

Public

P375 Workgroup four

19 March 2020

ELEXON

P375 Skype meeting ground rules

- No video please - bandwidth
- All on mute – use IM if you can't break through
- Talk – pause – talk
- Lots of us are at home – be mindful of background noise and connection speeds

- *Bear with us – this is the first time*

Objectives

- Finalise Solution
- Consider impacts of implementation
- Review Legal text to date
- Prepare for consultation

Agenda

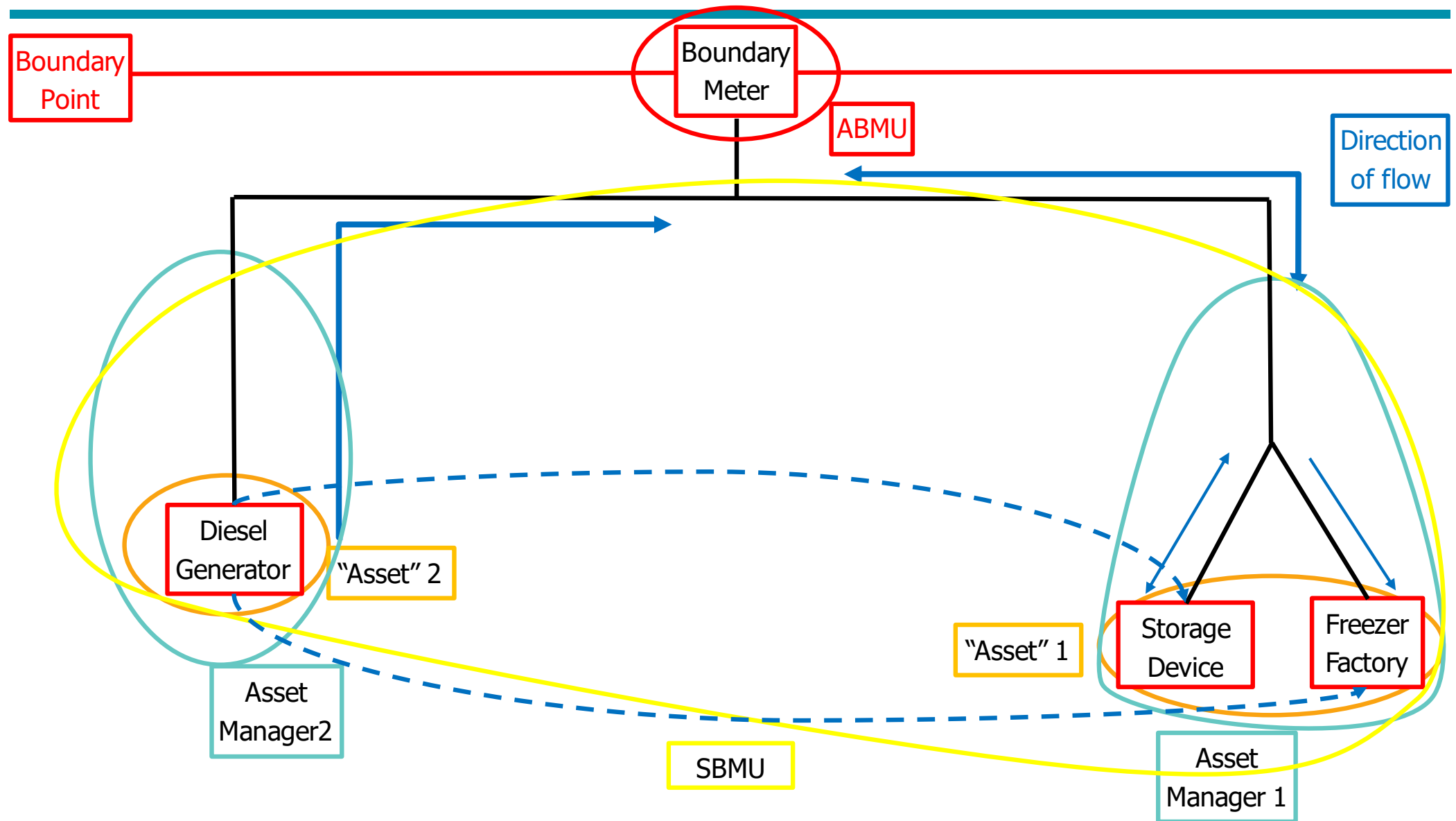
Agenda item	Lead
1. Welcome and Objectives	Chair
2. Solution (inc. CoP11) overview and refresh	Chris Wood
3. Business Requirements review	Chris Wood
4. Impact Assessment	Damian Clough/ Chris Wood
5. Break	Chair
6. Legal text – over view	Aditi Tulpule
7. Lunch	Chair
8. Consultation questions	Chris Wood
9. Workgroup views	Chris Wood
10. Any other business	Chair
11. Next Steps	Chris Wood
12. Meeting Close	Chair



