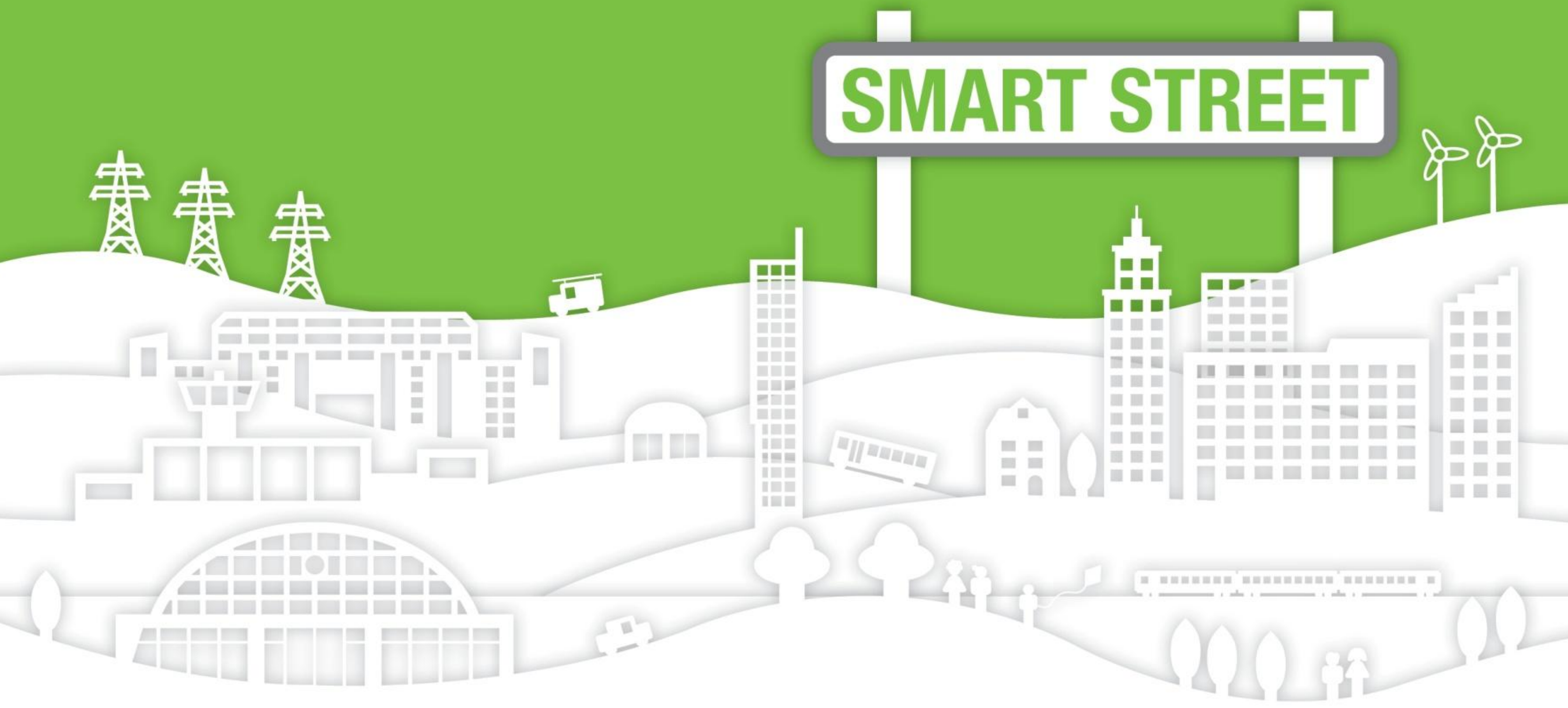
Smart Street
NMS, Interface and Optimisation Configuration and Commissioning

29 January 2016



VERSION HISTORY

Version	Date	Author	Status	Comments
First draft	29/01/2016	Ben Ingham	Issued	

LIST OF ACRONYMS

Abbreviation	Term
APN	Access point name
CRMS	Control room management system
CVR	Conservation voltage reduction
FSC	Fault support centre
HV	High voltage
ICCP	Inter control communication protocol
LV	Low voltage
NMS	Network management system
OLTC	On-load tap changer
RTU	Remote terminal unit
SP5	Spectrum Power 5
THD	Total harmonic disturbance
VVC	Volt/ VAr control

