SWG WebEx Meeting - MSATS Standing Data

1:30pm – 3:30pm

Tuesday 10 September 2019

Session Approach

- Communicate areas of interest raised
- Provide context regarding the proposed MP2 changes to NMI Classification Codes
- Respond to specific questions received last week from SWG members
  - What can be answered vs what still needs to be determined
- Summarise appendix information
- Open the session to other general questions
- Confirm next steps

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SWG Topics of Interest Received

- NMI Classification Codes
- Participant role updates
- Non-contestable unmetered loads
- Cross boundary supplies
- Tier 1 datastreams
- MDMF Basic Meter Registers
- Datastream setup

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MP2 New/materially modified NMI Classification Codes

NMI Classification Codes	Description	Rule Requirement
WHOLESAL	Transmission Network connection point where energy is directly purchased from the spot market by a Market Customer Connection	No Rule requirement Provides the ability to distinguish between distribution and transmission market customers directly purchasing from the spot market
DWHOLSAL	Distribution network connection point where energy is directly purchased from the spot market by a Market Customer	No Rule requirement Provides the ability to distinguish between distribution and transmission market customers directly purchasing from the spot market
BULK	Connection point where a transmission network connects to a distribution network - also termed 'Bulk Supply Point'	To distinguish between bulk supply points and customers purchasing directly from the spot market. Under GS, no retailer has financial responsibility for a transmission/distribution boundary supply point.
XBOUNDRY	Connection point where a distribution network connects to another to distribution network	Supports the calculation of UFE (UFE = TME - DDME – ADME) DDME is the amount of electrical energy, expressed in MWh, flowing at each of the distribution network connection points in the local area which are connected to an adjacent local area
NREG	Connection point associated with a non-registered embedded generator, i.e. a generating unit that is not classified by a Market Generator, but may be classified by a Small Generation Aggregator as a market generating unit.	UFE is not to be allocated to embedded generators either when they have negative flows (net consuming) from the grid to their connection point or positive flows (net supplying) from their connection point to the grid.
NCONUML	Non-contestable unmetered loads	Non-contestable unmetered loads to be accounted for in settlement, removed from UFE calculated values and not included in FRC component of Participant Fees.

All MP2 NMI Classification Codes

NMI Classification Codes	Description
WHOLESAL	Transmission Network connection point where energy is directly purchased from the spot market by a Market Customer Connection
DWHOLSAL	Distribution network connection point where energy is directly purchased from the spot market by a Market Customer
BULK	Connection point where a transmission network connects to a distribution network - also termed 'Bulk Supply Point'
XBOUNDRY	Connection point where a distribution network connects to another to distribution network
GENERATR	Connection point associated with a generating unit classified by a Market Generator.
NREG	Connection point associated with a non-registered embedded generator, i.e. a generating unit that is not classified by a Market Generator, but may be classified by a Small Generation Aggregator as a market generating unit.
NCONUML	Non-contestable unmetered loads
INTERCON	Interconnector
LARGE	VIC, NSW and SA >=160 MWh, QLD >=100 MWh and TAS >=150 MWh
SMALL	VIC, NSW and SA <160 MWh, QLD <100 MWh and TAS <150 MWh
EPROFILE	External profile shape
SAMPLE	Sample Meter as required by Metrology Procedures Part A to calculate CLP for participating jurisdictions.

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Specific Questions Received

Topic Area	Question	AEMO Response
New NMI Classification Codes	What are the proposed changes to the NMI Classification Codes in MP2, including context?	MP2 Draft determination content contained in this pack.
	Who, when and how will the required changes to existing NMIs occur?	This will be considered by the Readiness workstream. Current thinking is that these updates will be performed by the LNSPs by 1 July 2021. Consideration needs to be made as to when participants will be ready to process these new codes.
Participant role updates	Will the required updates, to existing NMIs, to the LR and FRMP fields be triggered via a BCXX transaction?	This will be considered by the Readiness workstream. Current thinking is that AEMO will perform the updates but the exact method is still to be determined.
Non-contestable unmetered loads	Will AEMO help to populate MSATS with the initial non-contestable unmetered load standing data e.g. using a bulk update tool?	This will be considered by the Readiness workstream i.e. the Transition Focus Group. No discussion has taken place to date on this particular item.
	Require further clarification on transitional planning for NCONUML e.g. some information indicates that meter data is required FROM 1/7/21 and other information indicates it is required BY 1/7/21.	This will be considered by the Readiness workstream i.e. the Transition Focus Group. NCUL metering data needs to be delivered to AEMO by 1 July 2021 for the month of July, to allocate the associated energy prior to the determination of UFE. However, Readiness will consider benefits of receiving the metering data earlier.

Specific Questions Received

Topic Area	Question	AEMO Response
Cross boundary scenario	Explanation on when 2 NMIs are required, what is the TNI value that should be used for the 2nd NMI (do we need to create new TNI codes?), how is the metering data meant to be presented for the 2nd NMI (does AEMO want the E metering data for the 1st NMI be shown as an E or B metering data on the 2nd NMI?)	Cross boundary NMIs will need to have two TNIs in order to calculate UFE for the supply DB and the receiving DB. This will mean two NMIs are to exist – one actual NMI and the other a logical. There would be one metering installation with E and B data streams.
	Confirmation of what CTC and CCC will be used for the new NMI classifications, particularly the NMI's that are DNSP to DNSP e.g. XBOUNDRY, INTERCON.	As the new NMI Classification codes are not transferrable customers, the expectation is that the CTC and CCC will be blank.
Tier 1 datastreams	Will AEMO help to populate MSATS with the tier 1 datastreams e.g. using a bulk update tool?	This will be considered by the Readiness workstream. No discussion has taken place to date on this particular item. Current processes are preferred i.e. MSATS CRs.
Meter Registers	Confirmation that for Basic meters where the MDMF file format is used that the RegisterID must be populated to ensure appropriate joining of data. That is, if we continue to use the existing file format (MDMF) for Basic meters we will not have to populate this field for Basic meters.	No changes expected to current MDMF delivery process.

