC Id for Metered Data using the connection voltages registered in the AMR
P375-BR30	SVAA shall determine CCC Id for AMSIDs. Requirement Description • Metered Data for AMSIDs submitted by HHDC will not have been allocated to a CCC. SVAA will need to allocate, based on: • Whether the AMSID is Import or Export • Whether the Meter reading is Actual or Estimated • Measurement Class registered by the VLP Note that a table identifying the CCC Id associated with each combination of Import/Export, Actual/Estimate and Measurement Class is published in Table X-8 of Annex X-2 of the BSC.
P375-BR31	SVAA shall categorise Metered Volume data sent by HHDCs into Secondary BM Unit's Metering System Metered Consumption. Requirement Description For each AMSID, SVAA will use the Metered Volume data provided by HHDC, as well as LLFC and CCC Id to group the Metered Volume data into Allocated Asset Metering System Metered Consumption ($AAVMMC_{HNLKj}$). This will be an equivalent of Secondary BM Unit Metering System Metered Consumption, '$AVMMC_{HZaNLKji}$[6]' that is currently provided by HHDAs for P344 Boundary Point MSIDs.
P375-BR32	SVAA shall transform Allocated Asset Metering System Metered Consumption into Asset Metering System Metered Consumption '$VMMC_{HZaNLKji}$'[7].

[6] BSC Section S Annex S-2: Supplier Volume Allocation Rules paragraph 3.9.2.
[7] BSC Section S Annex S-2: Supplier Volume Allocation Rules paragraph 7.1.1B.

© ELEXON 2020

	Requirement Description SVAA shall amend the units of Metered Volume data it received from HHDC from kWh to MWh. This is an equivalent of '$VMMC_{HZaNLKji}$'[8].
P375-BR33	SVAA shall group Metering System Metered Consumption by Secondary BM Unit. Requirement Description SVAA shall calculate Secondary BM Unit Metered Consumption ('$VBMMC_{i2NLKji}$') by grouping Asset Metering System Metered Consumption ('$VMMC_{HNLKj}$') by the Secondary BM Unit in line with the information provided by the VLP in the SVA Metering System Register. Where Asset Differencing applies, SVAA shall also re-determine the Consumption Component Class (see BR33A below).
P375-BR33a	Where a VLP is using Asset Differencing, SVAA shall redetermine the Consumption Component Class at the point of determining Secondary BM Unit Metered Consumption (VBMMC) values. This applies to both: • The $VBMMC_{i2NLKj}$ values calculated for the Asset Metering Systems (from the Asset Metering System Metered Consumption, $VMMC_{HNLKj}$); and • The $VBMMC_{i2aNLKji}$ values calculated for the associated Boundary Point Metering Systems (from the Metering System Metered Consumption, $VMMC_{HZaNLKji}$). Requirement Description For each Asset Differencing arrangement, SVAA shall identify the AMSID Pair(s) and their associated MSID Pair(s), from the data provided by the VLP. Note that in some cases there could be multiple MSID Pairs and AMSID Pairs associated with each other, in which case they should all be treated as a group for the purpose of this requirement. For each Settlement Period, SVAA shall sum the $VMMC_{HZaNLKji}$ values for the Metering Systems in the MSID Pairs and subtract the $VMMC_{HNLKj}$ values for the Asset Metering Systems in the AMSID Pairs (treating Import CCCs as positive and Export CCCs as negative, as per the usual SVAA sign convention). The result is the Net Differencing Volume ($VNDK_j$) for the Asset Differencing arrangement in that Settlement Period. If the $VNDK_j$ value is positive, SVAA shall allocate the VBMMC values for all these Metering Systems to an Import CCC (regardless of whether the VMMC value was Import or Export). Conversely, if the $VNDK_j$ value is negative, SVAA shall allocate the VBMMC values for all the Metering Systems to an Export CCC.
P375-BR34	SVAA shall calculate losses for each Secondary BM Unit's Metering System Metered Consumption. Requirement Description SVAA shall calculate losses for each Metered Volume data ('$VLOSS_{i2KNij}$') by applying Line Loss Factors to the Secondary BM Unit Metered Consumption ('$VBMMC_{i2aNLKji}$'). Note that the Line Loss Factor Class relates to the connection voltage of the AMSID (see BR), and the calculated losses therefore adjust the meter reading from the Asset Meter to the boundary of the Transmission System.
P375-BR35	SVAA shall determine the Secondary Half Hourly Consumption.

[8] BSC Section S Annex S-2: Supplier Volume Allocation Rules paragraph 7.1.1B.

© ELEXON 2020

	Requirement Description SVAA shall sum Secondary BM Unit Metered Consumption ('$VBMMC_{i2aNLKji}$') derived from data provided by HHDAs and HHDCs for each MSID and AMSID registered against a given Secondary BM Unit in the SVA Metering System Register. This should be done per Secondary BM Unit, Settlement Period and Consumption Component Class basis ('V_{i2Nj}'). For purpose of P375, when aggregating Secondary BM Unit Metered Consumption, SVAA shall identify instances where Asset Differencing needs to be applied based on the information provided in the SVA Metering System Register. The Secondary Half Hourly Consumption should become: The sum of HHDA's Secondary BM Unit Metered Consumption for BP MSID Pairs registered for purposes of P344 or **P375 differencing** (but not for standard P375 purposes), i.e. Secondary BM Unit MSID Pair Indicator of 'T' or 'D' (bit not 'A'); plus The sum of HHDC's VBMMC for AMSID Pairs registered for non-differencing purposes; minus The sum of HHDC's VBMMC for AMSID Pairs registered for differencing purposes. This calculation is described in paragraph 7.1.4 of Annex S-2 of the P375 legal text. Please see Scenario 14 for more detail.
P375-BR36	SVAA shall aggregate losses to a Secondary BM Unit level. Requirement Description SVAA shall calculate losses for each Secondary BM Unit ('$VLOSS_{i2Nj}$') by summing all Metered Volume data ('$VLOSS_{i2KNij}$') belonging to that BM Unit for a given Settlement Day and Settlement Period. For purpose of P375, when aggregating Metered Volume data ('$VLOSS_{i2KNij}$'), SVAA shall identify instances where differencing needs to be applied based on the information provided in the SVA Metering System Register. The Secondary Half Hourly Consumption (Losses) should become: The sum of losses derived from HHDA's Metered Volume data ('$VLOSS_{i2KNij}$') for BP MSID Pairs registered for purposes of P344 or **P375 differencing** (but not for standard P375 purposes), i.e. Secondary BM Unit MSID Pair Indicator of 'T' or 'D' (bit not 'A'); plus The sum of losses derived from HHDC's Metered Volume data ('$VLOSS_{i2KNij}$') for AMSID Pairs registered for non-differencing purposes; minus The sum of losses derived from HHDC's Metered Volume data ('$VLOSS_{i2KNij}$') for AMSID Pairs registered for differencing purposes. This calculation is described in paragraph 7.2.4 of Annex S-2 of the P375 legal text.
P375-BR37	SVAA shall adjust Metered Volume data by GSP Group Correction Factor. Requirement Description The SVAA shall adjust Half Hourly metered volume data for GSP Group Correction (thus deriving Secondary Corrected Component, '$VCORC_{i2Nj}$') using the GSP Group Correction Factor and GSP Group Correction Scaling Weight calculated by the SVAA for each MSID and AMSID.
P375-BR38	SVAA shall aggregate Metered Volume data up to Secondary BM Unit level (calculate Secondary BM Unit Demand Volume). Requirement Description As part of each SVA aggregation Run, SVAA shall aggregate the Line Loss and GSP Group Correction Factor adjusted metered data. For avoidance of doubt, the aggregation shall include the AMSID Pair

© ELEXON 2020

	related data submitted for P375 purposes, as well as MSID Pair related data submitted for P344 related purposes. Both shall feed into calculation of Secondary BM Unit Demand Volume ('$VBMUDV_{i2j}$') in MWh for each Secondary BM Unit. Once calculated, SVAA shall report the Secondary BM Unit Demand Volume data to the Settlement Administration Agent (SAA).
P375-BR39	SVAA shall check that it received all Metered Data (AMSID and MSID) as expected. Requirement Description When aggregating metered data sent by HHDC for a given Settlement Day, Supplier Volume Allocation Agent shall check that it has received Metered Data for all AMSIDs it expects to have received Metered Data for. Missing Metered Data will trigger Supplier Volume Allocation Agent to follow the process in BSCP508[9] 3.2 A.3.
P375-BR39a	In the event of missing AMSID Half Hourly Metered Data, SVAA shall be required to resolve instances where there is a failure or delay in receiving required data from the HHDC and shall: • Contact the responsible HHDC upon non-delivery to request the subsequent forwarding of the required data set. • If all attempts to acquire the missing data are unsuccessful, then no data is entered into that Settlement run. SVAA shall amend the existing P0034 (Missing data) data flow to communicate exceptions back to the HHDC (as outlined in BSCP508).
AMSID Delivered Volumes The Lead Party of a Secondary BM Unit shall notify Delivered Volumes to SVAA (identifying both the AMID Pair and BP MSID Pair to which they relate).	
P375-BR40	VLP shall provide SVAA with Delivered Volume data. Requirement Description The Lead Party of a Secondary BM Unit to which an RR Activation was issued shall provide to SVAA by Settlement Day + 1 WD a data file identifying the delivered MWh volumes for each AMSID Pair associated with the Secondary BM Unit that was instructed to deliver RR Activation. The data to be provided by the Virtual Lead Party: • Import AMSID • Export AMSID (where applicable) • Import MSID • Export MSID (where applicable) • Settlement Date • Settlement Period • Delivered volume (in MWh, where a positive value represents an increase in output and a negative volume represents a decrease in output) This is an expanded version of MSID Pair Delivered Volume, '$MPDV_j$[10]'), referred to in the P375 legal text as '$AMPDV_j$'.

[9] BSCP508 – Supplier Volume Allocation Agent
[10] BSC Section S Annex S-2: Supplier Volume Allocation Rules paragraph 3.10.1.