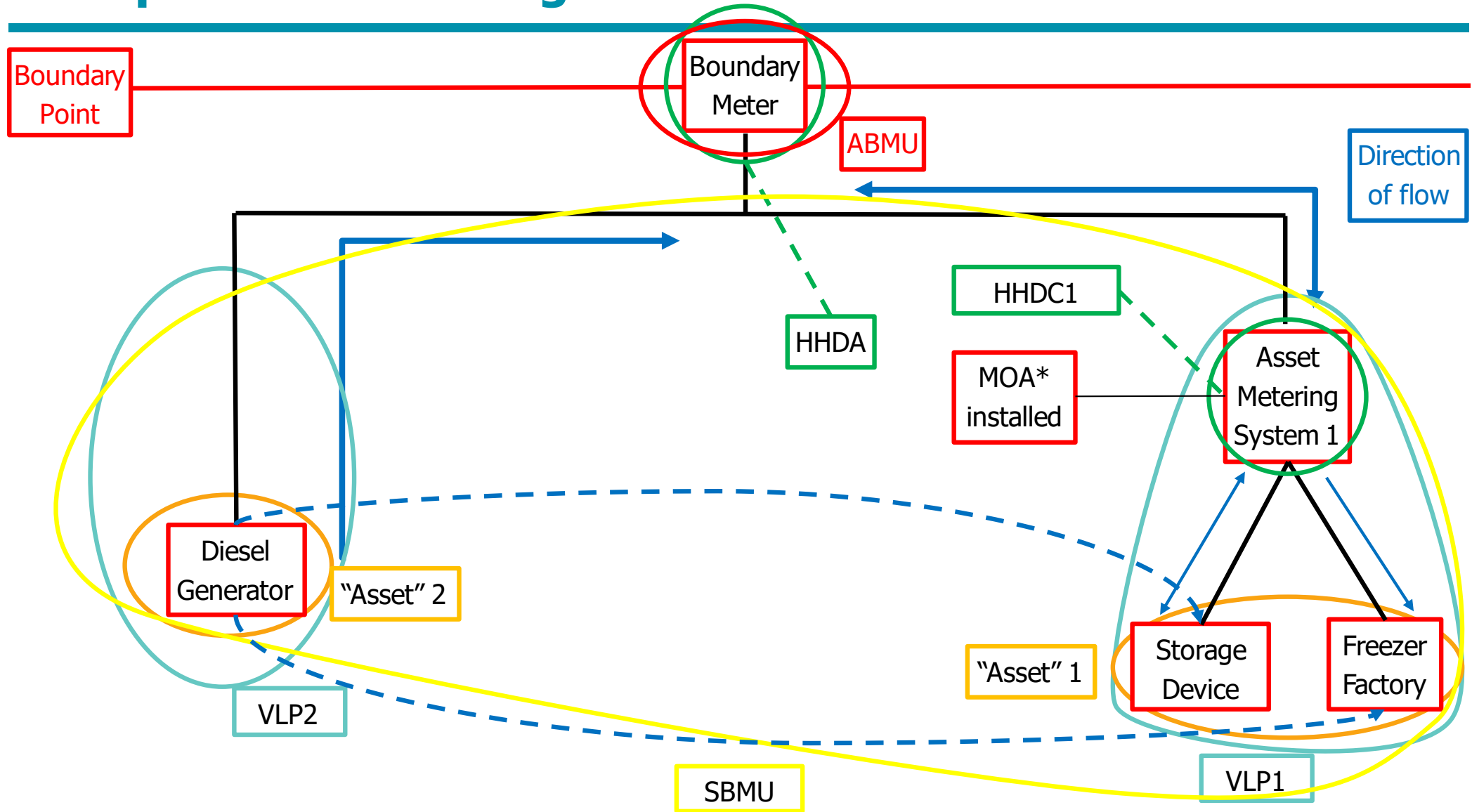
P375 Solution

Chris Wood

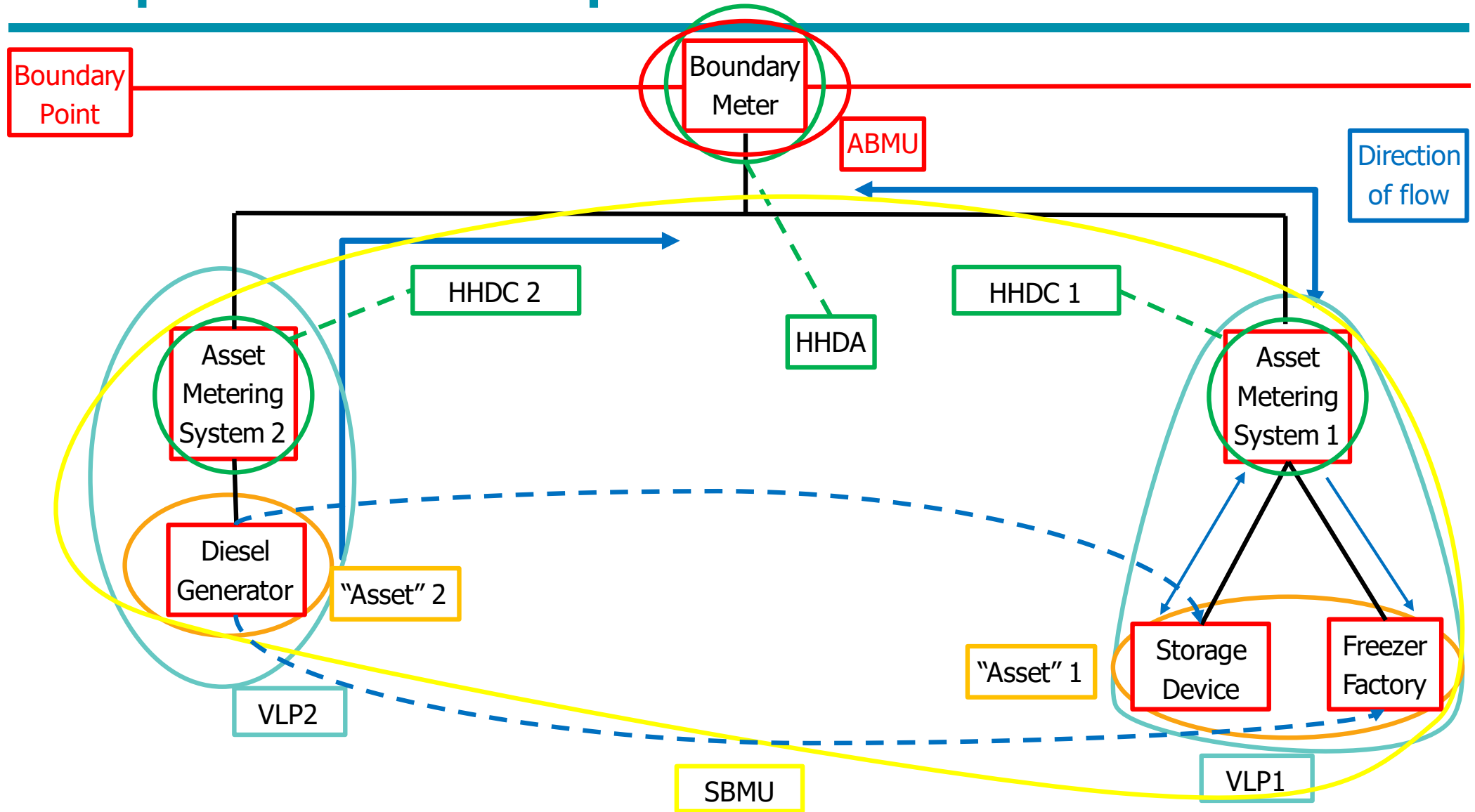
TERRE/Wider Access



Multiple VLPs and Single AMSIDs



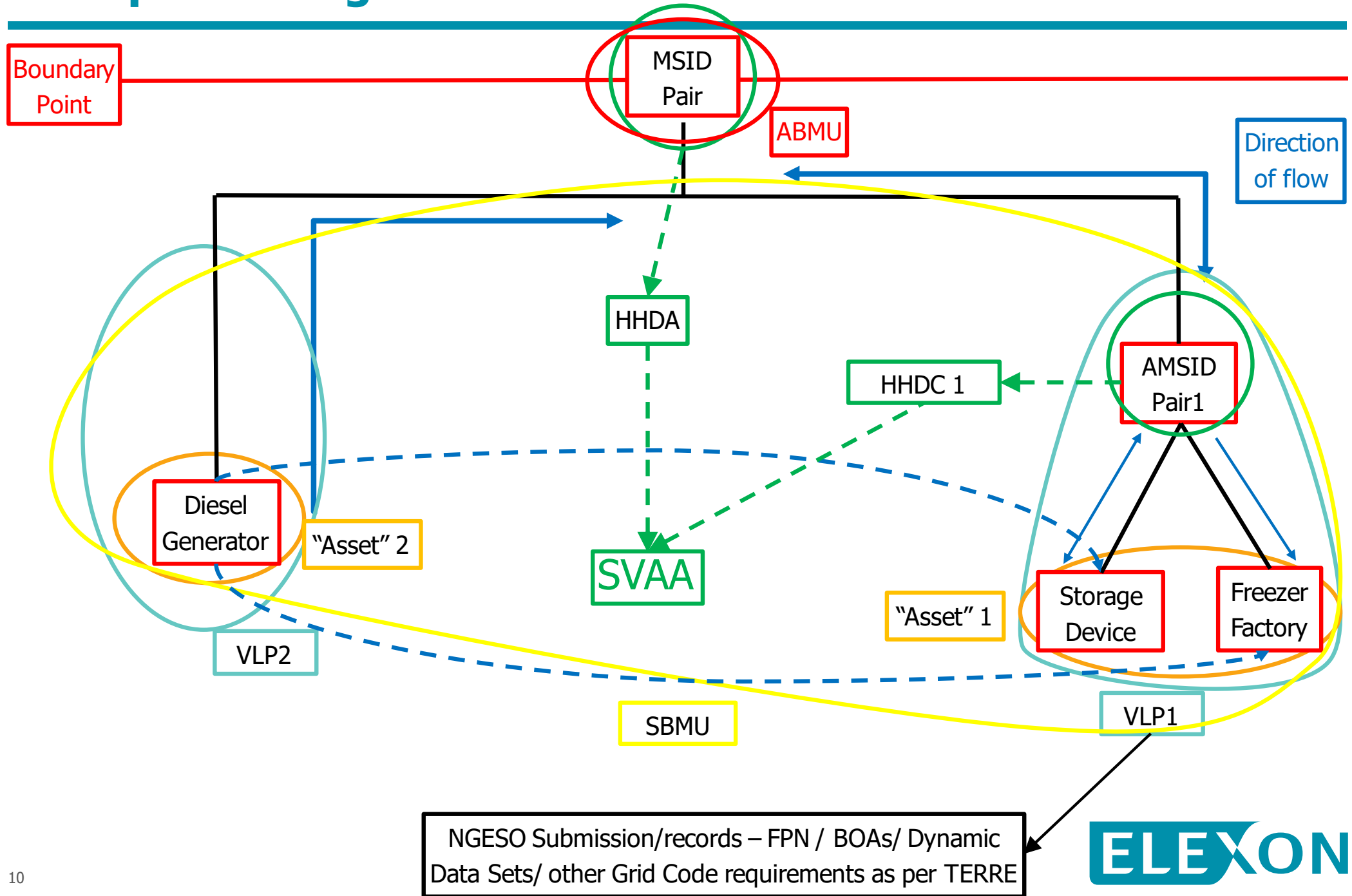
Multiple VLPs and Multiple AMSIDs



Registration processes

- VLP requests AMSID from SVAA – BR3
 - VLP provides information to SVAA when requesting AMSID – BR4 + BR5
 - Includes the MSID for the Boundary Point MSID Pairs – BR4 + BR5
- VLP appoints HHDC (BR7) and MOA (BR8)
- MOA installs COP Meter (BR6)
- SVAA validates VLP's request (BR9)
- SVAA allocates AMSID number to Asset Metering System – BR10
 - VLP informs MOA of AMSID (BR6)
 - VLP Appoints HHDC for each AMSID (BR7)