CONTENTS

1 INTRODUCTION

1.1 Purpose of document

The purpose of this document is to meet the associated deliverable related to the following Smart Street **SDRC 9.1.4 – Publish the NMS, Interface and Optimisation, Configuration and Commissioning report on the Smart Street website by January 2016.**

This document describes the interface between the existing Electricity North West control room management system (CRMS) and the Siemens Spectrum Power 5 (SP5) system, which is being utilised for the network optimisation on the Smart Street project. In addition it hopes to capture the issues and learning points gained from integrating the new technologies and devices into the existing Electricity North West network. This report is intended to be read in conjunction with the Smart Street equipment specification and Installation report which will cover the physical installation and on-site commissioning associated with the Smart Street equipment.

1.2 What is Smart Street

Smart Street aims to utilise advanced real time optimisation software to simultaneously manage HV and LV network assets to respond to customers' changing demands. Voltage management on HV networks will look to reduce network losses while conservation voltage reduction (CVR) on the LV networks will look to reduce energy demand. Capacitor banks on the HV network are being utilised to help manage network losses by adjusting the network's power factor. On the LV network, a mix of capacitor banks and controlled meshing of networks will be integrated to flatten the voltage profile and improve energy efficiency. The meshing of LV networks will also aim to release additional network capacity.

1.3 Conservation voltage reduction (CVR)

Electrical equipment made for the European market, including household appliances and lighting, is designed to operate most efficiently at around 220 volts. This equipment can, however, operate satisfactorily at around 200 volts. If power is delivered at voltages higher than these optimum levels, then energy will be consequently wasted. Excess voltage can shorten the useful life of electrical equipment, since the excess energy is dissipated as heat. Therefore optimising network voltages reduces overall energy consumption, improves power quality and extends the life of the customer's equipment. Smart Street proposes to optimise network voltages by using CVR on the LV trial networks.

CVR on a distribution network is defined as a reduction of energy consumption resulting from a decrease in feeder voltage. Smart Street proposes to optimise the voltage by utilising on-load tap changing (OLTC) transformers. These transformers will be able to regulate the voltage along the feeder while maintaining statutory limits. This will allow for the peak load to be reduced, hence reducing the annual energy consumption.

Additionally Smart Street will trial shunt capacitors on the LV feeders to allow for a voltage boost at the end of the circuit to reduce voltage drop. This will allow for a flatter voltage profile, allowing for the OLTC to tap closer to the lower limit. Smart Street will also trial shunt capacitors at five substations connected directly to the busbars to measure their effectiveness against sites where OLTC transformers are installed.

1.4 LV network meshing

In addition to the proposed CVR techniques, Smart Street will assess the benefits of meshing LV networks to balance load while releasing network capacity at times of high demand.

Our project partner, Kelvatek, has developed new controllable retrofit vacuum switching devices for this project. These devices are to be utilised at the existing distribution boards and in link boxes across the LV trial circuits. The devices will have the capability to be remotely controlled allowing both sensing of feeder flows and reconfiguration of the LV network.

