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Metering and registry records

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COMPETITION • RELIABILITY • EFFICIENCY

WHAT THE REGISTRY DOES

- The registry is a critical enabler of the competitive electricity market. It enables
  - single version of the “truth”
  - transparency of information
  - customer choice of retailer
  - Invoicing, consumer, network, clearing manager
  - Reports and reporting activities
  - compliance monitoring
  - Switching
    - trader identifiers (customer switching)
    - distributor/network owner identifiers (distributor switching/ICP transfer)
    - meter provider identifiers (MEP switching)

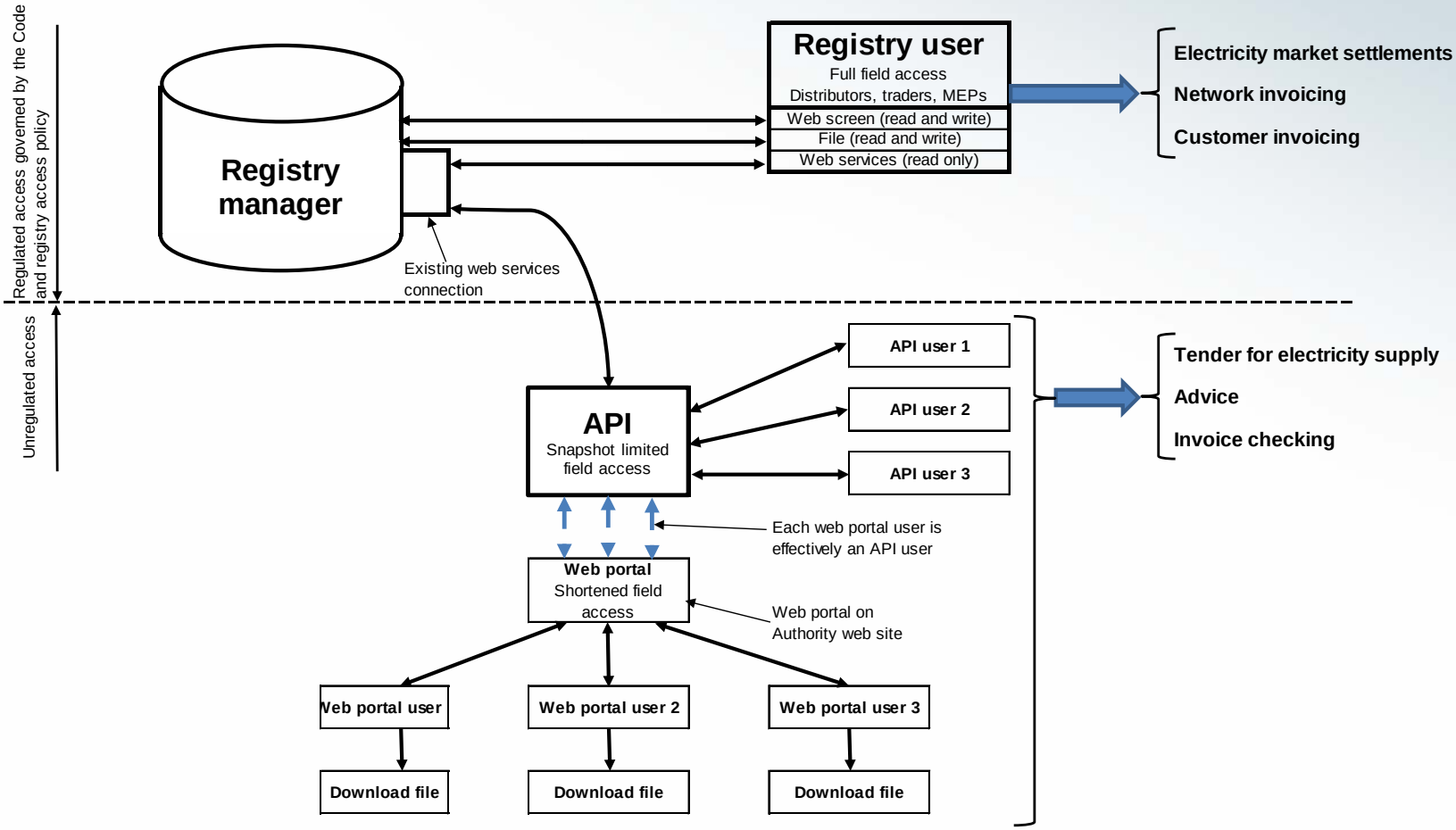
REGISTRY FUNCTIONS

- Stores and makes available information
  - Is not a work flow tool, records are updated after an event
  - Records time sliced “ownership” of ICP identifiers by participants
  - Records time sliced attributes relevant to ICP identifiers