© ELEXON 2020

	Where there is more than one Associated MSID Pairs for an AMSID, VLPs shall indicate against which MSID Pair to assign the Delivered Volumes
P375-BR40a	The SVAA shall validate that SVA Metering System Numbers included in the delivered volumes data received from VLP of Secondary BM Units are included (on that Settlement Date) in a Secondary BM Unit for which the Lead Party is responsible (and report an exception if not) as per existing P344 process.
Aggregation of AMSID Delivered Volumes SVAA shall aggregate AMSID Delivered Volumes in the calculation of Secondary BM Unit Demand Volume (applying Line Loss Factors and GSP Group Correction Factors as appropriate).	
P375-BR41	SVAA shall check that it received all Delivered Volume data as expected. Requirement Description The SVAA shall be required to resolve instances where there is a failure or delay in receiving required data from the Lead Party of Secondary BM unit and shall: Contact the responsible Party upon non-delivery to request the subsequent forwarding of the missing data set. If all attempts to acquire the missing data are unsuccessful then the SVAA will deem zeroes for that Settlement Run. To enable the SVAA to identify when Half Hourly Delivered Volumes are expected the SVAA shall load and store and data flow from the SAA detailing for each Settlement Day where the SAA has processed Replacement Reserve Activation Data for a Secondary BM Unit.
P375-BR42	SVAA shall validate AMSID Pairs within Delivered Volume data sent by VLPs. Requirement Description The SVAA shall check the SVA Metering System Register and validate that AMSID Pairs included in the data received from Lead Parties of Secondary BM Units are included (on that Settlement Date) in a Secondary BM Unit for which the Lead Party is responsible (and report an exception if not).
P375-BR43	SVAA shall adjust AMSID Pair Delivered Volumes for losses between AMS and BP MS. Requirement Description Prior to allocating Delivered Volumes between AMSIDs, SVAA shall adjust Delivered Volumes submitted by the VLP for the losses occurring between BP MSID Pair and AMSID Pair (thus converting '$AMPDV_j$' into '$MPDV_j$'. The Adjustment shall follow the principle: $$MPDV_j = AMPDV_j * \frac{LLF_{AMSID}}{LLF_{MSID}}$$ Where: 'Delivered Volume' ('$MPDV_j$' equivalent) is a Volume for a given Settlement Period in a given Settlement Day. '$AMPDV_j$' are the Delivered Volumes provided for AMSID Pairs for a given Settlement Period in a given Settlement Day. LLF_{AMSID}* is Line Loss Factor for a given Settlement Period in a given Settlement Day based on LLFC allocated to AMSID.

© ELEXON 2020

	LLF_{MSID}* is a Line Loss Factor for a given Settlement Period in a given Settlement Day based on LLFC allocated to a MSID. * - Please note that these are not the legal notations and the subscripts are only for illustrative purposes.
P375-BR44	SVAA will allocate Delivered Volumes at a given Boundary Point MSID Pair between the Import MSID and Export MSID. <u>Requirement Description</u> SVAA will use the disaggregated kWh metered data (prior to adjustment for line losses (BR46) and GSP Group Correction Factor (BR47)) provided by HHDCs to allocate the AMSID Pair Delivered Volume to the component MSID Pairs affected by that AMSID Pair for each Settlement Period, creating the Metering System Delivered Volume ('$QVMD_{Kj}$') equivalent. The impact of P375 on this process is that there may now be multiple VLPs notifying values of '$MPDV_j$' for a single Boundary MSID Pair. This is handled by allocating the total net value of '$MPDV_j$' between the Import and Export MSIDs, and then sharing out the result between the VLPs (in proportion to their '$MPDV_j$' values). High-level steps of allocation: 1. SVAA will identify Metered Volume data for a given Settlement Day, Settlement Period for a given Boundary Point MSID Pair. 2. SVAA will sum (net Export off Import) all Delivered Volumes for a given Settlement Day, Settlement Period and Boundary Point MSID Pair reported by VLPs. 3. SVAA will allocate the net Delivered Volume to the Boundary Point MSIDs within a given Boundary Point MSID Pair based on Metered Volume data. 4. SVAA will allocate the net Delivered Volume to each affected Secondary BM Unit based on proportion of total Delivered Volume (see Scenario 12) for a given MSID Pair. For avoidance of doubt the affected Secondary BM Units are: a. A Secondary BM Unit that consists of that MSID Pair (in accordance with the SVA Metering System Register) and; b. A Secondary BM Unit that consists of an AMSID Pair (in accordance with SVA Metering System Register) which affects the Boundary Point MSID Pair in question.
P375-BR44a	In the event where SVAA can't allocate Delivered Volumes in full to the Secondary BM Unit at a given Boundary Point MSID Pair between the Import MSID and Export MSID. The SVAA shall report an Exception notification to the VLP and notify BSCCo as per existing P344 process.
P375-BR45	SVAA shall determine the Secondary Half Hourly Delivered (Non Losses). <u>Requirement Description</u> SVAA shall sum Secondary BM Unit Metered Consumption ('$QVBMD_{i2NLKji}$') derived from data provided by HHDAs and HHDCs for each MSID and AMSID registered against a given Secondary BM Unit in the SVA Metering System Register . This shall be done per Secondary BM Unit, Settlement Period and Consumption Component Class basis ('VD_{i2NKji}').
P375-BR46	SVAA shall calculate losses for each Allocated Delivered Volume. <u>Requirement Description</u>

© ELEXON 2020

	SVAA shall calculate losses for each Allocated Delivered Volume data ('$VDLOSS_{i2KNij}$') by applying Line Loss Factors to the Secondary BM Unit Delivered Volume ('$QVBMD_{i2NLKji}$').
P375-BR47	SVAA shall adjust Allocated Delivered Volume data by GSP Group Correction Factor. Requirement Description The SVAA shall adjust Half Hourly Delivered Volume data for GSP Group Correction (thus deriving Secondary Corrected Component, '$VCORDC_{i2NKji}$') using the GSP Group Correction Factor and GSP Group Correction Scaling Weight calculated by the SVAA for each MSID and AMSID.
SVAA Reporting SVAA shall provide reports to VLPs and Suppliers	
P375-BR48	SVAA shall provide VLP (Registrant and VLP that have the AMSID allocated BM Unit) with loss adjusted Metered Volumes. Requirement Description Upon adjustment of the for Line Losses ('$VLOSS_{i2KNij}$', the SVAA shall provide the Lead Party of a Secondary BM Unit the relevant Half Hourly Metered Volumes for each metering system registered to that Secondary BM Unit as per the 'SVA Metering System Register. The SVAA shall be able to provide this data in a .csv format. For avoidance of doubt, a single report per a Virtual Lead Party shall be produced collating all MSID Pair and AMSID Pair related data.
P375-BR48a	Upon adjustment of the allocated HH Delivered Volumes for Line Losses, the SVAA shall report the Secondary Half Hourly Delivered (non-losses) volumes and the Secondary Half Hourly Delivered (losses) volumes for that MSID to the relevant Supplier (as per existing P344 process). SVAA will only report to the Supplier where the Customer Consent Flag has been marked as TRUE in the SVA Metering System Balancing Service Register.
Verification of asset independence BSCCo will perform statistical monitoring to identify AMSIDs that may not be acting independently of the other assets on-site (i.e. all the dependent load is not measured by the Asset Metering System), which may trigger other appropriate Performance Assurance Techniques. Where there is no correlation between the change in flows of the MSID and AMSID, then a flag is raised against the relevant AMSID for further investigation	
P375-BR49	Once an AMSID Pair becomes operational BSCCo shall (as required) review the Asset registration evidence as a part of its assurance activities.
P375-BR50	6 months post P375 implementation, BSCCo shall perform a one-off statistical analysis on a sub-set sample (dependent on how many sites there are after 6 months) of specific sites i.e. particular Balancing Service of a particular type to check whether the Asset Metering Systems measure metered data of Assets that are independent.
P375-BR50a	SVAA shall make available the registration details for every AMSID Pair and Associated MSID Pair successfully registered under P375 to BSCCo. The data items to be made available to BSCCo are as follows: • Related Secondary BM Unit details • VLP MPID

© ELEXON 2020

	• Asset turn down or a generation unit
P375-BR50b	SVAA shall make available Half Hourly Metered Volume data for every AMSID and Associated MSID successfully registered under P375 to BSCCo. The data items to be made available to BSCCo are as follows: • MSID • AMSID • Settlement Day • Settlement period • Run Type • GSP Group • Distributor ID • BMU ID • CCC ID • LLFC ID • MSID Half Hourly Metered Data • AMSID Half Hourly Metered Data
P375-BR50c	SVAA shall make available the MSID Pair or AMSID Pair Delivered volume data for Balancing Service under P375. SVAA must be able to flag when Balancing Service is being provided for a particular Settlement Periods. The data to be made available to BSCCo are as follows: • AMSID Pair Delivered Volumes • MSID Pair Delivered Volumes • Secondary BM Unit • Instructive Volumes by MSID by Settlement Period • BOA • BM/RR Activations • Settlement Day • Settlement period
P375-BR50d	The BSCCo shall analyse, investigate and identify any perceived anomalies (i.e. no correlation between the change in flows of the MSID and AMSID) going on behind the meter. The BSCCo shall: • Ensure AMSIDs are independent of each other • Ensure VLPs/Customers don't purposely increase their factory demand or increase their battery intake at the same time as when providing a Balancing Service. The result being, the system doesn't benefit from what VLPs get paid for the delivered service. • Ensure there is ~~no~~ a correlating change in the Boundary Point MSID flow at the same time as the AMSID flow when providing Balancing Service.
P375-BR50e	BSCCo shall flag any anomalies against an AMSID and/or Associated MSID where a given AMSID is not acting independently of other assets on-site. The BSCCo shall flag Asset/site as having: • A potential anomaly • One-off anomaly occurrence • Continuous anomalies.

© ELEXON 2020

P375-BR51	Where BSCCo identified anomalies raised against a given AMSID and/or Associated MSID, BSSCo may require the Virtual Lead Parties to provide evidence that the asset is independent of other site loads. This may include site single line diagram showing the physical arrangement and asset network connections on site to gain a better understanding of the site set up.
P375-BR51a	Where an Asset Metering Investigation is required, BSCCo may consider liaising with an Asset Metering Investigation agent to carry out a site visit.
P375-BR52	BSCCo could deem an AMSID as non-independent and therefore invalid for the purposes of P375 based on the evidence review.
P375-BR52a	Where an AMSID is confirmed to have anomalies, the BSCCo shall report its investigation findings, to the BSC PANEL.
P375-BR52b	The BSC Panel, upon reviewing any evidence, may decide to refer the AMSID and/or relevant VLP to another body as appropriate, raise any disputes to any Settlement impacting volumes, and/or take any other steps they deem necessary.
P375-BR52c	Where the BSC Panel invalidates a given AMSID, the BSC PANEL will instruct the SVAA to amend its records i.e. reject allocation of AMSID to Secondary BM Unit.
P375-BR52d	SVAA must notify the relevant VLP Registrant and the VLP using the AMSID for differencing immediately after the AMSID has been invalidated.
<u>Performance Assurance</u> Settlement Risks arising from the use of AMSIDs in Settlement will be managed using the Performance Assurance Framework Any Settlement Risk shall be identified either through the Risk Owners or the relevant SMEs (working alongside the Risk Owners) – same process as we would currently use to identify or update any new or existing risks.	
P375-BR53	VLP shall be able to raise a Trading Dispute against an Asset Metering System Metered Volumes. (The VLP shall follow the existing Dispute process in the BSCP11).

© ELEXON 2020

3.5 Non-Functional Requirements

TBD

© ELEXON 2020

3.6 Business Rules

The following Business Rules define the conditions and constraints of the P375 process. The systems and manual processes performed for P375 will conform to the following principles.