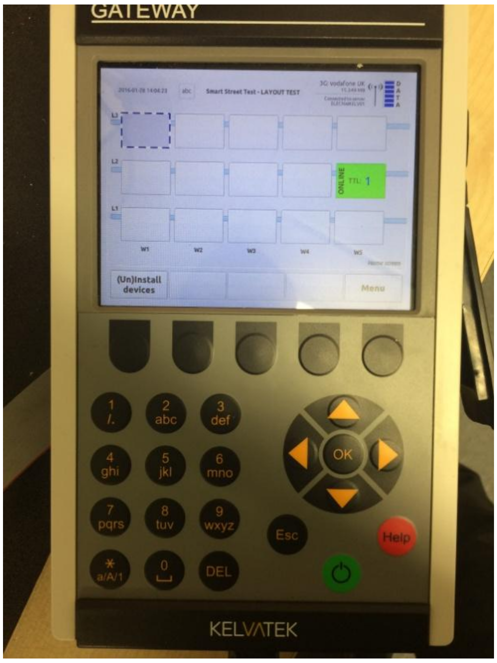
1.5 Smart Street equipment

1.5.1 Kelvatek LV vacuum technology

The Weezap is an LV vacuum circuit breaker that can be fitted directly onto an existing LV fuse board in place of an existing fuse carrier. The device has the ability to open and close the circuit locally or remotely while providing protection against overload and fault conditions. It will have the ability to communicate to the control room via onsite Gateway devices allowing remote monitoring and control. Up to 15 Weezap devices can be connected to one Gateway device and up to two Gateways can be commissioned in any one location.

Figure 1: The Weezap

Figure 2: Weezap Gateway



The Lynx is an LV vacuum switch that is designed to fit directly into existing LV link boxes in place of solid links. The device has the ability to open and close the circuit at the link box either locally or remotely. A Gateway device will again allow remote monitoring and control. While the Lynx devices do not have any inbuilt protection functionality they are designed to open on a loss of volts, sectionalising the LV circuit under fault conditions.

Figure 3: Lynx installation, Denton East

Both devices are able to measure circuit voltage, current, power factor, real power, apparent power, reactive power, frequency, total harmonic distortion (THD), and individual harmonics including magnitude and phase. Data intervals can be configured to calculate the mean values over a range from one minute to one hour.

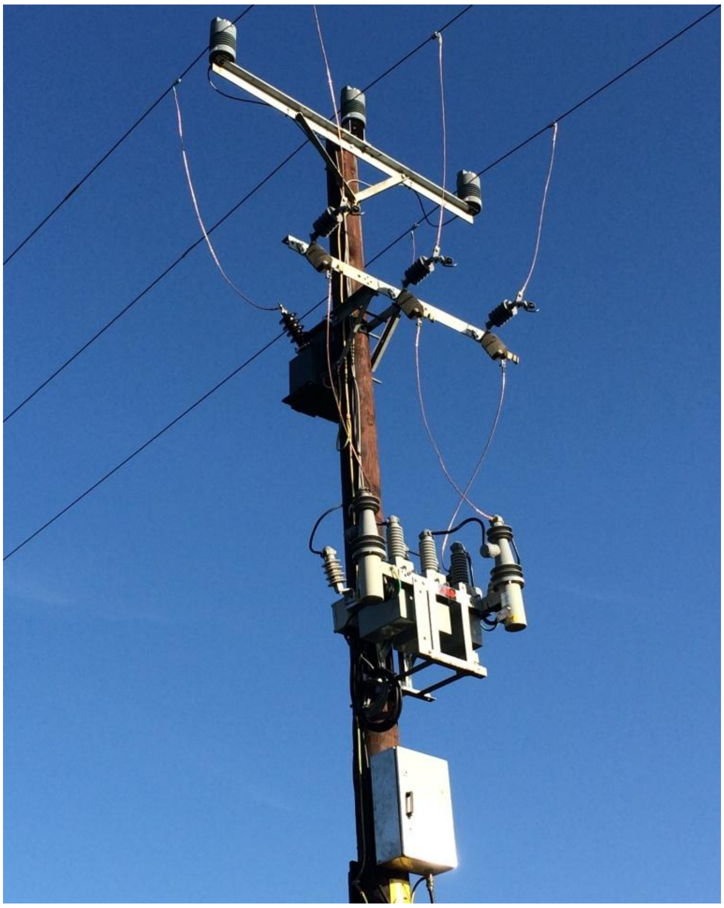
1.5.2 ABB capacitors

The trials will employ 84 LV capacitors to apply voltage boosts on distribution circuits when required. Five units are located at distribution substations and the remaining 79 are installed on the LV feeders in line with the Smart Street network design methodology.

Figure 4: LV capacitor installation, Denton East.

The trials will also employ six capacitors on the HV network to allow for reactive compensation. Three ground-mounted capacitor units and three pole-mounted units are installed on the HV rings, based on network modelling studies. The capacitor banks are designed to have reactors in series to lower the resonance below critical order harmonics. This design tunes the resonant frequency of the system well below the fifth harmonic.