  - Records static information required by the industry
  - Sends acknowledgements, notifications, and alerts when a change is carried out to an ICP identifier
  - Provides secure data hub for participants to exchange information
  - ICP outage management

ACCESS TO THE REGISTRY

- Participants must apply to the Authority for access
- Authority usually only grants full access to those parties that require it for Code purposes
  - registry access policy contains the Authority's terms and conditions at http://www.ea.govt.nz/dmsdocument/16031
  - participants must comply with the terms and conditions specified by the Authority (clause 11.28(2A)
- Access is by any one of the following – user choice
  - web browser screen
  - SFTP
  - web services

REGISTRY ACCESS



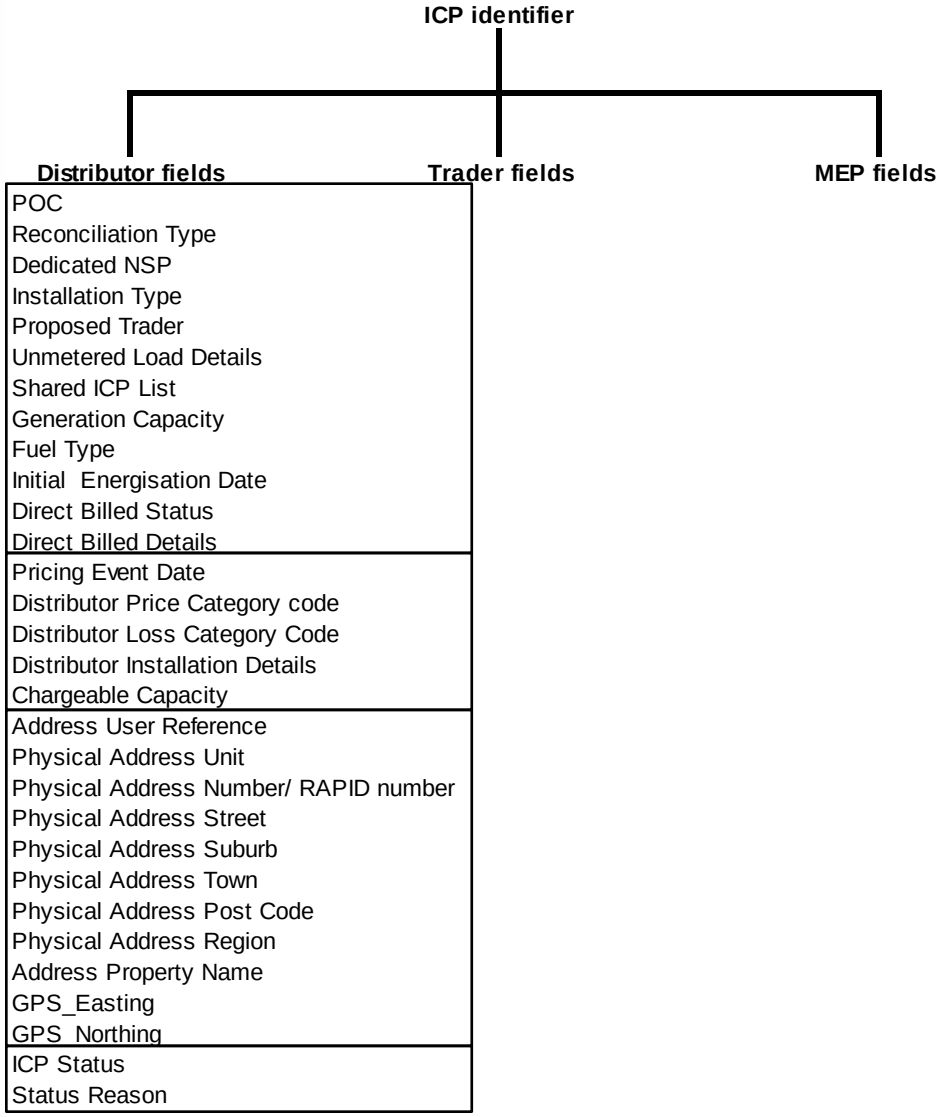
- M2M connect via public API https://emi.portal.azure-api.net/
- M2C connect via http://www.ea.govt.nz/consumers/your-power-data-in-your-hands/my-meter/