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Specific Questions Received

Topic Area	Question	AEMO Response
Datastreams	If we setup the datastream for non-contestable unmetered loads prior to 01/07/2021, is the datastream type meant to be set to 'N' (non-settled interval load) and on 01/07/2021 we have to change the datastream type to 'I' (Interval), or can we set it up as 'I' straight away because MSATS will use the NMI Class Code to determine if a NMI is a non-contestable unmetered load?	Setting up the datastream as 'I' straight away would be appropriate, once the functionality exists in MSATS to support NCULs.

NCULs do not effect Settlement from 1 July 2021, as the FRMP would equal the LR, they are only used for UFE publishing purposes. |
| | Clarify the use of datastream type and datastream status. For example, if a datastream of Q1 was to be registered then is the datastream type meant to be 'N' (because it is not used for settlement) and the datastream status meant to be 'A' (because it is used to calculate UFE)? For example, if a datastream of F1 was to be registered then is the datastream type meant to be 'N' (because it is not used for settlement) and the datastream status meant to be 'I' (because it is not used to calculate UFE either)? | Q1 example, Type being 'N' is correct but the status is 'A' because we are expecting data for the datastream to be delivered.

F1 example, AEMO is only expecting MDPs to create CNDS records for active (E and B) and reactive energy datastreams (Q and K). AEMO's systems will in the future, prior to 1 July 2021, validate that only these datastream codes are added to the CNDS table via CR in MSATS. |
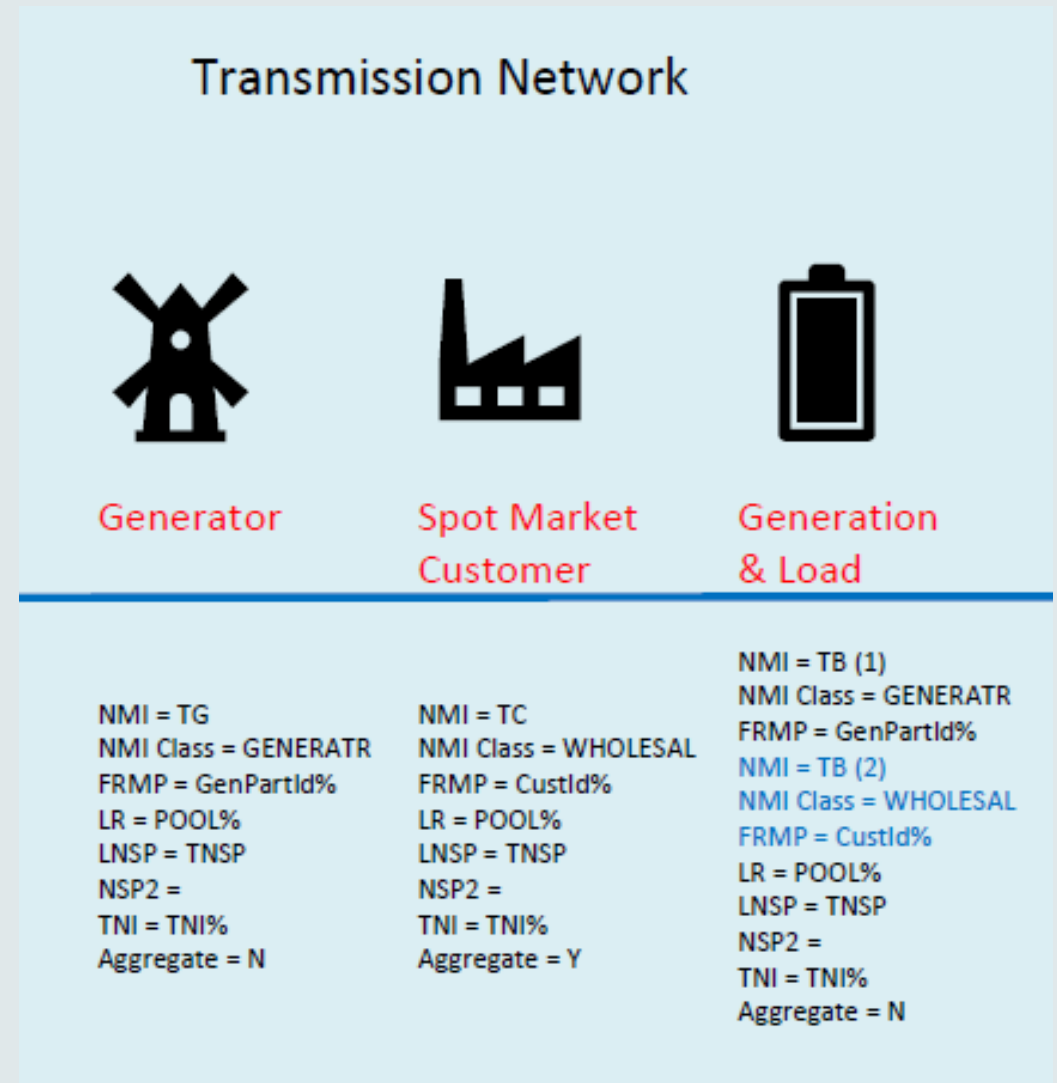
Appendix