Ref. no	Area	Business Rule
P375-R1	Registration	Only a Virtual Lead Party may register Asset Meter Identifiers (AMSIDs).
P375-R2	Registration	AMSIDs can be associated with one or more Asset Meters.
P375-R3	Registration	AMSID Pairs should only be registered against a maximum of two VLPs at any point in time. One VLP can have a given AMSID Pair registered against their Secondary BM Unit (no differencing) and the second VLP can register it against their Secondary BM Unit, but only for differencing.
P375-R4	Registration	AMSIDs can only be associated with up to two Secondary BM Units at any point in time.
P375-R5	Registration	An AMSID can only be associated with one AMSID Pair at any point in time. However, in line with Business Rule 3, AMSID Pair can exist in two records at any point in time.
P375-R6	Registration	An AMSID Pair can be associated with one or more Boundary Points (i.e. one or more MSID Pairs).
P375-R7	Registration	An AMSID cannot be registered against a Primary BM Unit.
P375-R8	Registration	An Asset Metering System can only be registered against one AMSID Pair at any given time.
P375-R9	Registration	Only Half-hourly Metering Equipment can be used as an Asset Metering System.
P375-R10	Registration	The Export AMSID within the AMSID Pair is optional, in that some Assets will not have the capacity to produce electricity, and so would not need an Export AMSID assigned. Where an Export AMSID was provided, the 'Data Collector for Export AMSID' and Meter Operator Agent become mandatory fields.
P375-R11	Registration	A single AMSID can only be associated with either Import to or Export from an Asset.
P375-R12	Registration	Virtual Lead Party must not appoint a Half Hourly Data Collector for an AMSID.
P375-R13	Registration	Virtual Lead Party who is an 'Asset Metering System Registrant' (i.e. a VLP who register AMSID Pair to measure flows to and from an asset that they manage without the need for differencing to be applied) must complete the registration by providing information against all attributes listed on the registration form (see BR 5).
P375-R14	Registration	Within the 'SVA Metering System Register', only one VLP can have the MSID Pair allocated to their BM Unit with an Indicator of 'T' or 'D'. However, any number of VLPs can use it with an Indicator of 'A'.
P375-R15	Registration	The 'Apply Differencing' indicator should take a BOOLEAN format. Where the value is TRUE, the AMSID Pair Metered Volumes are to be added to the Secondary BM Unit Metered Volume. Where the value is FALSE, the AMSID Pair Metered Volumes are to be subtracted from the Secondary BM Unit Metered Volumes.

© ELEXON 2020

P375-R16	Aggregation and Imbalance	When registering AMSID Pairs against MSID Pairs, only one AMSID Pair can be used for differencing, i.e. all other AMSID Pairs have to have their Asset Meters installed at the Asset (measuring flows to and from the Asset).
P375-R17	Aggregation and Imbalance	When providing the Delivered Volumes to SVAA, the VLP must indicate which Boundary Point MSID Pair they used to deliver the service. For avoidance of doubt, a single Delivered Volume (in a given Settlement Day and Settlement Period) can be linked to only one MSID Pair and AMSID Pair.

3.7 Scenarios

P375 Scenario 1

The customer changes the VLP operating the Asset for which an AMSID is already registered and used for Balancing Services.

VLPs will follow the same process as for P344 Boundary Point Meters (MSID Pairs) as set out in BSCP602. The new VLP (VLP A) registers with SVAA the AMSID within its chosen SBMU. The AMSID automatically moves to the new VLP A's SBMU and is removed from the relevant SBMU belonging to the VLP (VLP B) to whom the customer previously 'belonged' too. SVAA notifies VLP B that they 'lost' the AMSID Pair. VLP B's consent is not required to enact the change. VLP B can raise a dispute where they believe that the transfer was erroneous (e.g., VLP B has a contract in place with the customer that is still in effect).

P375 Scenario 2

The new VLP appoints a new DC for an AMSID. How will the new DC know the details of the AMSID, especially when e.g. the previous VLP is not forthcoming with the data, the data is lost or the VLP goes into administration.

VLP should request the information about previous MOA for an AMSID from SVAA. SVAA upon validation shall provide required data and pass it on to the VLP. VLP will have to liaise with MOA to send the equivalent of Meter Technical Details to the VLP and Data Collector.

P375 Scenario 3

A VLP (VLP A) wants to use the Boundary Meter to provide Balancing Services. That Boundary Point Meter is already used by another VLP (VLP B) who provides Balancing Services via Asset B. However, VLP A wants to use the Boundary Meter to settle for a different customer (Asset A) from the other VLP (VLP B).

As per BSCP602, where a VLP registers an MSID Pair to their Secondary BM Unit which already belongs to a different Secondary BM Unit, then (provided that all it passes validation) a new VLP takes the MSID Pair over. However, in this scenario VLP B will be justified in wanting to keep the Boundary Meter within its own Secondary BM Unit as their customer (Asset B) has not changed hands. However, if VLP A registers MSID Pair to their Secondary BM Unit, then the MSID will move to VLP A. VLP B can raise a dispute in line with BSCP602. Where an agreement cannot be reached between the two VLPs, which want to use two different Assets via the same Boundary Point MSID Pair, one of the VLPs should be advised to install the Asset Meter.

P375 Scenario 4

The DC is unable to retrieve data from the Asset Metering System.

The process for Boundary Meters is described in BSCP601, and the same should be followed for AMSIDs. The DC could either send in a '0' value for the Metered Data at a given Settlement Period or provide an estimated value. When data is retrieved from the AMSID this can be sent to SVAA and this will be reconciled at a later Volume Allocation Runs.

P375 Scenario 5

© ELEXON 2020

More than one Asset Meter is linked to the same Boundary Point Meter MSID Pair.

The P375 process allows associating unlimited amount of Asset Meters (in a form of AMSID Pairs) to the same Boundary Point Meter MSID Pair. Performance Assurance Framework will ensure that the Asset Meters record separate values (i.e. measuring each Asset separately) and do not record the same flows for one asset.

P375 Scenario 6

An Asset Meter is already in use on a site. There is another asset on site, which can provide Balancing Services what are my options?

- The VLP could use the Boundary Meter if it is not already in use (see scenario 1 & 3). A VLP follows processes introduced as a part of P344 to do so.
- The VLP could register a new Asset Meter for the other Asset.
- The VLP could register a new 'Asset Meter' whose flows is calculated by SVAA through a form of difference metering (net of Boundary Point Metered data and any Asset Metered Data that does not fall under a VLPs control) if no other Asset Meter uses differencing on site.

P375 Scenario 7

I cannot install an Asset Meter near to the Asset but want to use the Asset for Balancing Services. I do not want to or cannot use the Boundary Meter for various reasons.

At all times, where possible the MOA should install the physical Asset Meter at the location of the Asset.

Where such installation is not possible/practical, then the MOA can install the Asset Meter on Assets that do not provide the Balancing Service (i.e. measuring the 'leftover' Metered Data). In such instance, the AMSID would be registered for the Asset providing the Balancing Service on site, however SVAA will have to apply 'metering by difference' to derive the Metered Data for the Asset.

P375 Scenario 8

The Asset Meter records the Metered Data for the Balancing Service but there is no corresponding change in flows recorded at the Boundary Point Meter.

The Boundary records Metered Data flows for the whole site. If there is a change in the flow in the opposite direction from the Balancing Service, this will offset the expected result (e.g., where Balancing Service was to increase rate of Export, but the other Assets on site increased rate of Import at the same time). Prior to P375, this may have resulted in non-delivery charges. P375 alleviates that problem. However, where the Boundary Point Meter does not record the deviation based on the Balancing Service on a regular basis this may trigger further checks to be made such as line diagrams or site visits to ensure that the asset is truly independent from other assets on site.

P375 Scenario 9

As a VLP, I have some sites, where I would like to use the Boundary Point Meter, and some sites where I would like to use the Asset Meter. Do I need to create separate SBMU's, as this may causes problems in meeting the current minimum threshold of 1MW for Balancing Services?

The SBMU can contain a mix of sites whose Metered Data are derived from the Boundary Point Meter and or Asset Meters. The VLP does not need to create a new SBMU, which houses just AMSIDs. However, a VLP cannot choose to register both Boundary Point MSID Pair and AMSID Pair to measure the same Asset.

P375 Scenario 10

I now use AMSIDs within my SBMU. How will this affect my FPN?

© ELEXON 2020

The Metered Data collected by the DC will not be loss adjusted. SVAA will allocate Line Loss Factor Class as a part of the AMSID registration process. The Line Loss Factor Class for a given AMSID will be of the voltage level connection of the Asset (which may be different to the Boundary Point MSID LLFC).

DC will send the 'raw' Metered Data to SVAA and the SVAA will apply the Line Loss Factors to adjust for losses to GSP level.

The FPN submitted to NGESO should be adjusted so that it relates to flows at the GSP level. Therefore, VLP should make adjustments for line losses. Inaccuracies in the FPN may lead to non-delivery/imbalance charges. The Grid Code expects FPNs to be as accurate as possible.

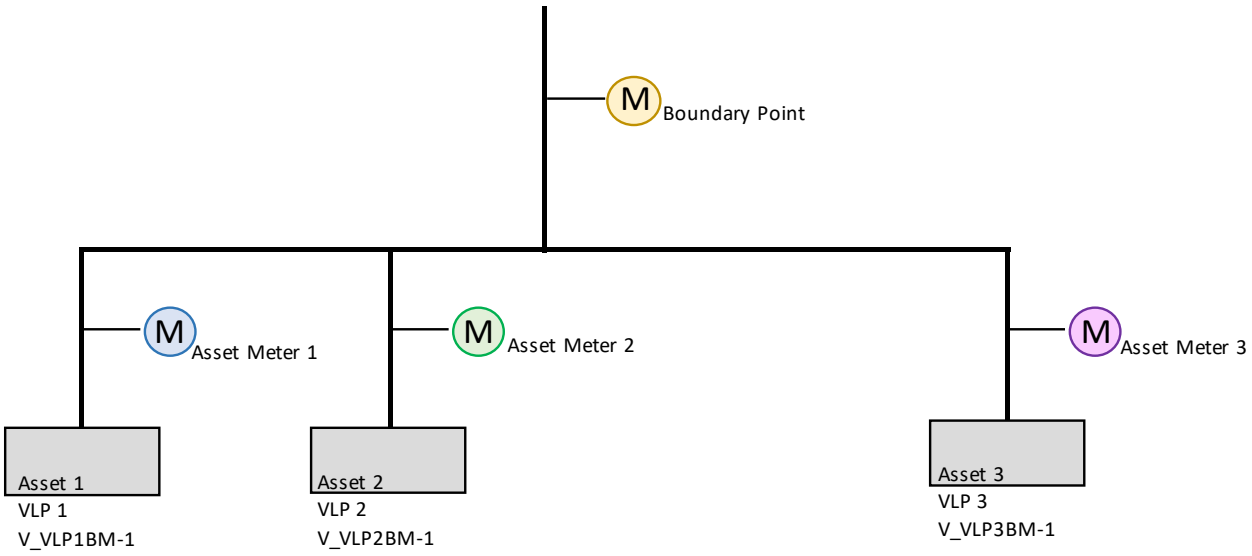
P375 Scenario 11

I previously used difference metering for my AMSID but a meter on site has been removed meaning that this is now not possible.

Where this happens then it is not possible to continue using difference metering for that site unless MOA (under VLPs instruction) installs another Asset meter. The Boundary Meter can be used for settlement if it is not already used by another VLP.

P375 Scenario 12

Multiple VLPs use a given Boundary Point to respond to instructions. What will happen with Delivered Volumes allocation?