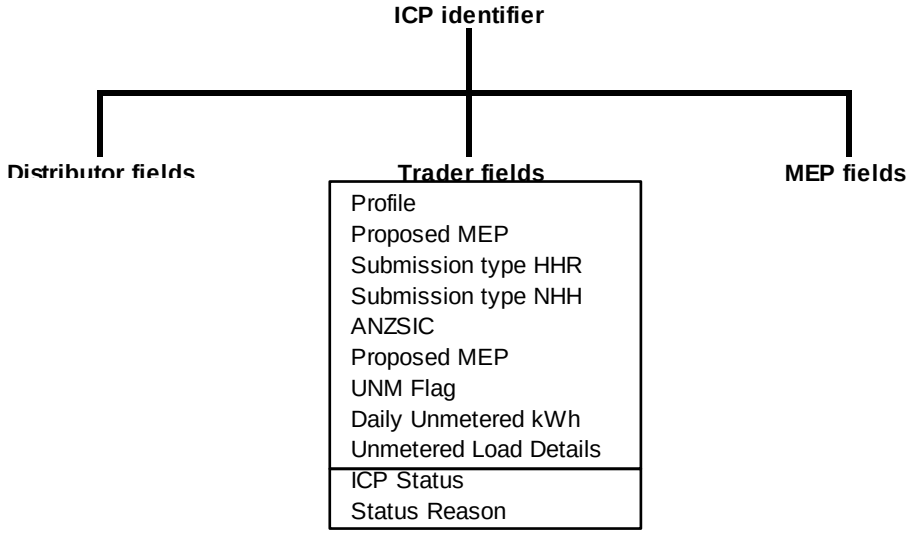
ACCURACY OF INFORMATION

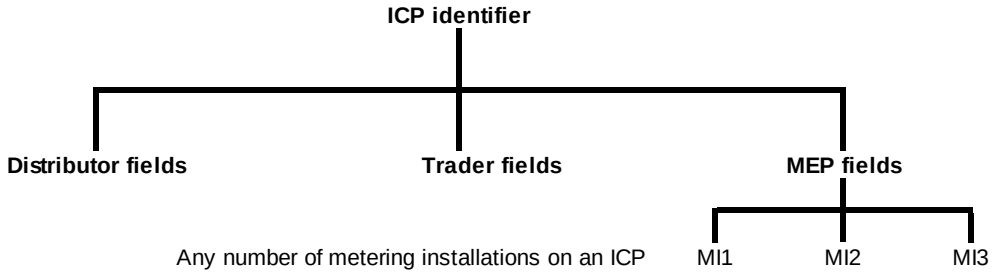
- Time frames give in the Code to provide information to the registry are maximums, and not targets
- The registry has strict Code obligations for accuracy and time periods to provide and update records
  - a participant does not breach the Code just because the participant does something relying on inaccurate records in the registry (clauses 10.4 and 11.32)
  - a participant must take all practicable steps to ensure that information provided to the registry is complete and accurate, not misleading or deceptive, and not likely to mislead or deceive
  - information provided to the registry is found to be in inaccurate must be corrected as soon as practicable (clause 11.2)