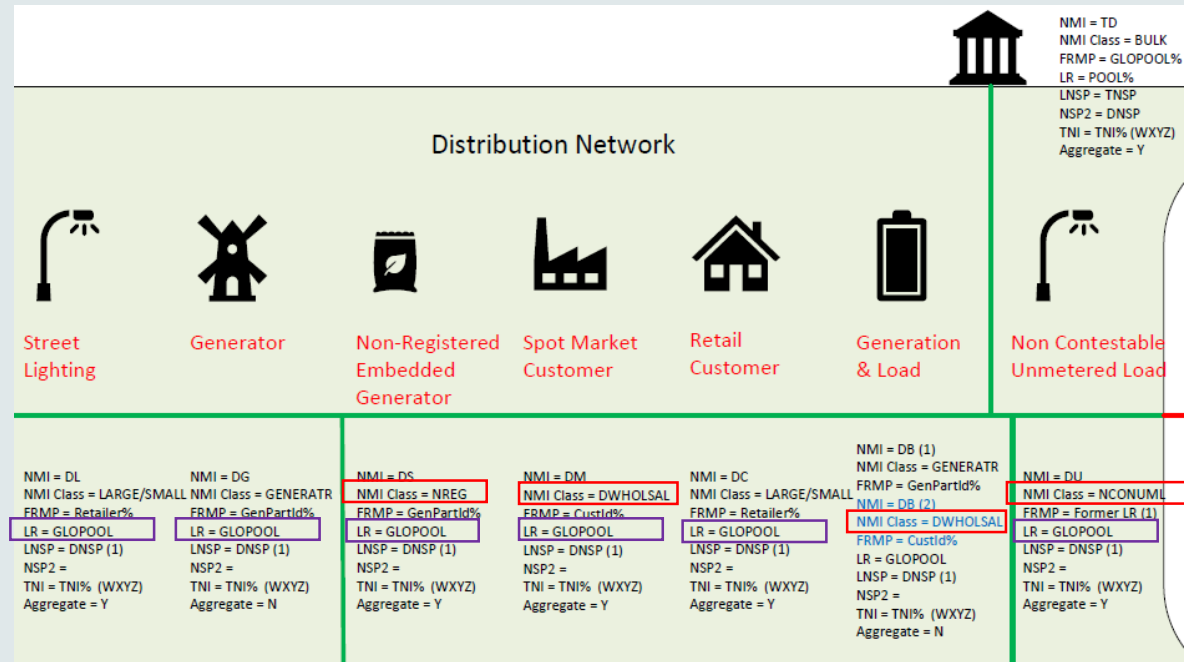# MSATS Standing Data Scenarios

Transmission Connected Scenarios

- No changes to Transmission Connected NMIs (apart from the definition of WHOLESAL)
  - NMI Classifications Codes as per today's processes
  - Participant Relationships as per today's processes

Transmission Network

Generator	Spot Market Customer	Generation & Load
NMI = TG	NMI = TC	NMI = TB (1)
NMI Class = GENERATR	NMI Class = WHOLESAL	NMI Class = GENERATR
FRMP = GenPartId%	FRMP = CustId%	FRMP = GenPartId%
LR = POOL%	LR = POOL%	NMI = TB (2)
LNSP = TNSP	LNSP = TNSP	NMI Class = WHOLESAL
NSP2 =	NSP2 =	FRMP = CustId%
TNI = TNI%	TNI = TNI%	LR = POOL%
Aggregate = N	Aggregate = Y	LNSP = TNSP
		NSP2 =
		TNI = TNI%
		Aggregate = N

Distribution Connected Scenarios

- New NMI Classification Codes
  - Non-registered Embedded Generators (NREG)
  - Non-Contestable Unmetered Loads (NCONUML)
  - Distribution Wholesale Connection Point (DWHOLSAL)
- Participant Changes – Global Settlements
  - Local Retailers will be changed to GLOPOOL from 6 Feb 2022 for all distribution connected NMIs (Except embedded network children)

Embedded Network Connections Scenarios

- Changes for Embedded Network Connected NMIs
  - Embedded Network Child NMI Classification Codes will reflect those detailed in the Transmission and Distribution slides

- Participant Changes – Global Settlements
  - Local Retailers for All Embedded Network Child NMIs will remain unchanged
  - Local Retailers for Transmission Connected Embedded Network Parent NMIs will remain unchanged
  - Local Retailers for Distribution Connected Embedded Network Parent NMIs will be changed to GLOPOOL

Parent Customer

NMI = DPC
NMI Class = LARGE/SMALL
FRMP = Retailer%
LR = GLOPOOL
LNSP = DNSP (1)
NSP2 =
TNI = TNI% (WXYZ)
Aggregate = Y

Generator

NMI = DCG
NMI Class = GENERATR
FRMP = GenPartId%
LR = Parent FRMP Id%
LNSP = ENM% (4)
NSP2 =
TNI = TNI% (WXYZ)
Aggregate = N

Non-Registered Embedded Generator

NMI = DCS
NMI Class = NREG
FRMP = GenPartId%
LR = Parent FRMP Id%
LNSP = ENM% (4)
NSP2 =
TNI = TNI% (WXYZ)
Aggregate = Y

On Market Customer

NMI = DCC
NMI Class = LARGE/SMALL
FRMP = RetailerId% (2)
LR = Parent FRMP Id%
LNSP = ENM% (4)
NSP2 =
TNI = TNI% (WXYZ)
Aggregate = Y

Off Market Customer

NMI = DCO
NMI Class = LARGE/SMALL
FRMP = Parent FRMP Id%
LR = Parent FRMP Id%
LNSP = ENM% (4)
NSP2 =
TNI = TNI% (WXYZ)
Aggregate = Y