 - VLP Allocates AMSID to SBMU (BR17)
- SVAA registers all Boundary Point MSIDs in the AMCRS for each AMSID for (BR19)
- SVAA distinguishes between P344 and P375 MSID Pairs in register (BR27)
- SVAA instructs HHDA of affected MSID Pairs (BR29)

Data processing



Public

P375 'Metering behind the Boundary Point'

Asset Metering

Iain Nicoll
19 March 2020

Agenda

- | | |
|---|------------------------------------------|
| 1 | What has P375 come up with for metering? |
| 2 | What is P375 proposing with accuracy? |
| 3 | How will data be submitted? |
| 4 | Updates to CoP11 |
| 5 | Clarification questions |

What has P375 come up with for metering?

Resulted in a number of operational outcomes for metering

1 Code of Practice (CoP) 11 was developed for P375

2 Three categories of Asset Meter Types were created



BSC approved Half Hourly Meters/Outstations



Operational Meters



Metering devices embedded within a product

For all categories data has to be submitted in a 30 minute Settlement Period format e.g. through a system solution linked to the Asset Meter

3

BSC approved Half Hourly Meters/Outstations go through a Compliance and Protocol Approval Test

This will be extended to Asset Meters in Code of Practice 11

The current process for Half Hourly Meters/Outstations is in BSCP601 - Metering Protocol Approval and Compliance Testing

What is P375 proposing for accuracy?

The BSC Metering Codes of Practice use a Risk Based approach

Table 1: Summary of BSC CoP accuracy requirements (1, 2, 3, 5 and 10 only) and Asset Metering Type equivalent

CoP	Asset Meter Type	Range	Voltage Transformer	Current Transformer	Meter	Overall Accuracy**
1	1	>100MVA	0.2	0.2s	0.2s	±0.5%
2	2	>10MVA & ≤100MVA	0.5	0.2s	0.5s	±1.0%
3	3	>1MW* & ≤10MVA	1.0	0.5	1.0	±1.5%
5	4	Up to 1MW*	1.0	0.5	2.0	±1.5%
10	5	≤ 100kW	N/A	0.5	2.0	-3.5% to +2.5%

* 1MW relates to Maximum Demand. MVA figures refer to the Rated Capacity of the Circuit

** Only Overall Accuracy limit shown for 100% Rated Current at Unity Power Factor shown for simplicity

What is P375 proposing for accuracy? (2)

How are Asset Meters categorised in CoP11?