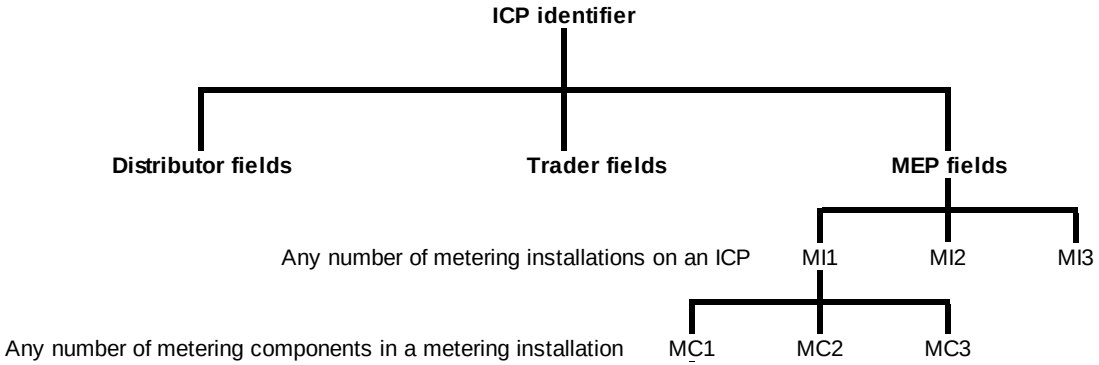
REGISTRY METERING RECORDS

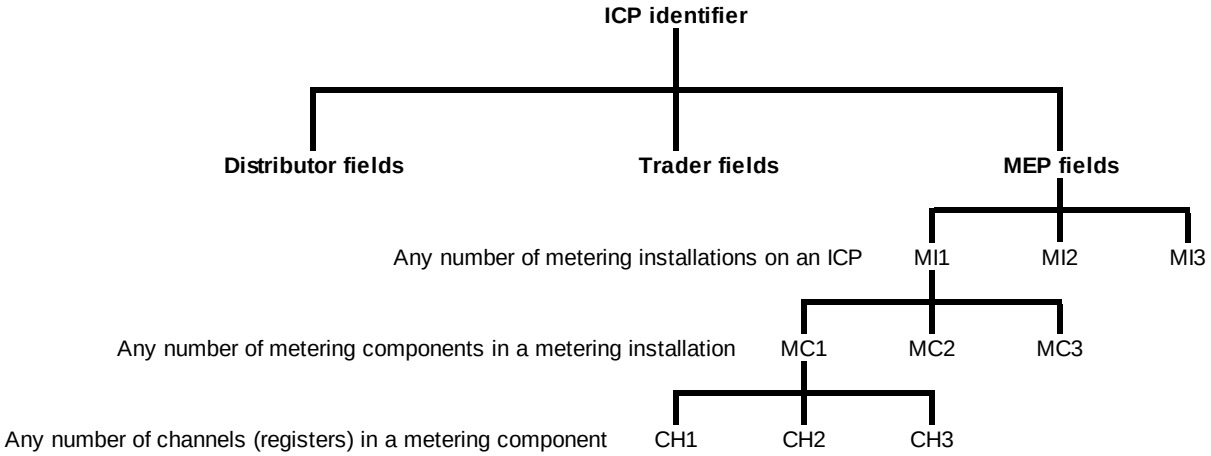
- A metering installation is an assembly of metering components that measures electricity conveyed (directional)
- All active MI must have current certification by an ATH
- The registry contains records of MIs and these are termed “registry metering records”