Figure 5: Pole-mounted HV capacitor, Hockery Brook, Wigan.



The optimisation software will switch the capacitors directly when the test regime is initiated. This is achieved by sending close/open commands issued by the network management system (NMS). In the event of a loss of communications, the local controller will operate based on the latest assigned set points. In this instance the capacitor unit will be operated based on the voltage measured at the point of connection. This enables safe operation in the event of a communications failure.

1.5.3 Efacec OLTC transformers

Five distribution transformers fitted with MR on-load tap changers are installed at distribution substations and operate via an automatic voltage control relay (AVC). The Spectrum optimisation software communicates with the AVC and alters the voltage set points to allow the transformer to switch to the optimum tap setting.

Figure 6: Vauxhall Rd OLTC transformer installation

1.5.4 Gridkey end-point monitoring units

Monitoring units are installed at the end of any radial LV feeders at the point of the highest calculated voltage drop, to record circuit measurements for voltage optimisation purposes and to validate network modelling results during the research phase of the project. These are being used solely to measure voltage.

Figure 7: EPM installation, Denton East.

1.5.5 Siemens Spectrum Power 5 software

The optimisation software is part of the already available Spectrum Power system developed by Siemens. SP5 will manage and control the various devices based on calculated load flow analysis. Spectrum is responsible for optimising the operation of the LV and HV networks in terms of voltage optimisation and network configuration.

1.5.6 CG remote terminal units (RTUs)

The CG RTUs act as a data concentrator and router collating the information from the Weezaps, Lynx, EPMs and HV and LV capacitor banks and passing it on to either SP5, CRMS or both as appropriate. They also pass controls from the two systems back to the required device.

1.6 Network management and control

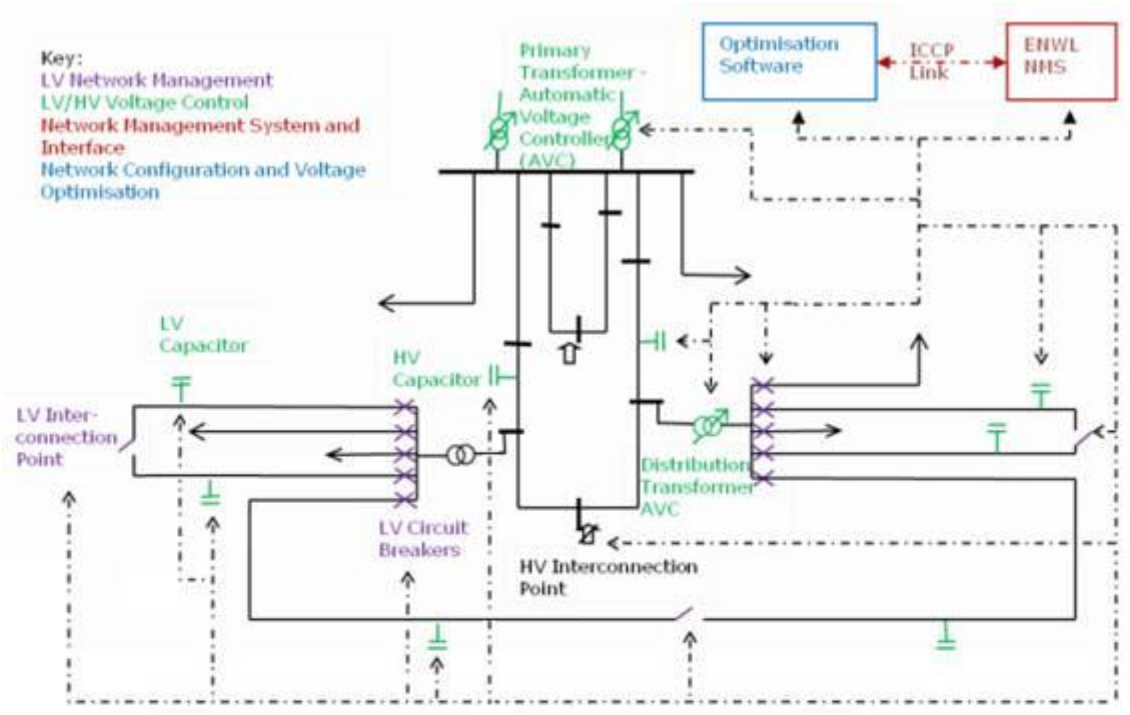
Electricity North West's existing NMS, CRMS, communicates with the optimisation software using an inter control communications protocol (ICCP) link which has been developed specifically for Smart Street. This allows all network configuration commands to be controlled via the NMS which will be overseen by trained control engineers. This also allows control staff to react to any violations which are indicated as an alarm within both Spectrum and the NMS.