In the above scenario, there are three Assets on a network behind a single Boundary Point. A 'Supplier X' supplies the Boundary Point (and, as a result all the assets beneath it) with electricity. No BSC Party uses the Boundary Point to provide the Balancing Services. Each of the Assets behind the Boundary Point is managed by a different VLP.

HHDA provided SVAA with the following Metered Volume data for a given Boundary Point MSID Pair on a Settlement Day and Settlement Period.

M Boundary Point Import MSID: 1 MWh and Export MSID: 3 MWh

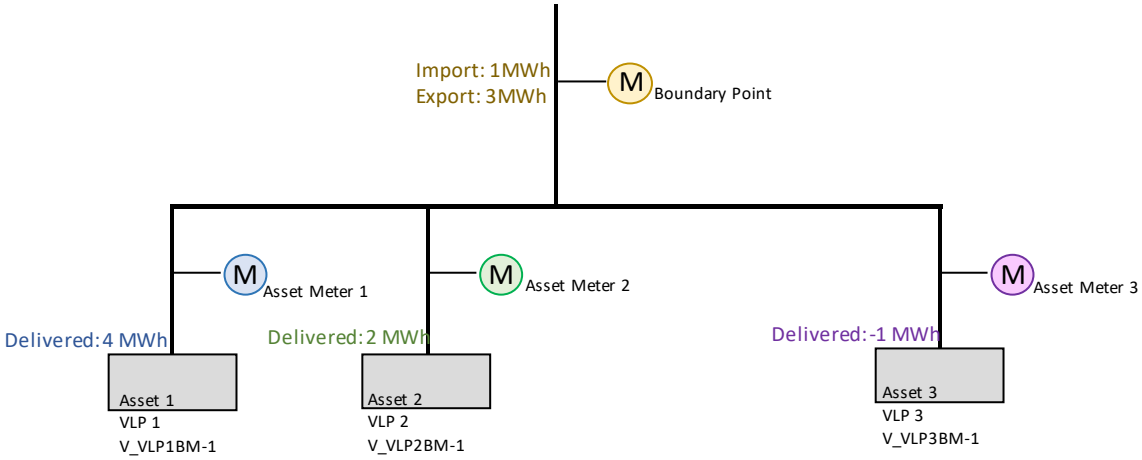
Three VLPs have notified Delivered Volumes.

© ELEXON 2020

M Asset Meter 1 VLP1 = 4 MWh

M Asset Meter 2 VLP2 = 2 MWh

M Asset Meter 3 VLP3 = -1 MWh.



SVAA will first allocate the total net of all Delivered Volumes provided for a given Boundary Point MSID Pair. In this case, the total net Delivered Volume is 5 MWh (4+2+ (-1)). Those 5 MWh, would be allocated in line with the current provisions of the BSC[11].

1. Check whether Delivered Volume is non-negative (value of zero or above) or negative (less than zero).
2. Where the value is non-negative (in our scenario 5MWh), start with an Export MSID within the Boundary Point MSID Pair.
3. Compare the Delivered Volume (5MWh) against the Metered Volume for the Export MSID (3MWh).
4. Allocate the minimum value of the two to the Export MSID (3MWh).
5. Allocate the difference to the Import MSID within the MSID Pair (5MWh – 3 MWh = 2MWh).

Once the net volume is allocated between MSIDs within Boundary Point MSID Pair, the SVAA will allocate the volumes at each MSID between the VLPs proportionately. The table below illustrates:

VLP	Delivered Volume	Proportion of Total	Import Volume	Export Volume
VLP1	4 MWh	80%	2 * 0.8 = 1.6 MW	3 * 0.8 = 2.4 MWh
VLP2	2 MWh	40%	2 * 0.4 = 0.8 MWh	3 * 0.4 = 1.2 MWh

[11] BSC Section S Annex S-2: Supplier Volume Allocation Rules paragraph 3.10

© ELEXON 2020

VLP3	-1 MWh	-20%	2 * -0.2 = -0.4 MWh	3 * 0.2 = -0.6 MWh

Scenario 13

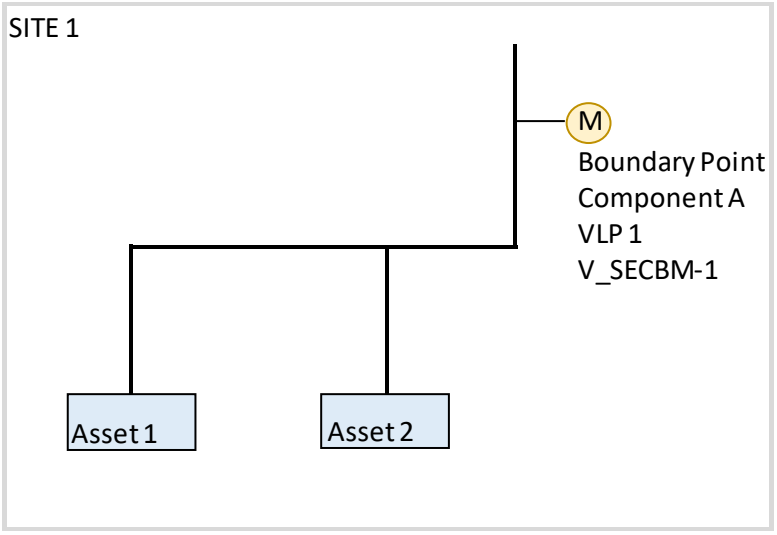
The customer no longer wishes to use an Asset for Balancing Services. As a VLP what should I do?

Where an Asset will no longer be participating in the Balancing Services, the VLP will be able to notify SVAA about AMSID Pair de-registration. VLP should highlight the reason for de-registering the AMSID (e.g. decommissioning of plant). SVAA will amend its records to reflect that.

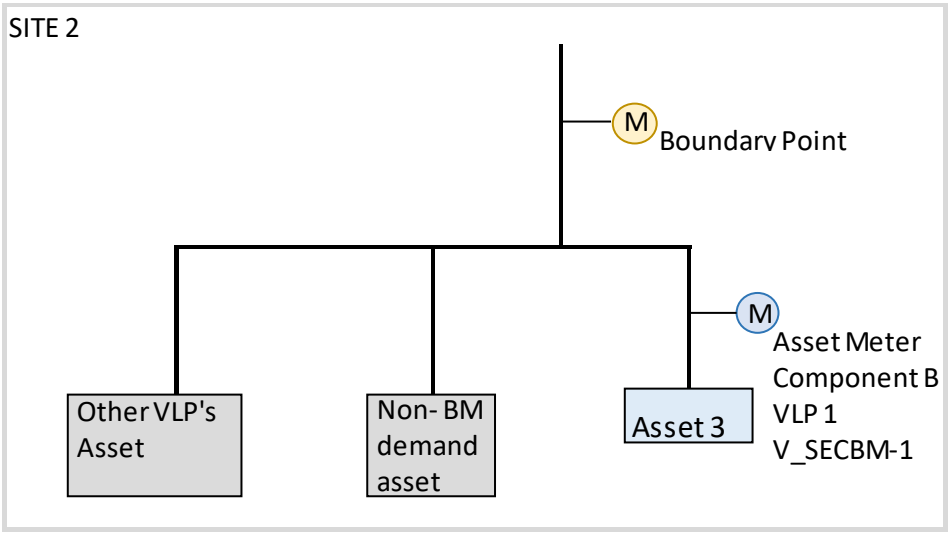
Scenario 14

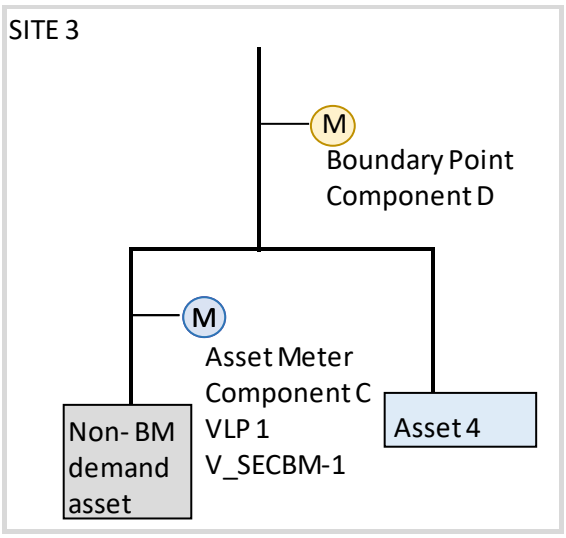
How will SVAA aggregate Metered Data and apply differencing for a Secondary BM Unit?

When aggregating Metered Data from multiple MSID Pairs and AMSID Pairs up to a Secondary BM Unit level, SVAA will have to sum data from multiple sources. Let a Secondary BM Unit 'V_SECBM-1' be composed of one BP MSID Pair (Component A) located at a site 1, AMSID Pair (Component B) located at a site 2 and AMSID Pair located at a site 3. The AMSID Pair on site 3is registered for differencing (Component C) against BP MSID Pair (Component D; for avoidance of doubt this would be a different BP MSID Pair to the Component A). The scenario is represented in the following set of graphics.



© ELEXON 2020





HHDA will provide SVAA with Metered Volume Data for Component A and Component D in line with SVAA Settlement Calendar.

HHDC will provide SVAA with Metered Volume Data for Components B and C three working days after a given Settlement Day.

SVAA will initiate aggregation activity in line with SVAA Settlement Calendar.

1. First SVAA will determine CCC Id to the Metered Data received from HHDCs (BR31).
2. Then it will determine the Volume Allocation Run for that data (BR32).
3. Then it will assign the LLFC, CCC Id, Secondary BM Unit and the Primary BM Unit that is affected (the Primary BM Unit of a Supplier supplying the BP MSID Pair) to each Metered Data for each Settlement Period and Settlement Date (BR33).
4. SVAA will change units of each Metered Data from KWh to MWh (BR34).
5. It will group the Metered Data (MWh) into 'pots' by LLFC, CCC Id, Secondary BM Unit (in this case 'V_SECBM-1') and the Primary BM Unit that is affected.

© ELEXON 2020

6. It will calculate losses for each 'pot' based on the LLFC allocated to it (BR35).

7. It will then aggregate the Metered Volume data in line with the following (BR36):

$$Metered\ Data_{V_SECBM-1} = \sum Metered\ Data_{Component\ A} + \sum Metered\ Data_{Component\ B} + (\sum Metered\ Data_{Component\ D} - \sum Metered\ Data_{Component\ C})$$

4. GLOSSARY

Below table represents terms which we will introduce as a 5 Modification or which are defined outside the Balancing and Settlement Code. The terms introduced as a part of P375 will be finalised as a part of development of the legal text.

Terms, which are defined in the Balancing and Settlement Code or Code Subsidiary Documents, were omitted.

Please note that items surrounded by a square parentheses '[ ]' **are yet to be agreed/further defined**.