Table 2: CoP 11 is split into five types of Asset Metering:

Asset Meter Type	Range
1	Metering of circuits rated greater than 100MVA
2	Metering of circuits not exceeding 100MVA
3	Metering of circuits not exceeding 10MVA
4	Metering of energy transfers with a maximum demand of up to (and including) 1MW
5	Metering embedded within another device for energy transfers with a maximum demand of up to (and including) 100kW

The accuracy requirements specified are equivalent to existing Regulatory requirements:

- BSC Metering Codes of Practice
- Sub 100kW Metering requirements (Electricity Act)

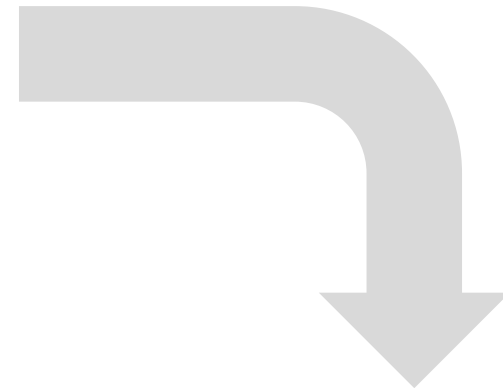
How will data be submitted?



Asset Meter



**Half Hourly Data Collector
(HHDC) System**



**Supplier Volume Allocation
Agent (SVAA)**



**Data Aggregator/
Virtual Lead Party System**



Updates to CoP11

- Internal review of CoP11 carried out:
 - Add Metering Dispensations to align with Section L
 - Align language with other parts of BSC (CoPs/BSCPs) e.g. metered data rather than metered volume
 - Changed title to align with other CoPs – ‘Code Of Practice for the Metering of Balancing Services Assets for Settlement Purposes’
 - Add terms already defined in BSC e.g. Generating Unit
 - Expand on Metering Technical Details section (12.1)
 - Tidy up definition of Type 5 Asset Meter to avoid repetition
 - *Metering Device means an Asset Meter, measuring Active Power and/or Active Energy that is embedded within equipment used for other purposes (e.g. an EV charging unit or a small scale domestic battery storage unit) and is not a dedicated meter, i.e. one whose primary purpose is to measure Active Power and/or Active Energy.*

Clarification Questions

- Internal review of CoP11 and attending other industrial events raised some questions:
 - Is it an issue that CoP11 specifies 'For any remote communication a fully end-to-end encrypted security regime shall be in place' but it isn't something that would be checked through the BSCP601 process?
 - Should a code of practice for metering devices describe what standards are applicable to equipment they are embedded in?
 - At recent BSI committee it was raised that inverter losses in EV chargers could vary quite a bit
 - CoP11 has the option of metering on DC and applying a typical loss for the inverter – **Is this an issue?**
 - 'Do you believe that inverter losses of a particular model/type are consistent across different units to allow measurement on the DC side of the inverter, and an average loss factor derived from a type test applied to the metered data to account for the inverter losses?'



Business requirements

Chris Wood

Registration processes

BR1	SVAA must create Register of Asset Meters
BR2	Asset Meter contents
BR3	VLP request AMSID from SVAA
BR4	Info required to request AMSID
BR5	VLP must register AMSID Pair(s) with SVAA
BR9	SVAA must validate AMSID
BR10	SVAA must allocate AMSIDs
BR11	SVAA must notify VLP of request outcome
BR12	SVAA must only register AMSID for P375
BR13	AMSIDs must be unique

Registering AMSIDs against Secondary BM Units

BR16	SVA Metering System Register content
BR17	Allocate AMSID to SBMU
BR18	SVAA must notify when differencing occurs
BR19	VLP must register Boundary Point MSIDs when registering AMSIDs
BR20	SVAA must validate AMSID Pair registration
BR21	SVAA must notify VLP of validation outcome
BR22	SVAA must allocate LLFC against AMSID
BR23	VLPs must notify SVAA upon the change of VLP for an Asset.
BR24	SVAA must notify new and previous VLP of AMSID Pair re-allocation
BR25	VLP loosing AMSID must be able to raise dispute
BR26	VLP must be able to deregister AMSID