Generation & Load

NMI = DCB (1)
NMI Class = GENERATR
FRMP = GenPartId%
NMI = DCB (2)
NMI Class = LARGE/SMALL
FRMP = CustId%
LR = Parent FRMP Id%
LNSP = ENM% (4)
NSP2 =
TNI = TNI% (WXYZ)
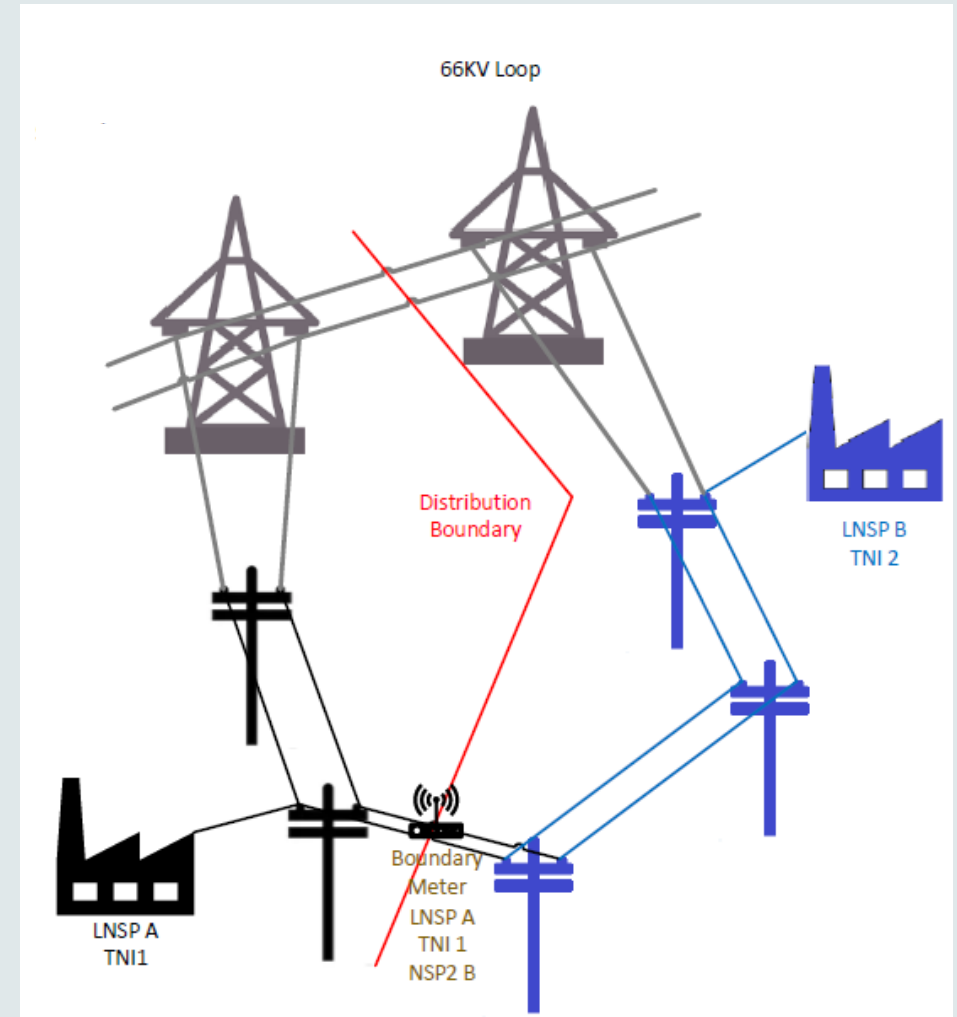Aggregate = N