1.6.1 Control systems

Figure 8 shows an example of how the various Smart Street technologies are installed across the trial networks. The optimisation includes the ability to optimise for violations, losses and to minimise load as a single VVC function. The opportunity to mesh the trial networks is also included in this function as part of the trials, to compare the effectiveness of this layout over the traditional radial network design. This is specified to minimise customer outages during electrical faults. Therefore the switching equipment will be closed (create loop or mesh networks) if the objective-function results in positive changes to the network above a set threshold.

The optimisation application calculates the optimal procedures to reach the optimisation objectives, which may be different for HV and LV depending on the chosen function. The user can select if the switching equipment shall be included or inhibited in the optimisation scheme and only specified remote controlled switches will be included in the optimisation.

Figure 8: Smart Street network management

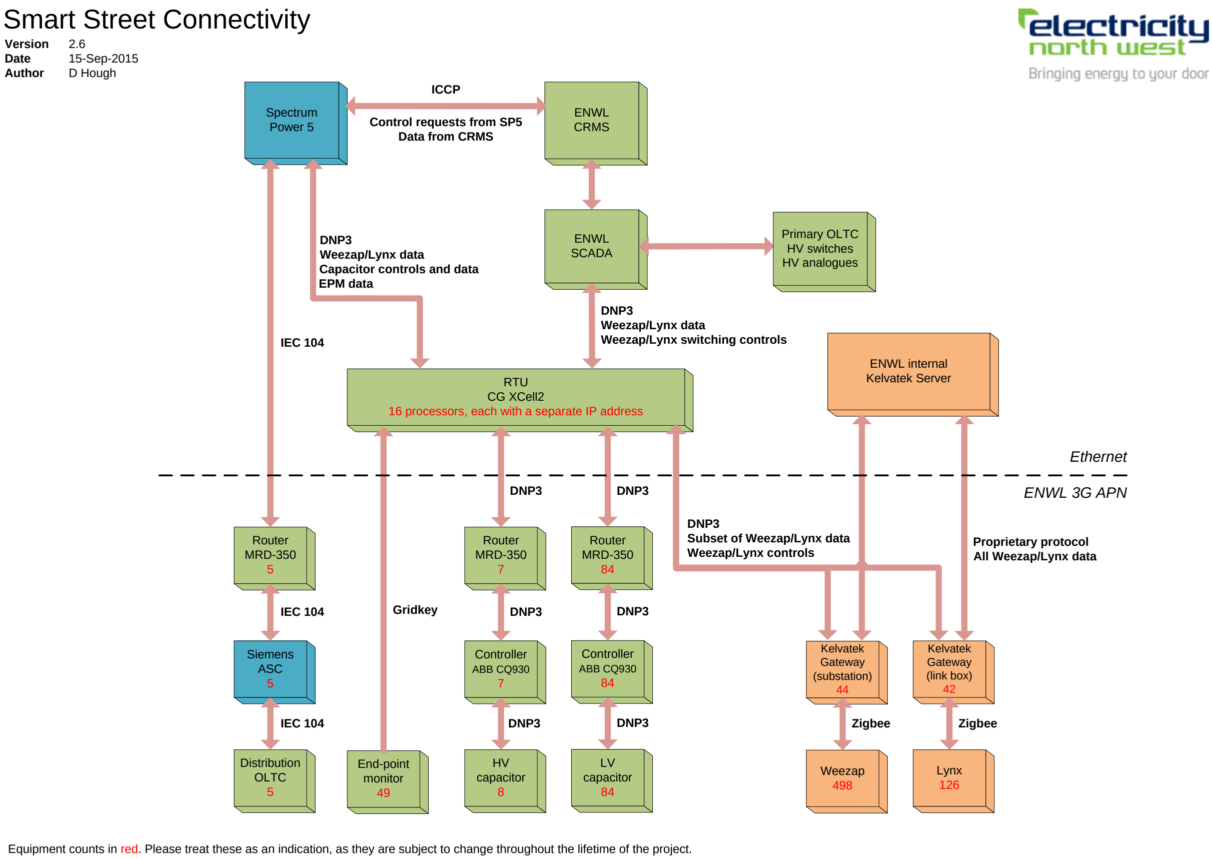


Voltage control commands are sent directly by Spectrum without the need for input from the NMS. An alarm will, however, be sent to the NMS should any of the operations cause the network to exceed statutory limits. The SP5 algorithms should automatically correct any limit violation instantaneously, but a control engineer is able to override the optimisation if required.

1.6.2 Communications architecture

A selection of network measurements are directed at Spectrum 5 which will be used in the optimisation process. This data will also be archived to support the research phase of the trials which is being carried out by our academic partners. All data collected by the Weezap and Lynx devices is archived on a dedicated Kelvatek purpose-built server located within our control centre.

Figure 9: Communications architecture



On site the Kelvatek devices, ie the Lynx and Weezaps, communicate to the local Gateway via the Zigbee wireless protocol. The data is then collated in the Gateway and passed from there to both a CG RTU and to the Kelvatek server located within Electricity North West's firewalls. This server mirrors the functionality already found in the business-as-usual Fault Support Centre (FSC) scheme, in which the data collected by the devices under transient fault conditions is used to locate the point of failure before the fault becomes permanent. These communications are transferred over Kelvatek's proprietary