Term	Meaning/Proposed Meaning
Asset Meter Central Register (ACMR)	means a register listing all AMSIDs which provide or provided Balancing Services.
Asset Metering Point (AMP)	means the point at which a supply to (export) or from (import) to a Boundary Point: (i) is or is intended to be measured; or (ii) where metering equipment has been removed, was or was intended to be measured; or, where in each case such measurement is for the purposes of ascertaining the Virtual Lead Party's Settlement liabilities under the Code.
Asset Metering System (AMS)	means a Metering Equipment that measures Exports or Imports at an Asset Metering Point.
Asset Metering System Identifier (AMSID)	means a unique number relating to an Asset Metering Point. It is analogous to a SVA Metering System Number.
Balancing Service	has the meaning given to that in the Transmission Licence.
Boundary Point	means a point at which any Plant or Apparatus not forming part of the Total System is connected to the Total System
Boundary Point Metering System	means a Metering System which measures Exports or Imports at a Boundary Point
Connection Voltage	voltage at which the Asset connects to the private network
delivery capacity	a measure of Asset's maximum Import and Export capacity expressed in MW. It is analogous to Generation Capacity for Export AMSIDs and Demand Capacity for Import AMSIDs.
Meter Operator Agent (MOA) Alternative	means an agent appointed by a Virtual Lead Party in accordance with [Section L] to install, commission, test and maintain, and rectify faults in respect of SVA Asset Metering Equipment which falls under the category of Asset Metering Types 4 and 5 [below 1MW Maximum Demand for the circuit being measured by an Asset Meter]. Each VLP (as a Performance Assurance Party) is responsible for ensuring that the Meter Operator Agent Alternative.
Metering Point	means the point, determined according to the principles and guidance given at schedule 8 of the Master Registration Agreement, at which a supply to (export) or from (import) a Distribution System: (i) is or is intended to be measured; or

© ELEXON 2020

	(ii) where metering equipment has been removed, was or was intended to be measured; or (iii) in the case of an Unmetered Supply, is deemed to be measured, where in each case such measurement is for the purposes of ascertaining the Supplier's Settlement liabilities under the Code.
Metering System	means particular commissioned Metering Equipment, subject to and in accordance with Section K1.6
Party responsible for dialling the Asset Meter	means an agent appointed by a Virtual Lead Party in accordance with [Section L] to retrieve, validate and process metering data in relation to SVA Asset Metering Equipment and passing such data to the appointed Half-Hourly Data Collector.
MSID	has the same meaning as SVA Metering System Number
Physical Notification (PN)	means, in respect of a Settlement Period and a BM Unit, a notification made by (or on behalf of) the Lead Party to the NETSO under the Grid Code as to the expected level of Export or Import, as at the Transmission System Boundary, in the absence of any Acceptances, at all times during that Settlement Period.
Pseudo Metering Point	According to Master Registration Agreement (MRA) "additional set(s) of Metering Point Administration Data, up to eight, or more if agreed with all affected Parties, associated with a single Half Hourly Metering Point created to facilitate the splitting of energy volumes between Suppliers at such Metering Point. Each Pseudo Metering Point shall only exist whilst the energy volumes at the Metering Point are scheduled to that Pseudo Metering Point;
SVA Metering System Number	means a unique number relating to a Metering Point and which consists of the following: (i) a 2 digit number determined by reference to the Licensed Distribution System Operator; (ii) a 10 digit reference number provided by the relevant Licensed Distribution System Operator; (iii) a 1 digit check number provided by the relevant Licensed Distribution System Operator.
SVA Metering System Register (previously known as SVA Metering System Balancing Services Register)	means the register established pursuant to Section S10.1.3 and BSCP507. It lists the association between Secondary BM Units and MSID Pairs and/or AMSID Pairs.

© ELEXON 2020

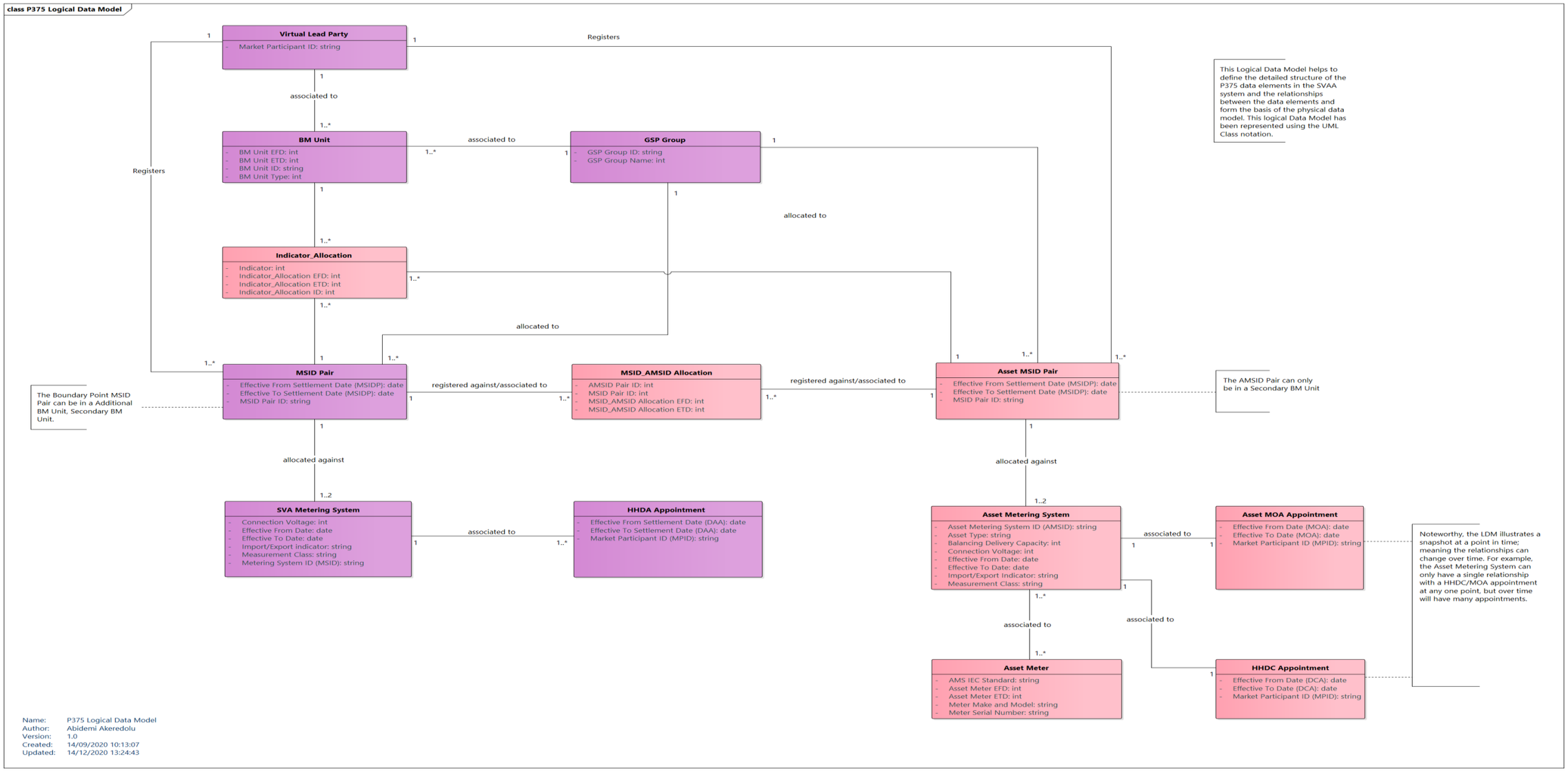
APPENDIX A – Data Flows

Flow Ref	Data Flow Name	Source	From	To	Version
P0278	MSID Pair Allocation	BSCP602	Supplier VLP	Supplier Volume Allocation Agent Supplier Volume Allocation Agent	001 001
P0279	Confirmation of MSID Pair Allocation	BSCP602	Supplier Volume Allocation Agent Supplier Volume Allocation Agent	Supplier VLP	001 001
P0280	Rejection of MSID Pair Allocation	BSCP602	Supplier Volume Allocation Agent Supplier Volume Allocation Agent	Supplier VLP	001 001
P0281	Loss of MSID Pair Allocation	BSCP602	Supplier Volume Allocation Agent Supplier Volume Allocation Agent	Supplier VLP	001 001
P0282	MSID Pair Delivered Volume Notification	BSCP602	VLP	Supplier Volume Allocation Agent	001
P0283	Rejection of MSID Pair Delivered Volume	BSCP602	Supplier Volume Allocation Agent	VLP	001
P0284	Confirmation of MSID Pair Delivered Volume	BSCP602	Supplier Volume Allocation Agent	VLP	001
P0285	MSID Pair Delivered Volume Exception Report	BSCP602	Supplier Volume Allocation Agent	VLP	001
P0286	Disputed MSID Pair Allocation	BSCP602	VLP	VLP	001
P0287	Secondary Half Hourly Delivered Volumes	BSCP508	Supplier Volume Allocation Agent	Supplier	001
P0288	Secondary Half Hourly Consumption Volumes	BSCP508	Supplier Volume Allocation Agent	VLP	001
P0289	Secondary BM Unit Demand Volumes	BSCP508	Supplier Volume Allocation Agent	Settlement Administration Agent	001
P0290	Secondary BM Unit Delivered Volumes	BSCP508	Supplier Volume Allocation Agent	Settlement Administration Agent	001

© ELEXON 2020

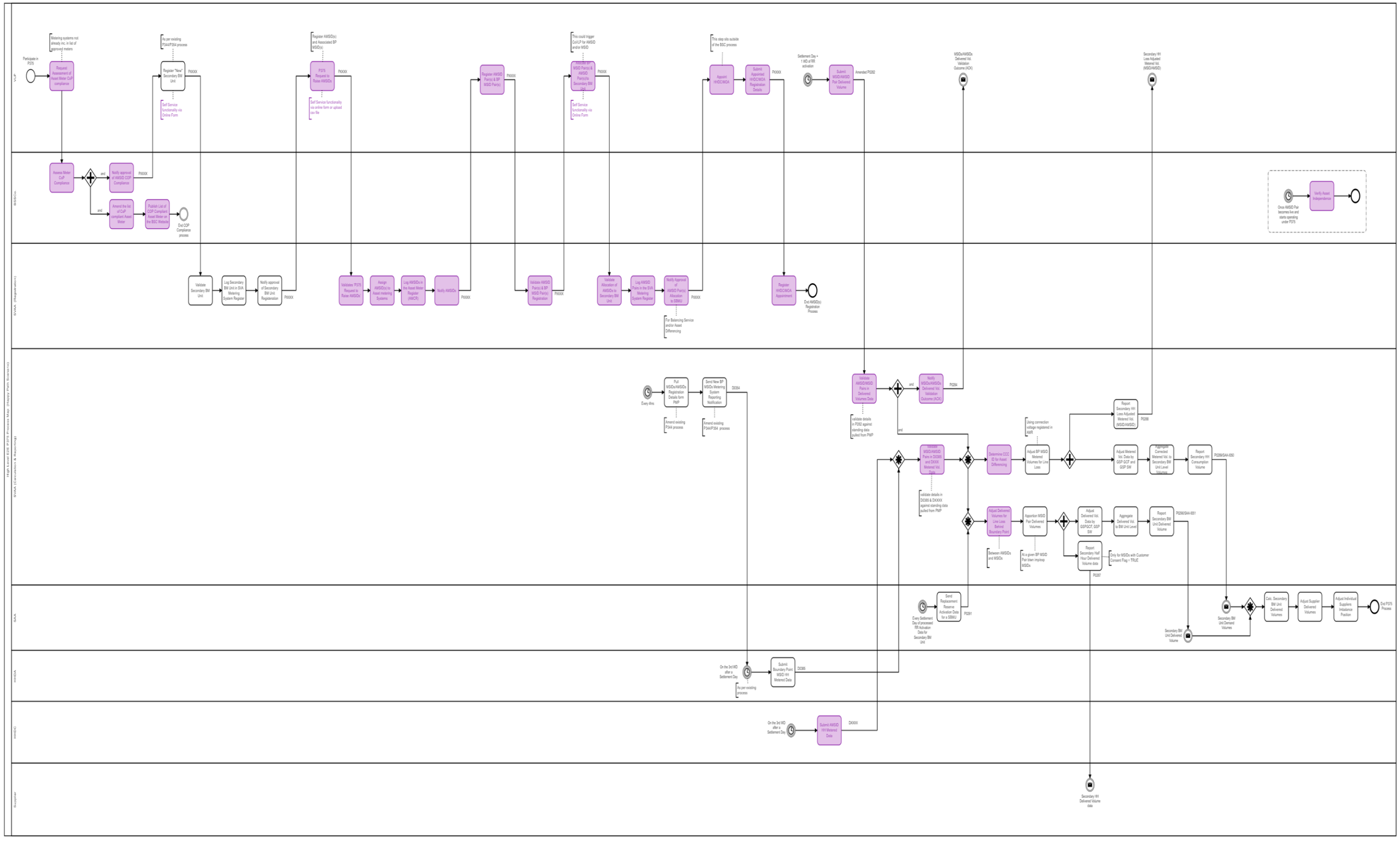
APPENDIX B – P375 Logical Data Model (LDM)