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Cross Boundary Scenarios

Cross Boundary Supply Scenarios

1. HV Sub-Transmission DB-DB Supplies

2. HV Feeder DB-DB Cross-Jurisdictional Supplies

3. HV Feeder DB-DB Cross Boundary Supplies (metered)

4. HV Feeder DB-DB Cross Boundary Supplies (un-metered) – 3 variations (4, 4a and 4b)

5. LV Street Circuit Cross Boundary Supplies

6. LV Service Lines Cross Boundary Supplies
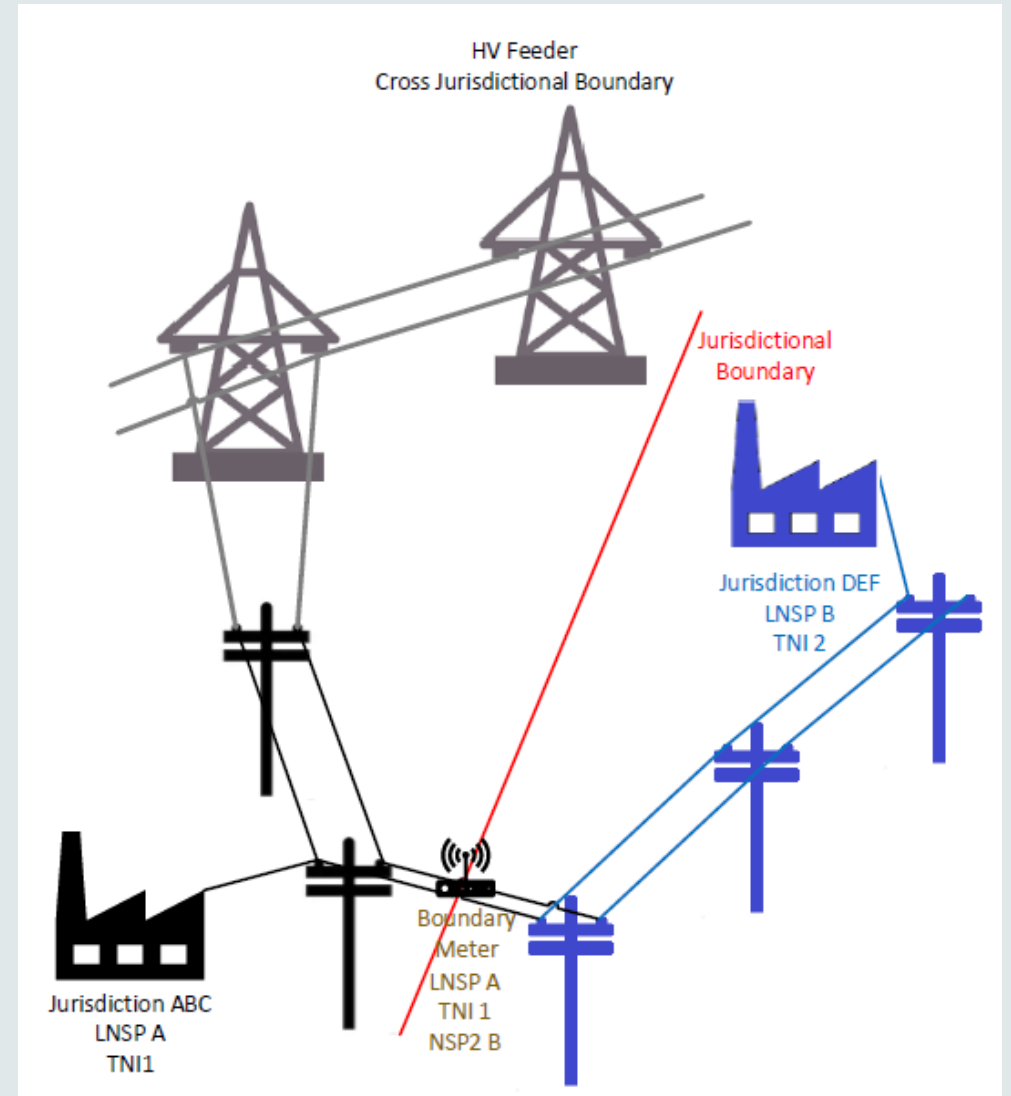
Cross Boundary Supply Scenarios

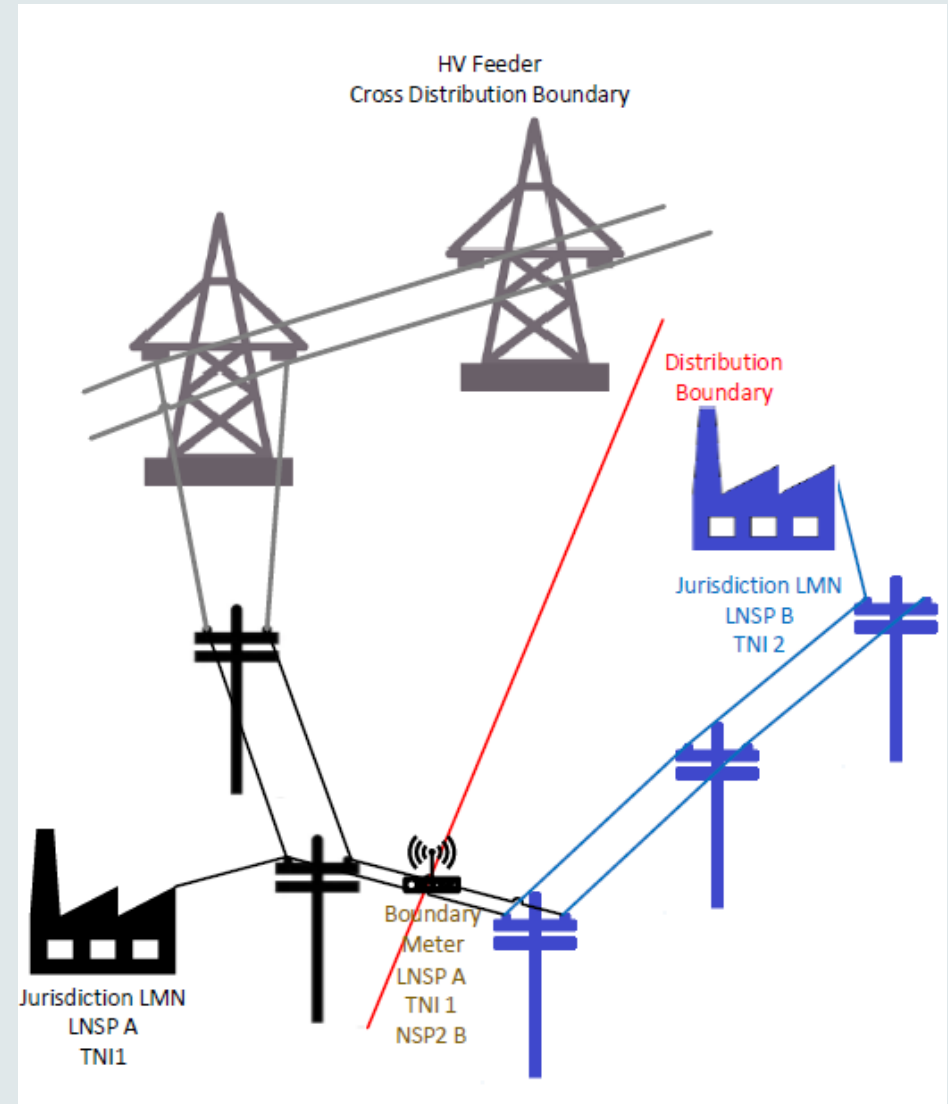| Item	Detail
Scenario	1
Description	HV Sub-Transmission DB-DB Supplies
Cross Boundary Metering	Bidirectional
NMI Configuration	One or two (depending on situation)
TNI Configuration	2 TNIs • Supply TNI – physical TNI in DB1 • Receiving TNI – second TNI to support DB2 Profile Area
Comments	• 66kV loops to other DBs (starts at one bus and ends at the same bus) • 66kV radial feeders related to the adjacent DB