protocol. This data, along with that relating to the HV and LV capacitors and end-monitors is sent via a DNP3 link over the Electricity North West access point name (APN) to the CG RTU in the Linley House server room (Electricity North West's control centre). From here the data is split with some data being passed to SP5 and other data being sent to the Electricity North West SCADA and NMS. The distribution OLTCs communicate directly with SP5 and have no information passed on to the Electricity North West NMS. SP5 and the Electricity North West NMS also communicate via an ICCP link, which allows SP5 to send requests to CRMS to operate devices on the network.

2 KELVATEK DEVICE COMMISSIONING

2.1 Communication routes

The Weezap device is a miniaturised vacuum circuit breaker which is designed to fit onto a standard LV board in place of the standard high rupturing capacity fuses. The units also have auto reclose functionality and can be set with up to five TTL. The Lynx unit is designed to fit inside a standard link box with a modified bell housing surrounding it to prevent water ingress. Both these devices then connect to the Gateway installed locally on site, from which it is possible to configure and control the units. The Gateway connects via 3G mobile network to the Kelvatek server located at Linley House; the data recorded from the connected units is transferred hourly and archived. The data is also passed through the CG RTUs where it is then cascaded onto SP5 and CRMS.

2.2 Commissioning process

Once the on-site set-up and commissioning has been completed, tests are carried out to ensure the communications are functional. The analogue readings displayed remotely on CRMS and SP5 are compared with that on site to ensure they are consistent. Following this the devices are operated locally and then via both SP5 and CRMS; the circuits are back fed during this stage of the commissioning to maintain supplies to customers. The results are recorded in the commissioning log sheet for each site; an example of each commissioning sheet is shown in Appendices A, B and C.

3 OLTC COMMISSIONING

3.1 Communication routes

The distribution OLTC transformers communicate via the ASC with SP5 over an IEC-104 protocol by means of an MRD-350 modem rather than being routed through the CG RTUs. They are controlled by a voltage set point which is sent from SP5. The OLTC will then look to maintain the voltage at the prescribed level. Should the communications link fail for any reason the unit will revert to a pre-defined set point stored locally in the ASC.