Aggregation of AMSID metered volumes

BR31	SVAA must determine CCC Id for Metered Data
BR32	SVAA transform SBMU Metered Consumption into MS Metered Consumption
BR33	SVAA categorise Metered Volumes into SBMU consumption
BR34	SVAA must group MS Metered Consumption by SBMU
BR35	SVAA calculate losses for SBMU's Metering System Metered Consumption
BR36	SVAA must determine the Secondary Half Hourly Consumption
BR37	SVAA must aggregate losses to a Secondary BM Unit level
BR38	SVAA must adjust Metered Volume data by GSP Group Correction Factor
BR39	SVAA must aggregate Metered Volume to SBMU level (calculate SBMU Demand Volume)
BR40	SVAA must check that it received all Metered Data as expected

Public

P375 Impact Assessment

CGI IA

18/03/2020
Damian Clough

ELEXON

Overview

- We requested that our Service Provider provide:
- A detailed breakdown of the costs to deliver this CR;
- A detailed breakdown of the resources and timescales required to deliver this CR;
- A detailed assessment and plan to deliver this CR for the Implementation Date of 27 November 2020 as part of the November 2020 BSC Release
- An assessment of any risk of delivering this CR against all other change currently in the pipeline for delivery over the timeframe leading up to the requested release approach.
- ELEXON have subsequently requested that a rough order of magnitude (ROM) 'T-Shirt' size estimate of effort and complexity is provided instead of a commercially acceptable offer. This is to facilitate ongoing discussion within Industry Workgroups and meetings which are expected to evolve thinking on solution so that final requirements can be confirmed, for which CGI can then provide a formal commercially acceptable offer.

- This change considers the impact across current New Foundation SVAA TERRE functionality which is within;
- the Data and Calculations Platform
- (DCP) and Participant Management Platform (PMP)
- to deliver solution changes needed to meet the proposed business requirements for P375 - 'Behind the Boundary Metering' in the following attached document.
- ELEXON have noted this delivery now has a placeholder against the April 2021 release.

IA

- The solution detailed within this IA has been estimated at £1,600,000 - £2,000,000. This is indicative, not capable of acceptance, for budgetary purposes only.
- The delivery duration is estimated at 50-60 weeks.
- Annual Service Charges have been estimated as £50,000-£100,000 per annum. This is indicative, not capable of acceptance, for budgetary purposes only.
- ELEXON carried out their own IA using other similar changes such as P354 and P344
 - Similar costs but longer timescales
- In terms of the solution the complication lies around the multiple potential relationships and how to manage those in terms of to and from dates, obligations and responsibilities



Cost Benefit analysis

Chris Wood

Building a case

- Large sums involved, so need to ensure spending is justified
- Benefits can be quantitative...:
 - Cost for BSC to implement
 - Cost for VLPs to implement
 - Potential savings for VLPs
 - Costs/savings for Suppliers in the long term
 - Loss for existing service providers
- ... or they could be qualitative:
 - Assurance for VLPs
 - Increased imbalance accuracy
 - Newer/innovative means of coming to market
 - Route to market for EVs
 - Options for DSR; DSO; Community energy
 - Enables P376 and P379
 - Reduced opportunities for 'traditional' businesses

■ What else?

How will we do this?

- Make an argument in the consultation
- Case studies
- Consultation questions
- Interviews during consultation
- Suggestions?