66KV Loop

Distribution Boundary

LNSP B TNI 2

LNSP A TNI1

Boundary Meter LNSP A TNI 1 NSP2 B

Cross Boundary Supply Scenarios

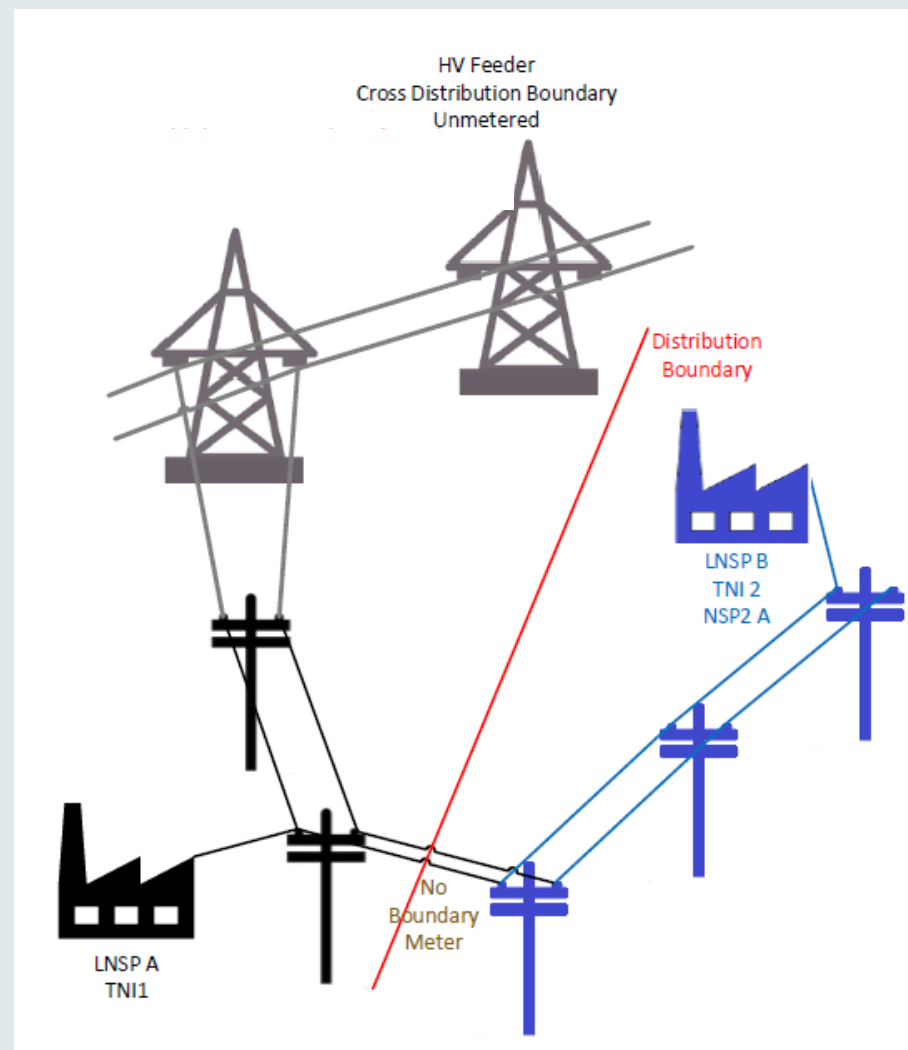| Item	Detail
Scenario	2
Description	HV Feeder DB-DB Cross-Jurisdictional Supplies
Cross Boundary Metering	Bidirectional
NMI Configuration	One or two (depending on situation)
TNI Configuration	2 TNIs • Supply TNI – physical TNI in DB1 • Receiving TNI – second TNI to support DB2 Profile Area
Comments	• Not factored into Interconnector flow • E.g. HV Feeder Supplies cross border from SA to NSW