This LDM helps to define the detailed structure of the P375 data elements in the SVAA system and the relationships between the data elements and form the basis of the physical data model. This logical Data Model has been represented using the UML Class notation. Noteworthy, the LDM illustrates a snapshot at a point in time; meaning the relationships can change over time. For example, the Asset Metering System can only have a single relationship with a HHDC/MOA appointment at any one point, but over time will have many appointments.



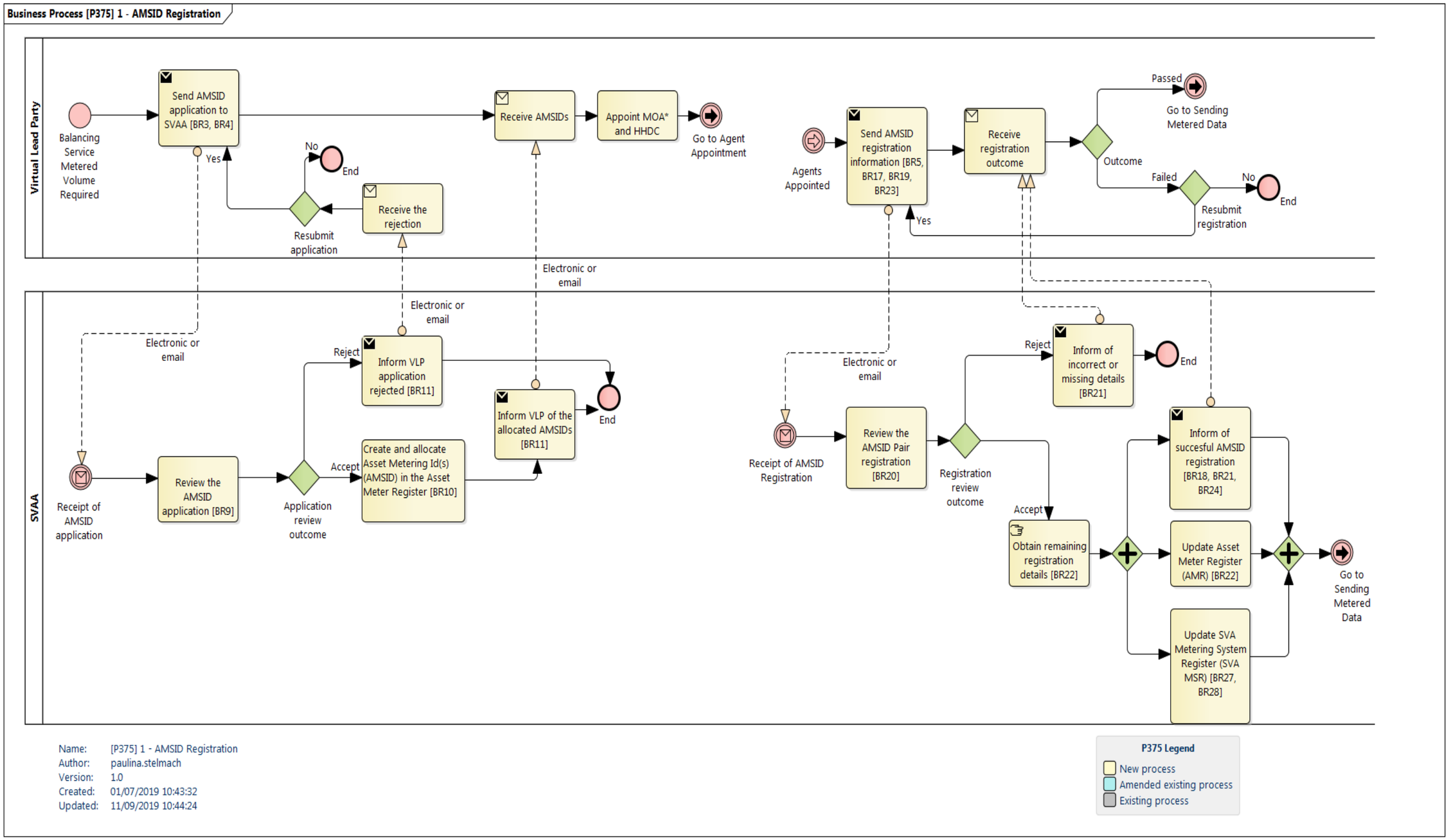
© ELEXON 2020

APPENDIX C – High Level End-To-End Process Map



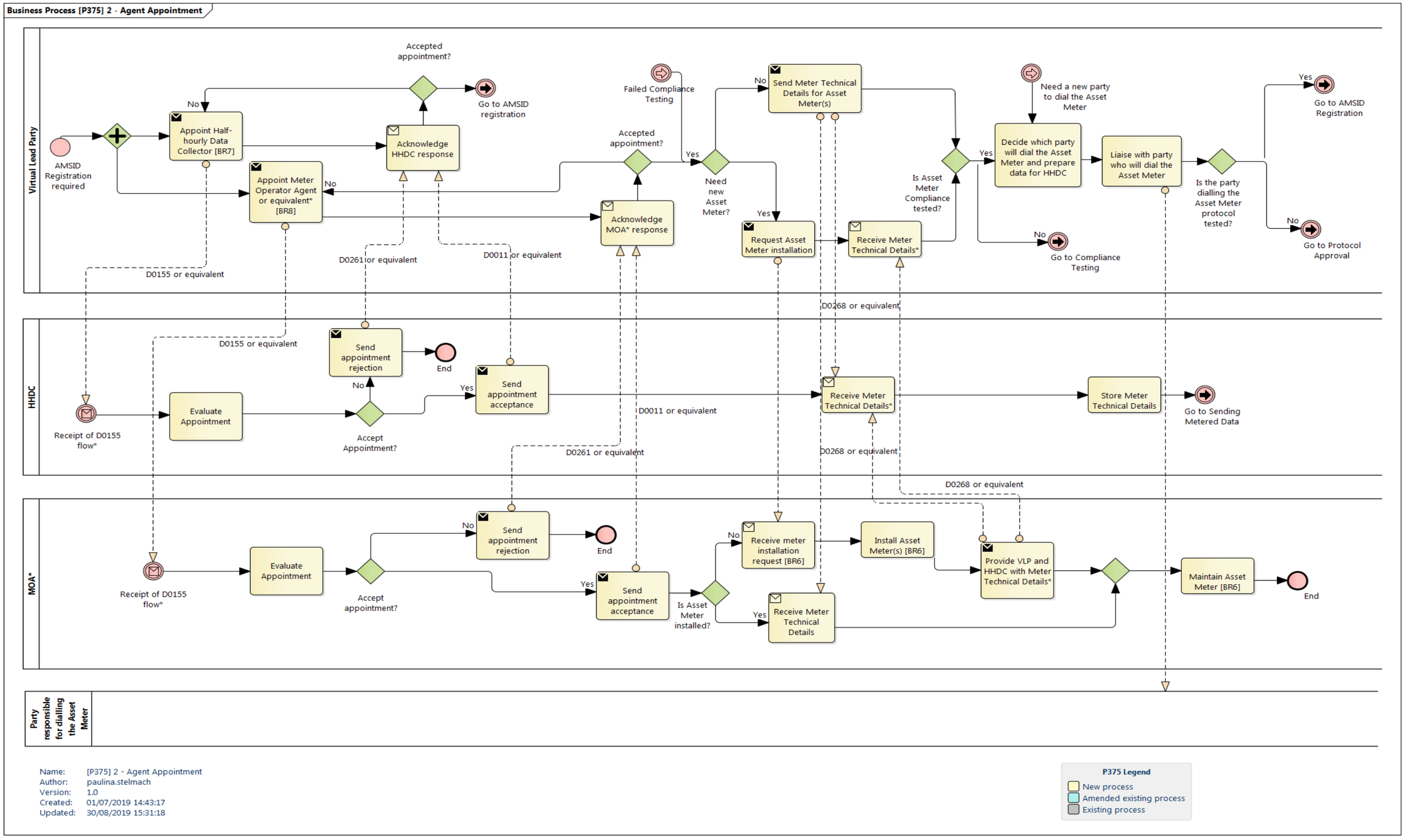
© ELEXON 2020

APPENDIX D – AMSID Registration Process Map



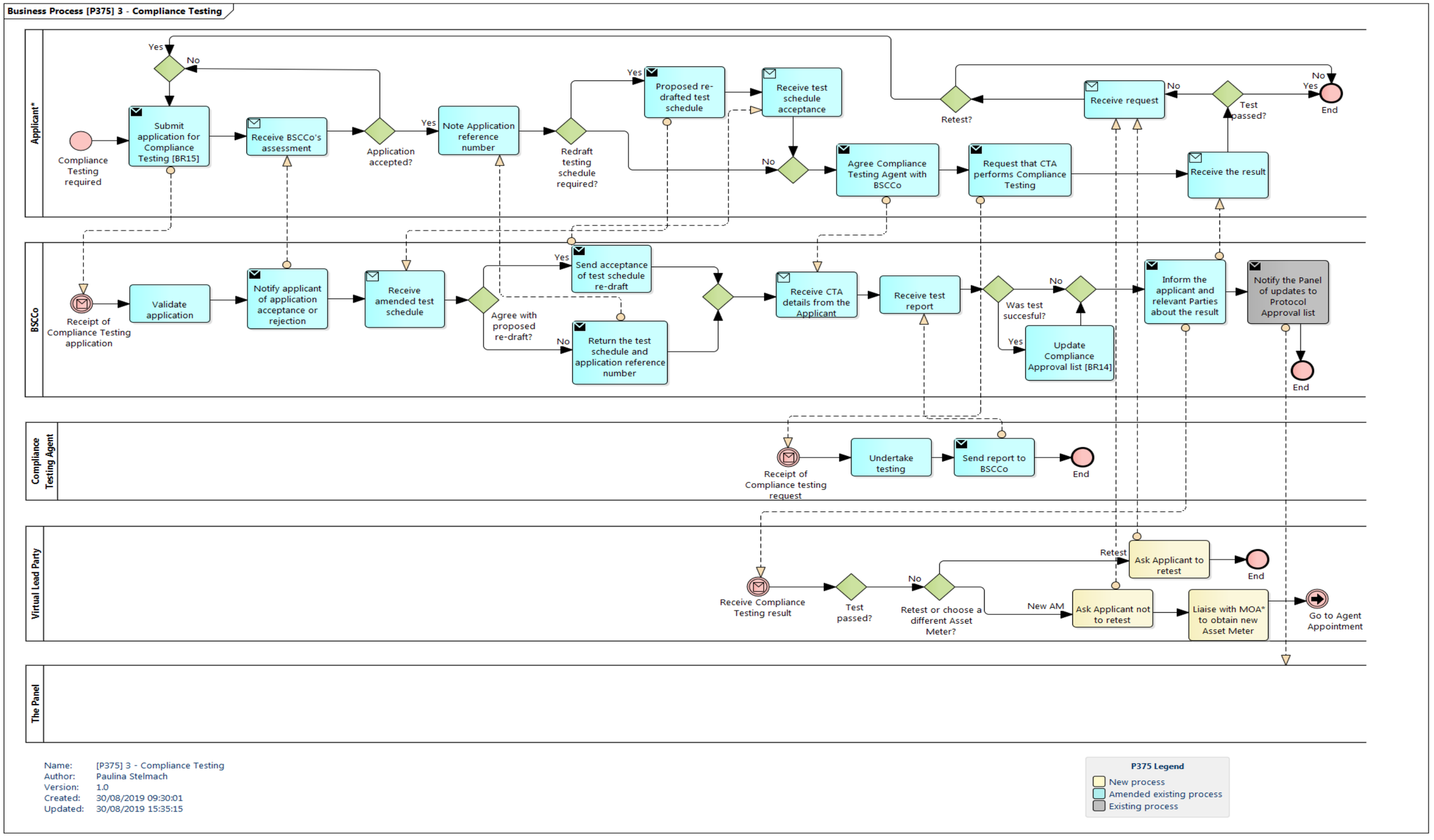
© ELEXON 2020

APPEND



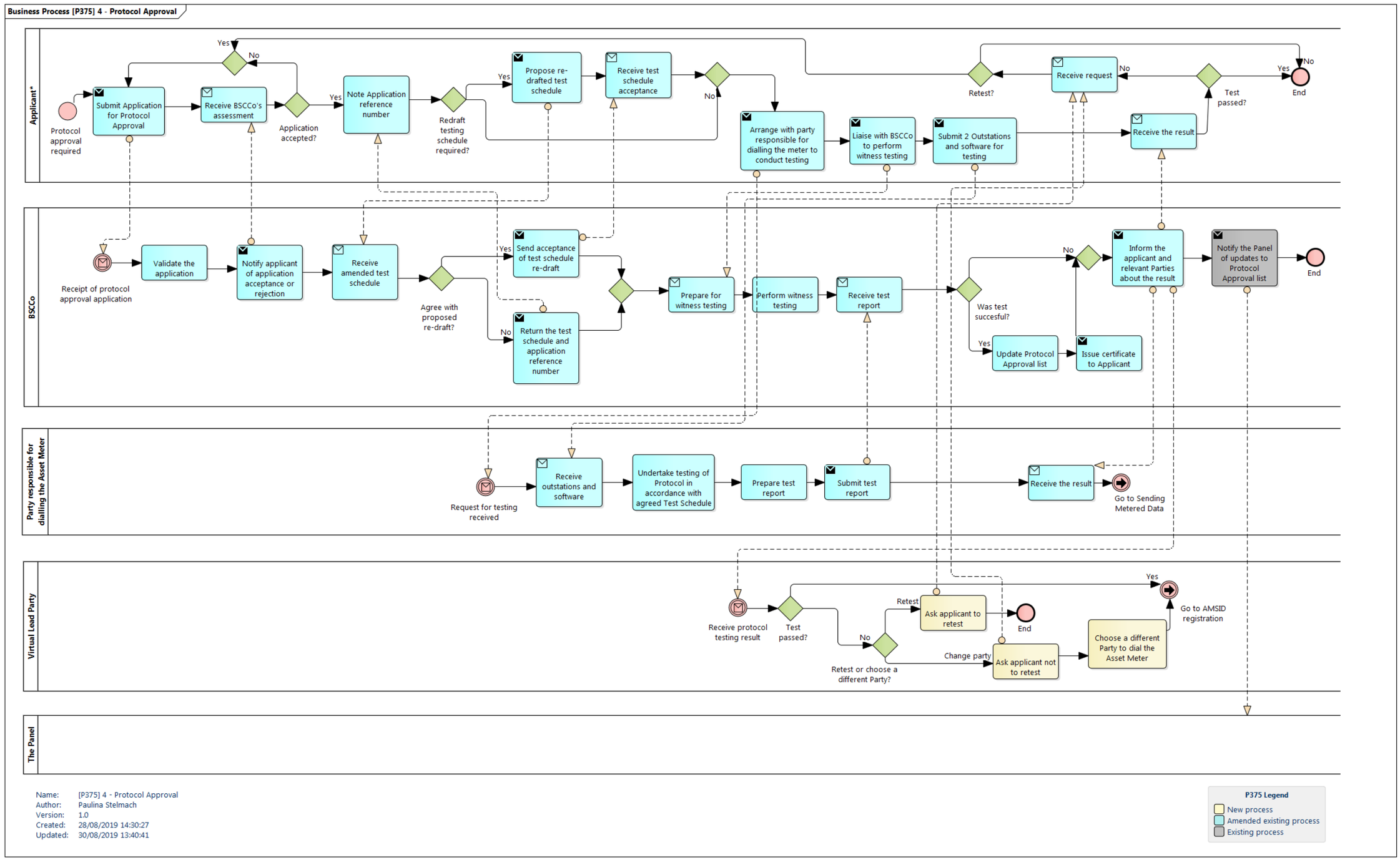
© ELEXON 2020

APPENDIX F – Compliance Testing Process Map