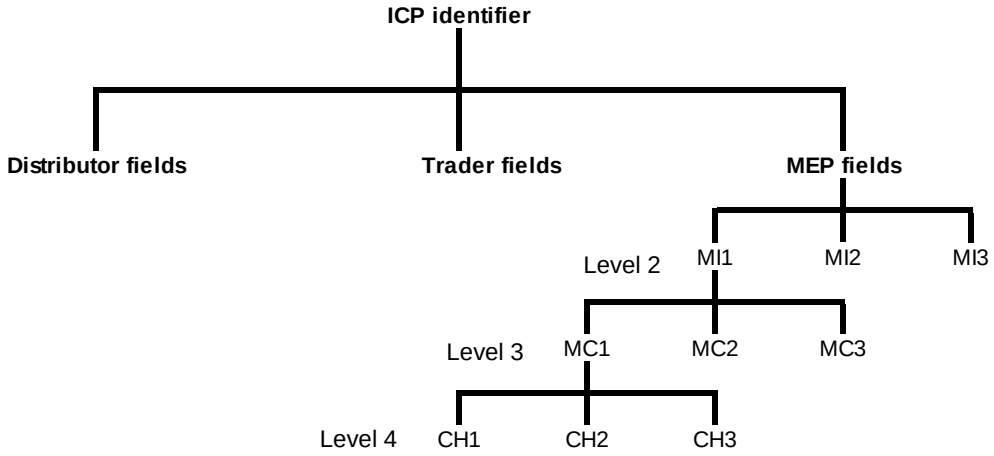

ICP identifier
Distributor fields
Trader fields
MEP fields
POC
Reconciliation Type
Dedicated NSP
Installation Type
Proposed Trader
Unmetered Load Details
Shared ICP List
Generation Capacity
Fuel Type
Initial Energisation Date
Direct Billed Status
Direct Billed Details
Pricing Event Date
Distributor Price Category code
Distributor Loss Category Code
Distributor Installation Details
Chargeable Capacity
Address User Reference
Physical Address Unit
Physical Address Number/ RAPID number
Physical Address Street
Physical Address Suburb
Physical Address Town
Physical Address Post Code
Physical Address Region
Address Property Name
GPS_Easting
GPS_Northing
ICP Status
Status Reason

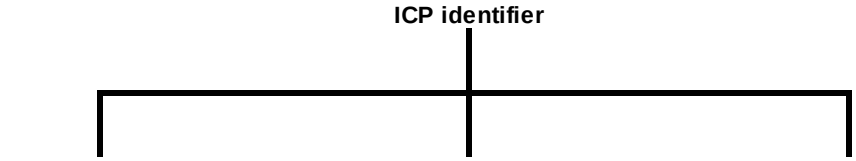

ICP identifier
Distributor fields
Trader fields
MEP fields
Profile
Proposed MEP
Submission type HHR
Submission type NHH
ANZSIC
Proposed MEP
UNM Flag
Daily Unmetered kWh
Unmetered Load Details
ICP Status
Status Reason


ICP identifier
Distributor fields
Trader fields
MEP fields
Any number of metering installations on an ICP
MI1
MI2
MI3


ICP identifier
Distributor fields
Trader fields
MEP fields
Any number of metering installations on an ICP
MI1
MI2
MI3
Any number of metering components in a metering installation
MC1
MC2
MC3


ICP identifier
Distributor fields
Trader fields
MEP fields
Any number of metering installations on an ICP
MI1
MI2
MI3
Any number of metering components in a metering installation
MC1
MC2
MC3
Any number of channels (registers) in a metering component
CH1
CH2
CH3


ICP identifier
Distributor fields
Trader fields
MEP fields
Level 2
MI1
MI2
MI3
Level 3
MC1
MC2
MC3
Level 4
CH1
CH2
CH3



- Level 1
- Level 2
  - Record Type
  - ICP
  - Metering Installation Number
  - Metering Installation Location Code
  - ATH Participant Identifier
  - Metering Installation Type
  - Metering Installation Certification Type
  - Metering Installation Certification Date
  - Metering Installation Certification Expiry Date
  - Control Device Certification Flag
  - Certification Variations
  - Certification Variations Expiry Date
  - Certification Number
  - Maximum Interrogation Cycle
  - Lease Price Code
  - Number Of Components
- Level 3
  - Metering Component Serial Number
  - Metering Component Type
  - Meter Type
  - AMI Flag
  - Metering Installation Category
  - Compensation Factor
  - Owner
  - Removal Date
  - Number of Channels
- Level 4
  - Channel Number
  - Number of Dials
  - Register Content Code
  - Period of Availability
  - Unit of Measurement
  - Energy Flow Direction
  - Accumulator Type
  - Settlement Indicator
  - Event Reading

REGISTER CONTENT CODES (RCC)

- A code that identifies the type of information being recorded by the channel e.g. winter, triple saver peak etc
- Identifies if electricity measured by the register is subject to
  - load control at any time by the distributor
  - time control by the distributor or LCD
- Selected from a list in the registry. Refer to SD-020 of the registry functional specification