HV Feeder
Cross Jurisdictional Boundary

Jurisdictional Boundary

Jurisdiction DEF
LNSP B
TNI 2

Jurisdiction ABC
LNSP A
TNI1

Boundary Meter
LNSP A
TNI 1
NSP2 B

Cross Boundary Supply Scenarios

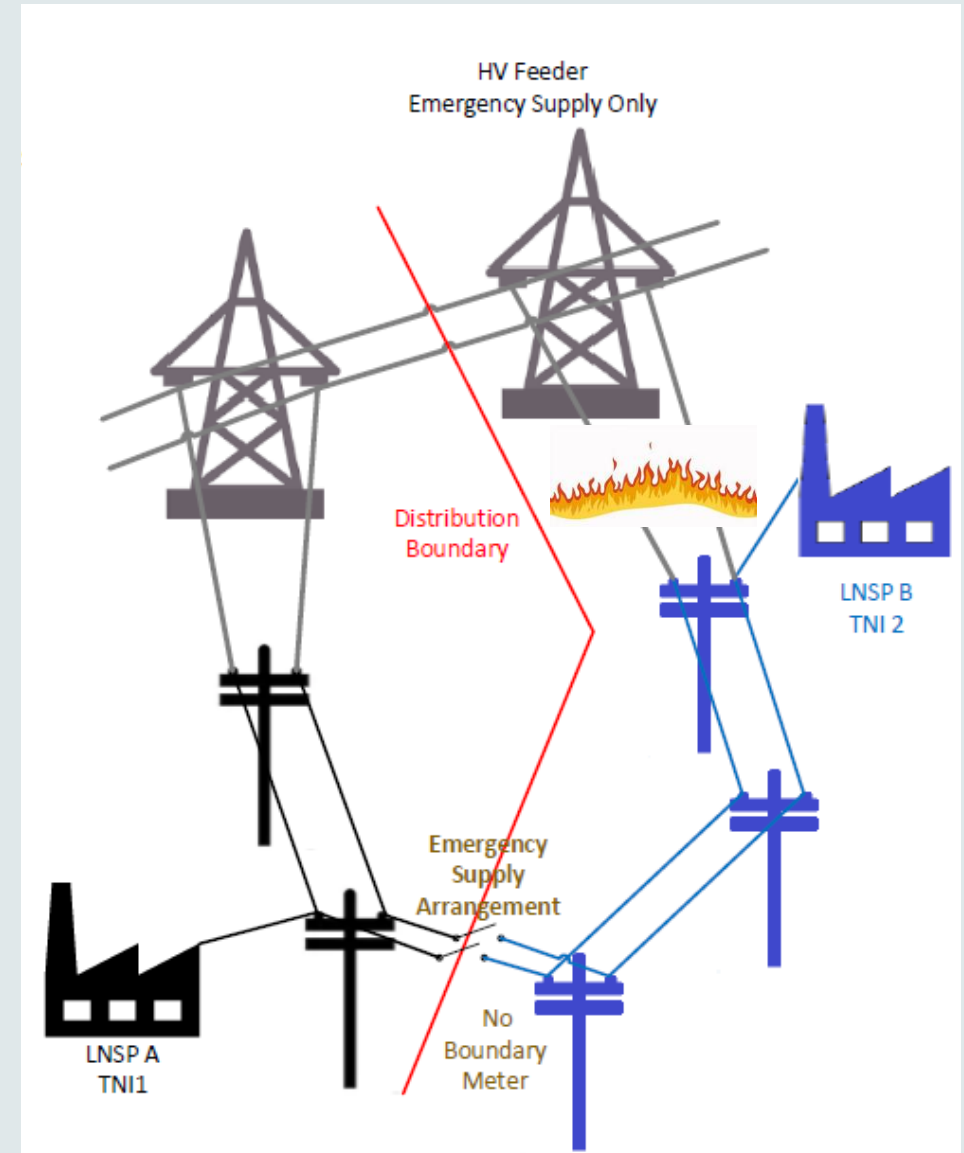| Item	Detail
Scenario	3
Description	HV Feeder DB-DB Cross Boundary Supplies
Cross Boundary Metering	Bidirectional
NMI Configuration	One or two (depending on situation)
TNI Configuration	2 TNIs • Supply TNI – physical TNI in DB1 • Receiving TNI – second TNI to support DB2 Profile Area
Comments	• No connection between supply feeder and the receiving DBs assets • Within the one jurisdiction

HV Feeder
Cross Distribution Boundary

Distribution Boundary

Jurisdiction LMN
LNSP B
TNI 2

Boundary Meter
LNSP A
TNI 1
NSP2 B

Jurisdiction LMN
LNSP A
TNI1

Cross Boundary Supply Scenarios

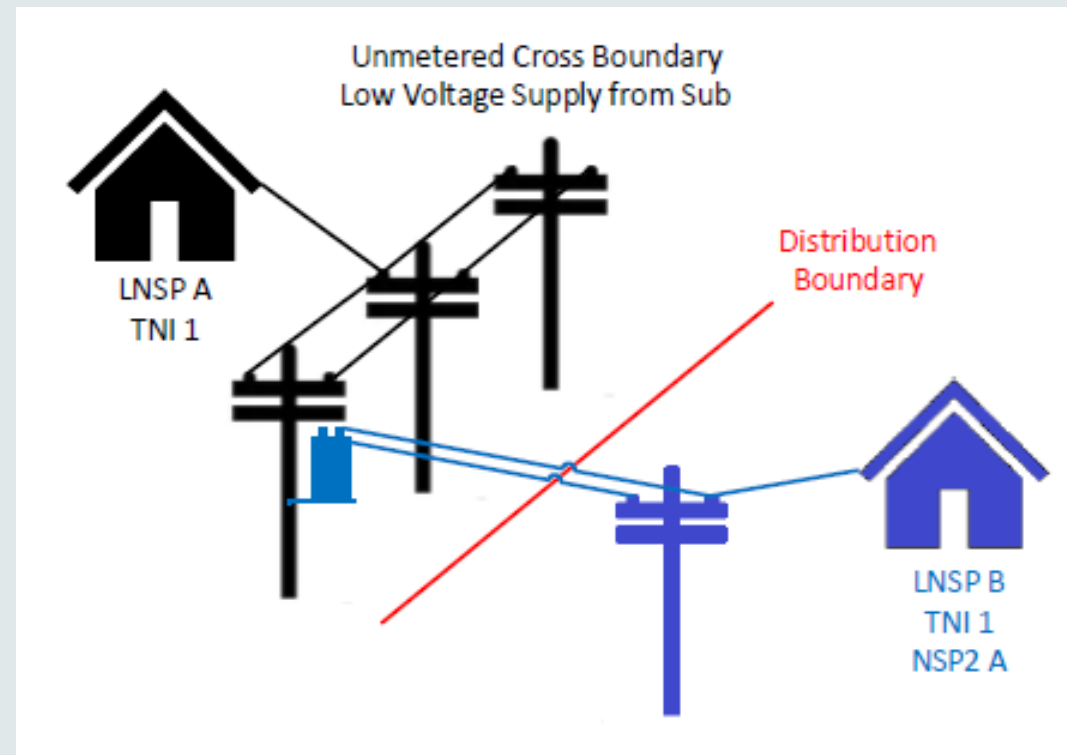| Item	Detail
Scenario	4
Description	HV Feeder DB-DB Cross Boundary Supplies
Cross Boundary Metering	Unmetered
NMI Configuration	Customer NMI(s) only
TNI Configuration	One TNI – Supply side DB
Comments	• Bidirectional metering to be installed by 1 July 2021 • Once metering is installed these cross boundaries transition to scenario 3 • NSP2 at end user CP removed when cross boundary metering is installed