Draft legal text

Aditi Tulpule

Draft BSC Sections

- [Draft Sections \(link to ELEXON folder\)](#)



Consultation

Assessment Procedure Consultation (1 of 2)

Standard questions:

- Do you agree with the Workgroup's initial view that P375 does better facilitate the Applicable BSC Objectives than the current base line?
- Do you agree with the Workgroup that the draft legal text in Attachment X delivers the intention of P375?
- Do you agree with the workgroups view of impacts and costs?
- Will the implementation of P375 impact your organisation?
- Will your organisation incur any costs in implementing P375?
- Do you agree with the Workgroup's recommended Implementation Date?
- How long (from the point of Authority approval) would you need to implement P375?
- Do you agree with the Workgroup that there are no other potential Alternative Modifications within the scope of P375 which would better facilitate the Applicable BSC Objectives?

Assessment Procedure Consultation (2 of 2)

Additional suggested questions:

- What will be the benefits for your organisation?
- Can you provide indicative costs of the benefits?
- In addition to the examples given, are there any other ways that P375 can benefit the industry?
- CoP 11:
 - Have we covered all scenarios?
 - Are the standards tight enough/relaxed enough?
 - Have we covered off the Communication standards?
 - Do we need extra security measures



Workgroup views

Chris Wood

Voting for P375 solution

- Workgroup views regarding:
 - Applicable BSC objectives
 - Self-Governance
 - Impacts and Costs
 - Implementation
 - P375 Workgroup Terms of Reference

Applicable BSC Objectives (1 of 2)

- A. The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission License
 - ***Proposer believed to be Neutral at IWA***
- B. The efficient, economic and coordinated operation of the National Electricity Transmission System
 - ***Proposer believed to be Positive at IWA – increases options for RR available***
- C. Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity
 - ***Proposer believed to be Positive at IWA – more options to come to market***
- D. Promoting efficiency in the implementation of the balancing and settlement arrangement
 - ***Proposer believed to be neutral at IWA for***

Applicable BSC objectives (2 of 2)

- E. Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]
 - ***Proposer believed to be positive at IWA – further opportunities for aggregators as per EBGLs***
- F. Implementing and administering the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation
 - ***Proposer believed to be neutral at IWA***
- G. Compliance with the Transmission Losses Principle
 - ***Proposer believed to be neutral at IWA***

Self-Governance

■ Self-Governance criteria

A. is unlikely to have a material effect on:

- i. existing or future electricity consumers; and
- ii. competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution, or supply of electricity; and
- iii. the operation of the national electricity transmission system; and
- iv. matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies; and
- v. the Code's governance procedures or modification procedures; and

B. is unlikely to discriminate between different classes of Parties.

Impacts and costs and Implementation

- Cost to implement as per earlier discussion
- Proposed Implementation Date is **February 2022**

P375 workgroup Terms of Reference

- What standard of metering will be required? Note any differences between the standards of metering used for other Balancing Services such as STOR (the use of Secondary BM Unit's may be extended further than the use of Replacement Reserve under TERRE).
- Consider appropriate ways to demonstrate independence of the asset if required? How can we appropriately provide assurance of the impacts of the balancing service on the Total System?
- How will *pseudo* MPANs be registered and linked to the asset and how will these MPANs be subsequently be linked to the Settlement Meter?
- Is the solution, or can it be future proofed against potential future Industry developments, for example domestic assets providing Balancing Services or operating in the Balancing Mechanism.
- What changes are needed to BSC documents, systems and processes to support P375 and what are the related costs and lead times?
- Are there any interactions (complements and conflicts) between P375 and P376?
- Will any new data flows or amendments to data flows be required?
- Are there any Alternative Modifications?
- Should P375 be progressed as a Self-Governance Modification?
- Does P375 better facilitate the Applicable BSC Objectives than the current baseline?



AOB



Next steps

Chris Wood

Next steps

- EBGL Article 18
- Prepare consultation
- Workgroup to Review consultation
- Issue Consultation
- Workgroup to review consultation responses
- Present Assessment Report to BSC Panel
- Report Phase consultation
- Present draft Modification Report to BSC Panel
- Submit final Modification Report to Ofgem