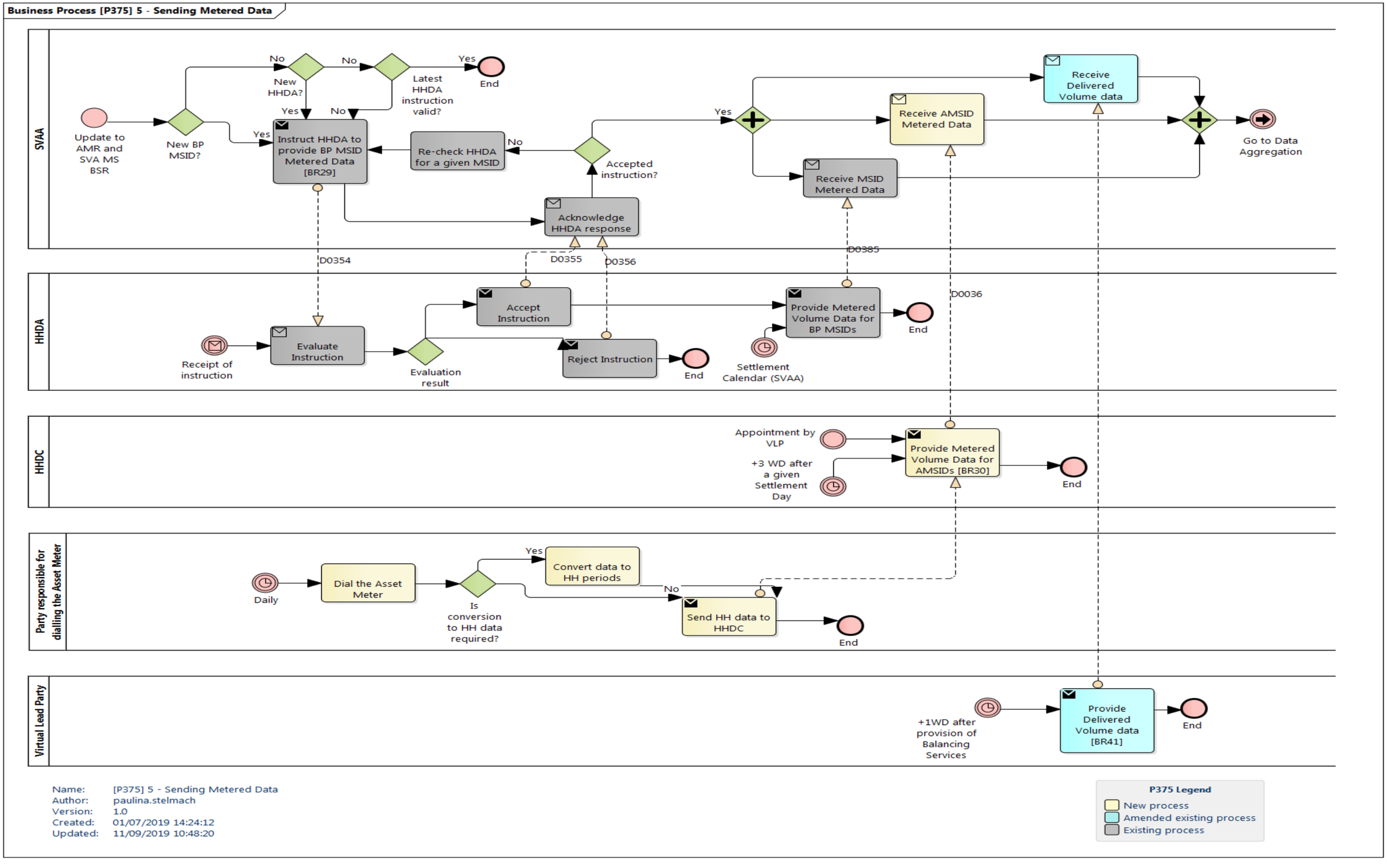
© ELEXON 2020

APPENDIX G – Protocol Approval Process Map



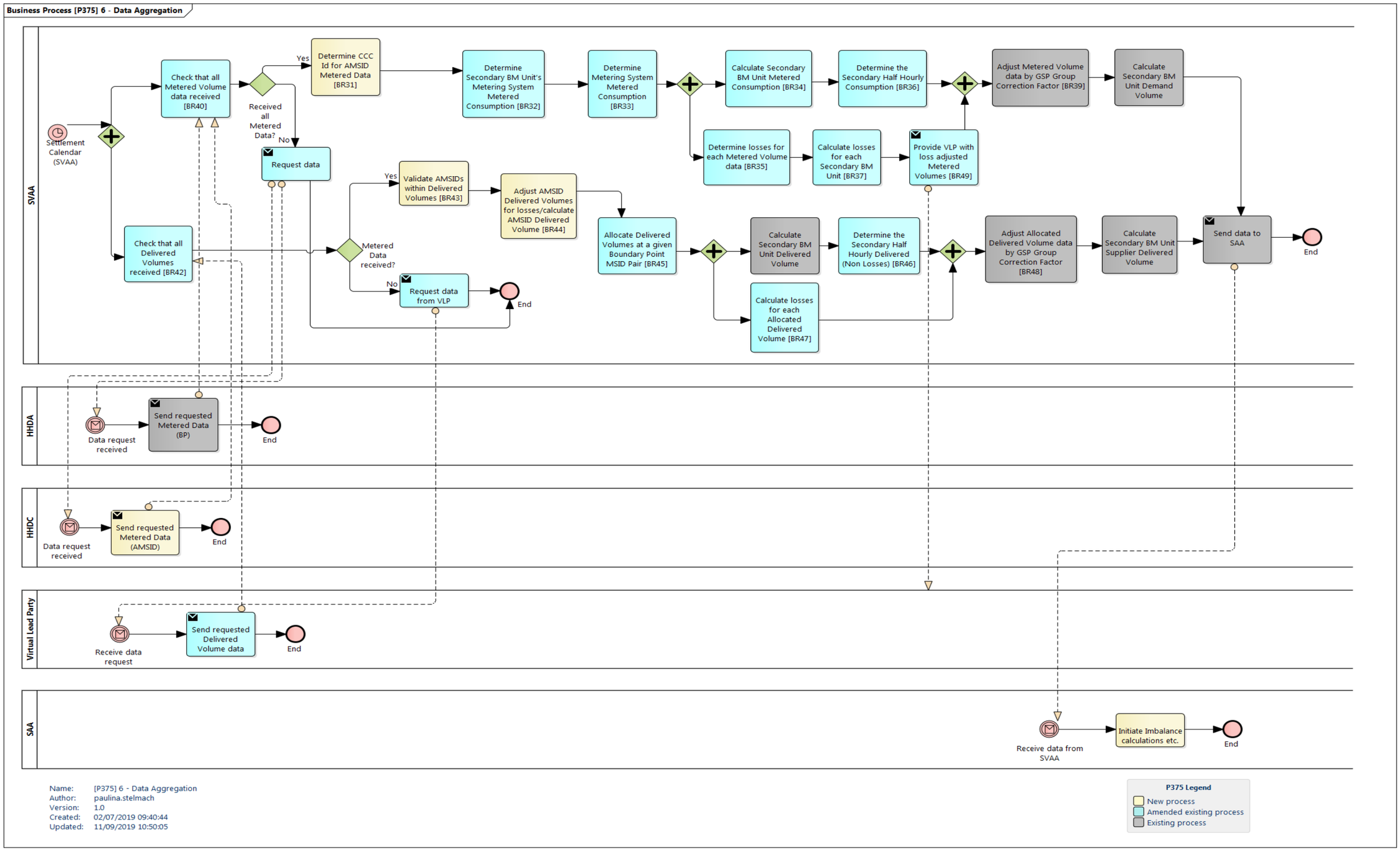
© ELEXON 2020

APPENDIX H – Sending Metered Data Process Map



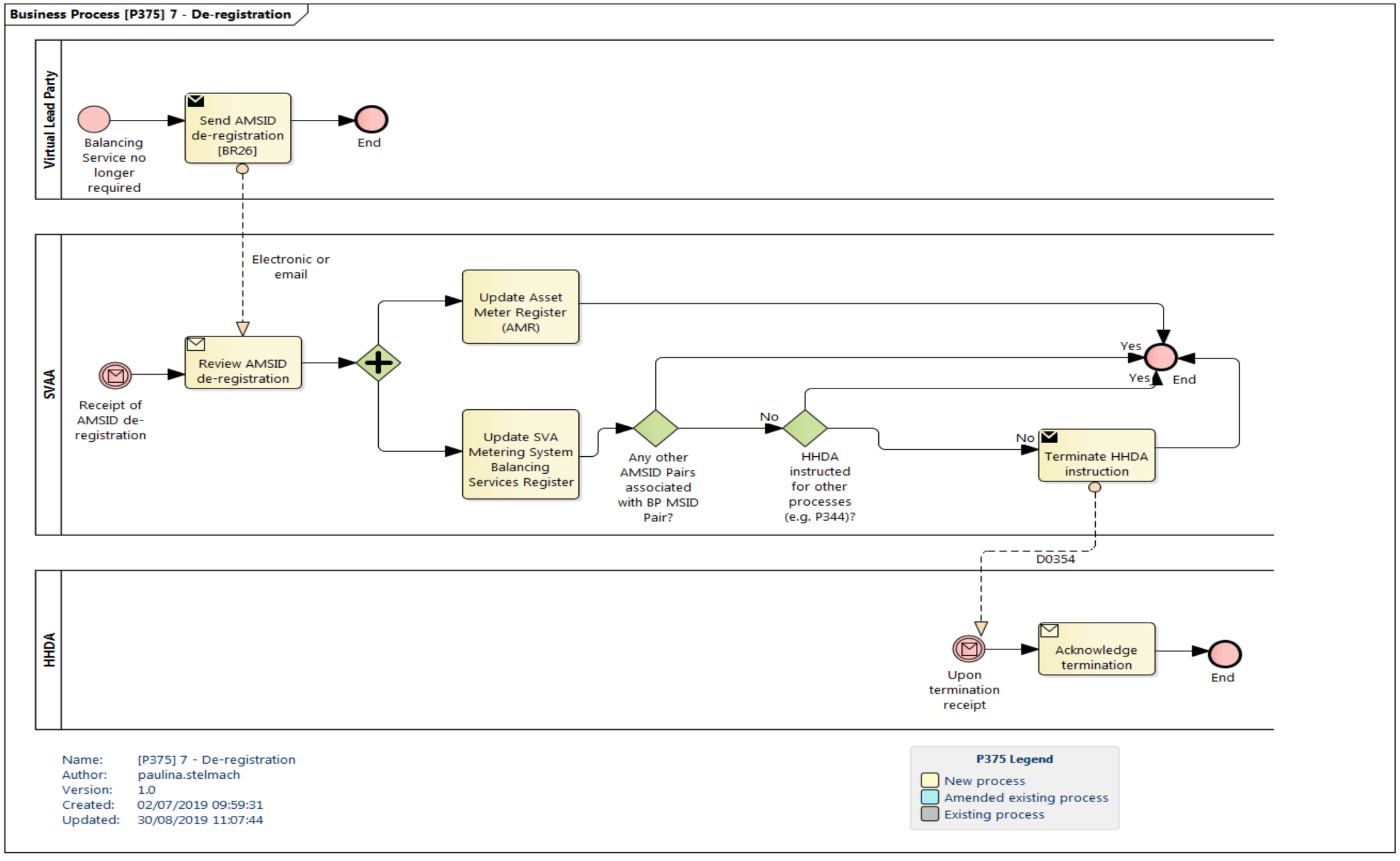
© ELEXON 2020

APPENDIX I – Data Aggregation Process Map



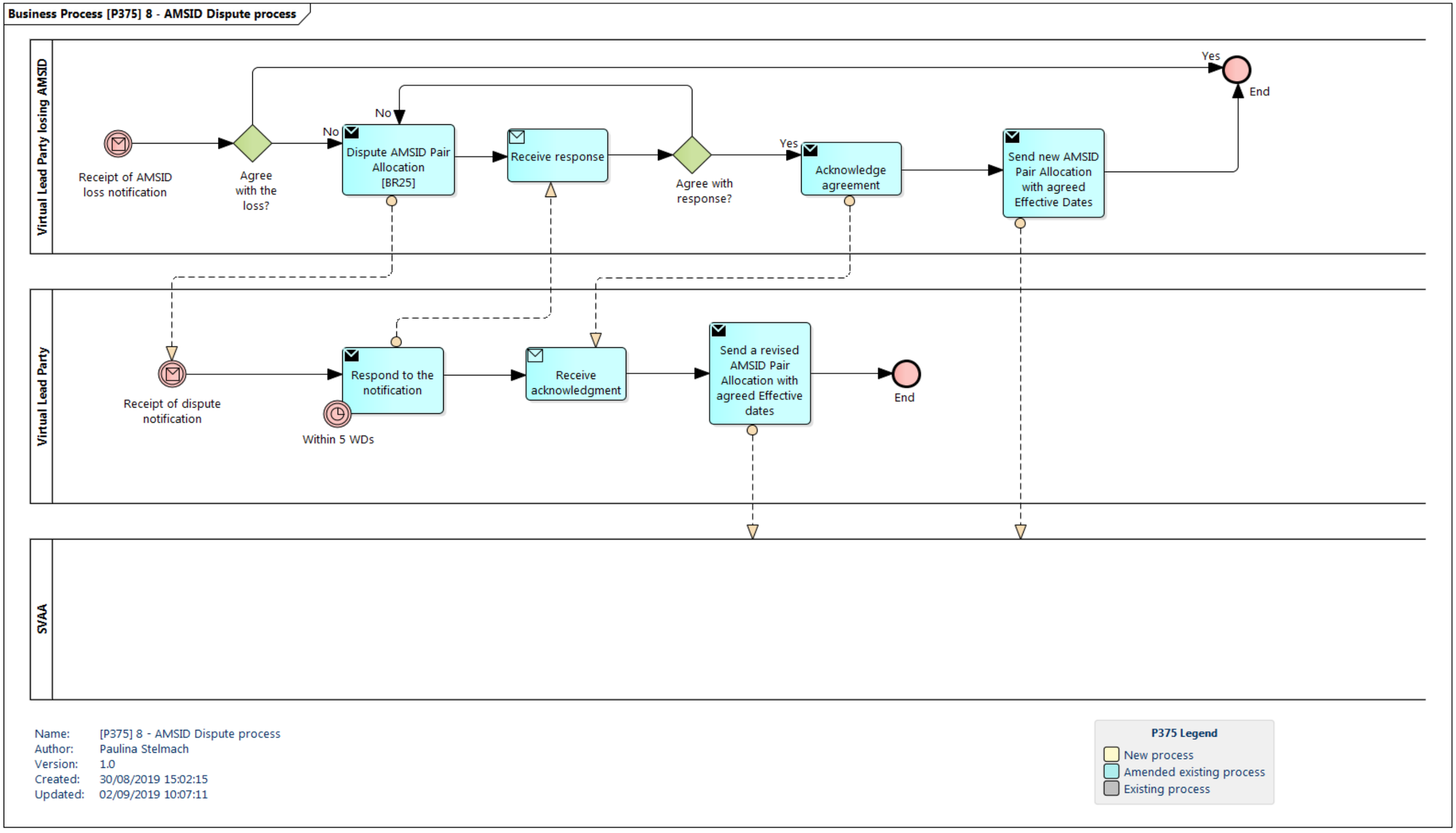
© ELEXON 2020

APPENDIX J – De-Registration process Map



© ELEXON 2020

APPENDIX K – AMSID Dispute Process Map



© ELEXON 2020