Cross Boundary Supply Scenarios

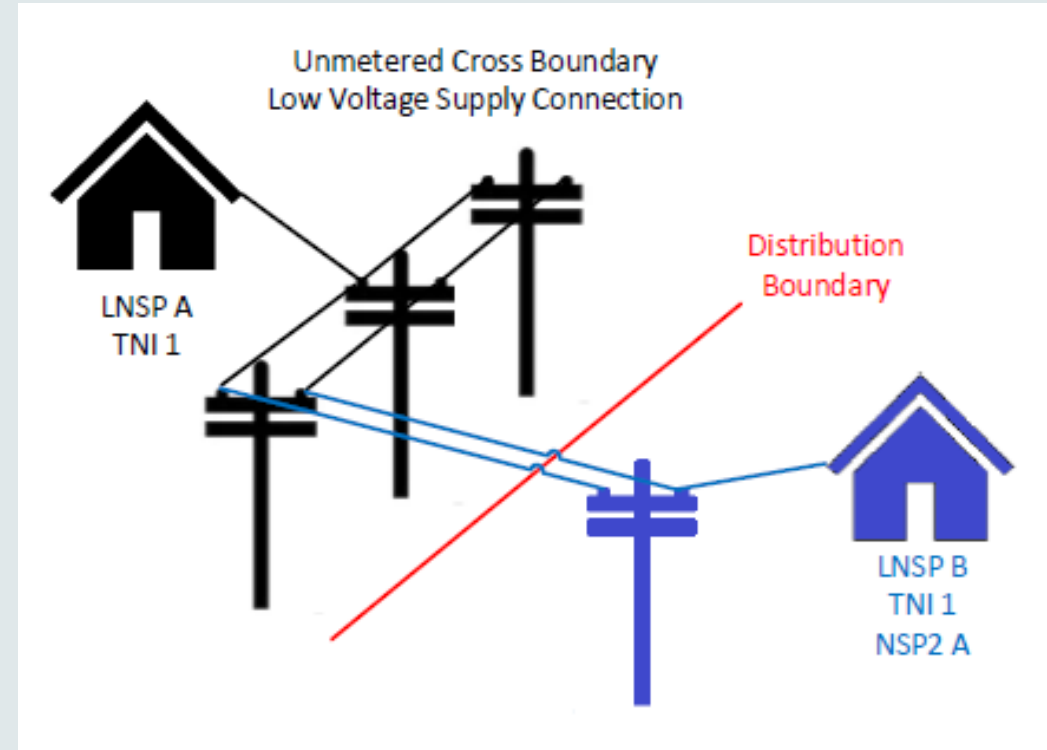| Item	Detail
Scenario	4a
Description	HV Feeder DB-DB Cross Boundary Supplies
Cross Boundary Metering	Unmetered (not economical to install meters)
NMI Configuration	Customer NMI(s) only
TNI Configuration	One TNI – Supply side DB
Comments	• Emergency supply arrangements • Consider if this scenario must be bidirectionally metered under the Rules (potential inferred 'exemption") • If not metered, UFE will not be settled accurately for both affected Local Areas

Cross Boundary Supply Scenarios

Item	Detail
Scenario	4b
Description	Receiving DB distribution transformer on Supply DB pole. HV supply to Receiving DB distribution transformer
Cross Boundary Metering	Unmetered (not economical to install meters)
NMI Configuration	Customer NMI(s) only
TNI Configuration	One TNI – Supply side DB
Comments	• Metered at the customer • "DB to customer" • One way or bi-directional • Servicing individual customer • Supply DB TNI to be applied • Geographic DB to be LNSP • Supply DB to be NSP2 to ensure data access rights

Unmetered Cross Boundary
Low Voltage Supply from Sub

LNSP A
TNI 1

Distribution
Boundary

LNSP B
TNI 1
NSP2 A

Cross Boundary Supply Scenarios

Item	Detail
Scenario	5
Description	LV Street Circuit Cross Boundary Supplies
Cross Boundary Metering	Unmetered
NMI Configuration	Customer NMI(s) only
TNI Configuration	One TNI – Supply side DB

Comments	• Metered at the customer
	  • 'DB to Customer'
	  • One way or Bi-directional
	• Servicing multiple customers
	• Supply DB TNI to be applied
	• Geographic DB to be the LNSP
	• Supply DB to be NSP2 to ensure data access rights

Unmetered Cross Boundary Low Voltage Supply Connection

LNSP A TNI 1

Distribution Boundary

LNSP B TNI 1 NSP2 A

Cross Boundary Supply Scenarios

Item	Detail
Scenario	6
Description	LV Service Lines Cross Boundary Supplies
Cross Boundary Metering	Unmetered
NMI Configuration	Customer NMI(s) only
TNI Configuration	One TNI – Supply side DB

Comments	• Metered at the customer
	    • 'DB to Customer'
	    • One way or Bi-directional
	• Servicing individual customers
	• Supply DB TNI to be applied
	• Geographic DB to be the LNSP
	• Supply DB to be NSP2 to ensure data access rights

Unmetered Cross Boundary
Low Voltage Service Connection

LNSP A
TNI 1

Distribution Boundary

LNSP B
TNI 1
NSP2 A