SD-020
REGISTRY FUNCTIONAL SPECIFICATION

Code	Description
AD	kVA demand - KVA MDI
AH	kVAh - cumulative KVA register
CN	Controlled - all load on the register is subject to control via LineCo
D	Day - daytime only
DC	Day register for a fully controlled meter
DOP	Triple Saver Off Peak (1100-1700 2100-2300)
DPK	Triple Saver Peak (0700-1100 1700-2100)
DWD	Day of Week Days (7:00am - 9:00pm)
EG	Embedded Generation
IN	Inclusive - load on the register is a combination of controlled and uncontrolled loads
KD	kW demand - KW MDI
N	Night - night-time only
NC	Night register for a fully contrrolled meter
NWD	Night of week Days (9:00pm - 7:00am)

ALTERNATE SD-020

Code	Description	Period register is active for
Single register tariffs		
AD	kVA demand - KVA MDI	Anytime
AH	kVAh - cumulative KVA register	Anytime
CN	Controlled - all load on the register is subject to control via a load control device	Refer to network owners pricing schedule
DC	Day register for a fully controlled single register meter	
EG	Embedded Generation	Anytime
IN	Inclusive - load on the register is a combination of controlled and uncontrolled loads	Refer to network owners pricing schedule
KD	kW demand - KW MDI	Anytime
RH	kVArh - reactive meter register	Anytime
NC	Night register for a fully controlled single register meter	Refer to network owners pricing schedule
UN	Uncontrolled - no load on the register is subject to control via a load control device	Anytime
2 register tariffs		
D	Day - daytime only for a two register day/night meter	Refer to network owners pricing schedule
N	Night - night-time only for a two register day/night meter	Balance of time when D not active
S	Summer - records consumption only during summer	Refer to network owners pricing

PERIOD OF AVAILABILITY (POA)

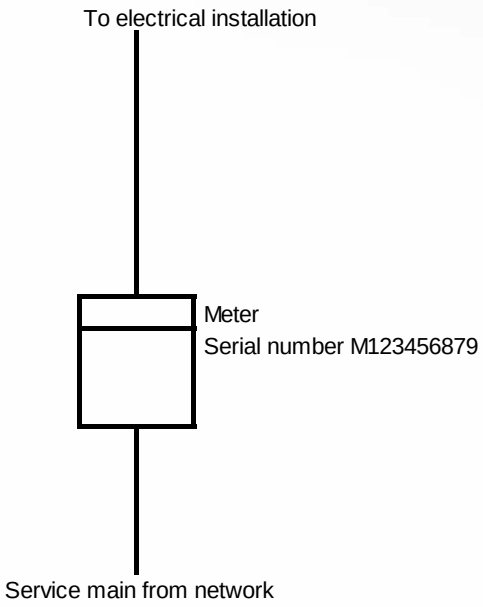
- Identifies the minimum time period a register is active for in a day
- Determined by distributors in their pricing plans
- Will be a value between 1 and 24 – (24 indicates there is no control applied to the electricity measured by the register)
- Currently is no default period of availability when a distributor does not define the minimum period of availability

RCC + POA

- UN24 = uncontrolled channel, supply available 24 hours per day
- CN17 = controlled by distributor, supply available for a minimum of 17 hours per day

- Exercise, what do the following mean
  - IN24 =
  - IN17 =
  - CN8 =
  - NC8 =
  - D14 =
  - N? =

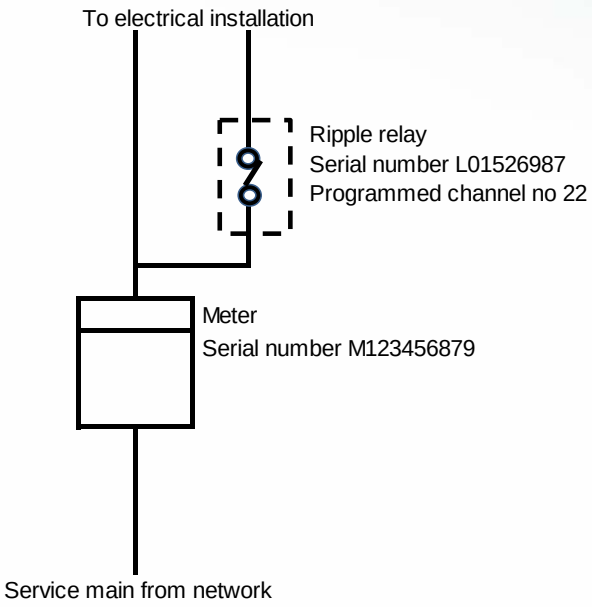
RCC AND POA ON REGISTRY



- RCC = UN
- POA = 24

- On registry we should see
  - M1 + UN + 24

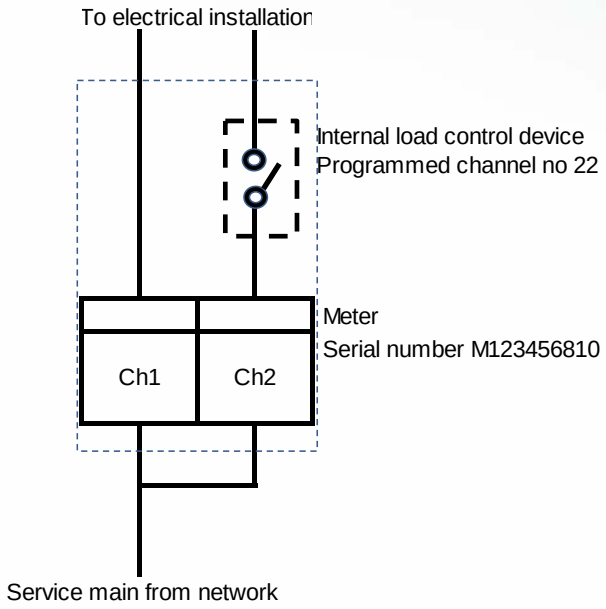
RCC AND POA ON REGISTRY



- RCC = IN
- POA = 19

- On registry we should see
  - M1 + IN + 19
  - LCD (optional if not certified)

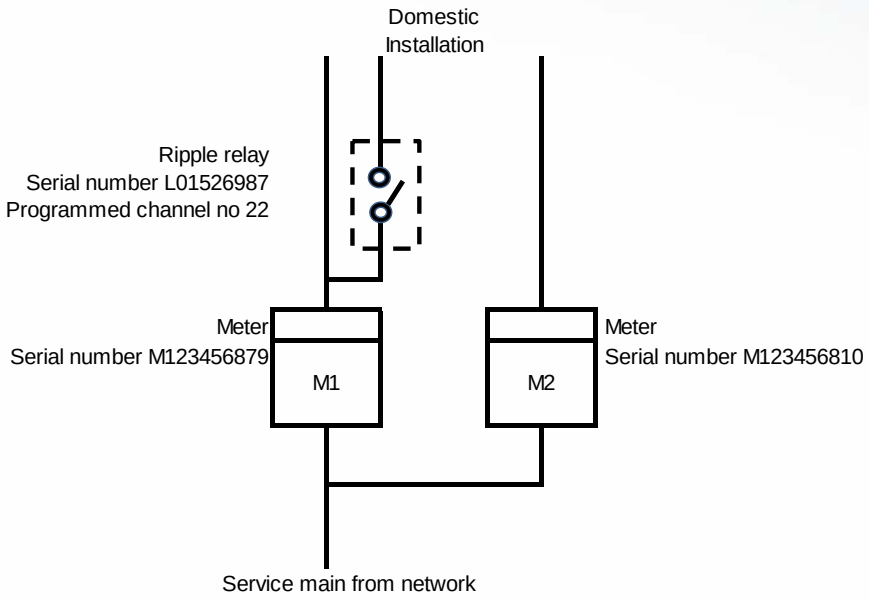
RCC AND POA ON REGISTRY



- RCC Ch1 = UN
- POA Ch1 = 24
- RCC Ch2 = CN
- POA Ch2 = 17

- On registry we should see
  - M1 + UN + 24
    + CN + 17
  - LCD (optional if not certified)

RCC AND POA ON REGISTRY



- RCC M1 = IN
- POA M1 = 17
- RCC M2 = UN
- POA M2 = 24

- On registry we should see
  - M1 + IN + 17
  - M2 + UN + 24
  - LCD (optional if not certified)