3.2 Commissioning process

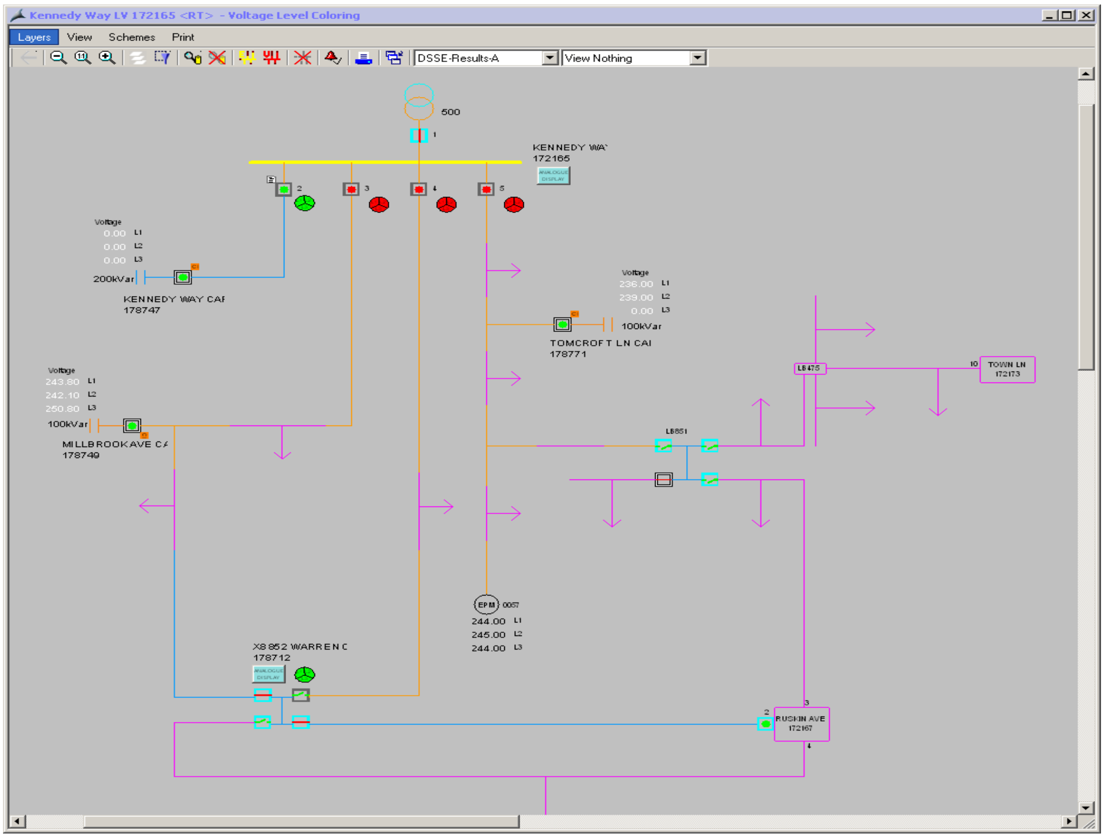
The received voltages displayed on the SP5 user interface were confirmed against the values recorded on site following which the various alarms were simulated and receipt of them was recorded. A set point was then sent from SP5 to lower the voltage; receipt of this is confirmed from site as is the operation of the tap changer. The received voltage analogues were observed to change in line with the set point value. A second set point was then sent to return the OLTC to its initial operating voltage. The results for these tests are all recorded on the commissioning log sheet (see Appendix D).

4 SPECTRUM POWER 5

4.1 System overview

The Siemens Spectrum Power 5 system works in conjunction with Electricity North West's existing CRMS system to provide the control, optimisation and data historian functionality for the Smart Street Project. SP5 receives data from the onsite devices covering all the relevant variables, ie current, voltage, real and reactive power, tap position and the states of all telemetered switching devices. All the Electricity North West assets in the trial areas have been modelled in SP5 to give a topological view of the network (see Figure 10). This will be used by the state estimator to allow the software to build up a picture of the state of the trial networks. This will then be used as the basis for the power flow calculations that drive the network optimisation.

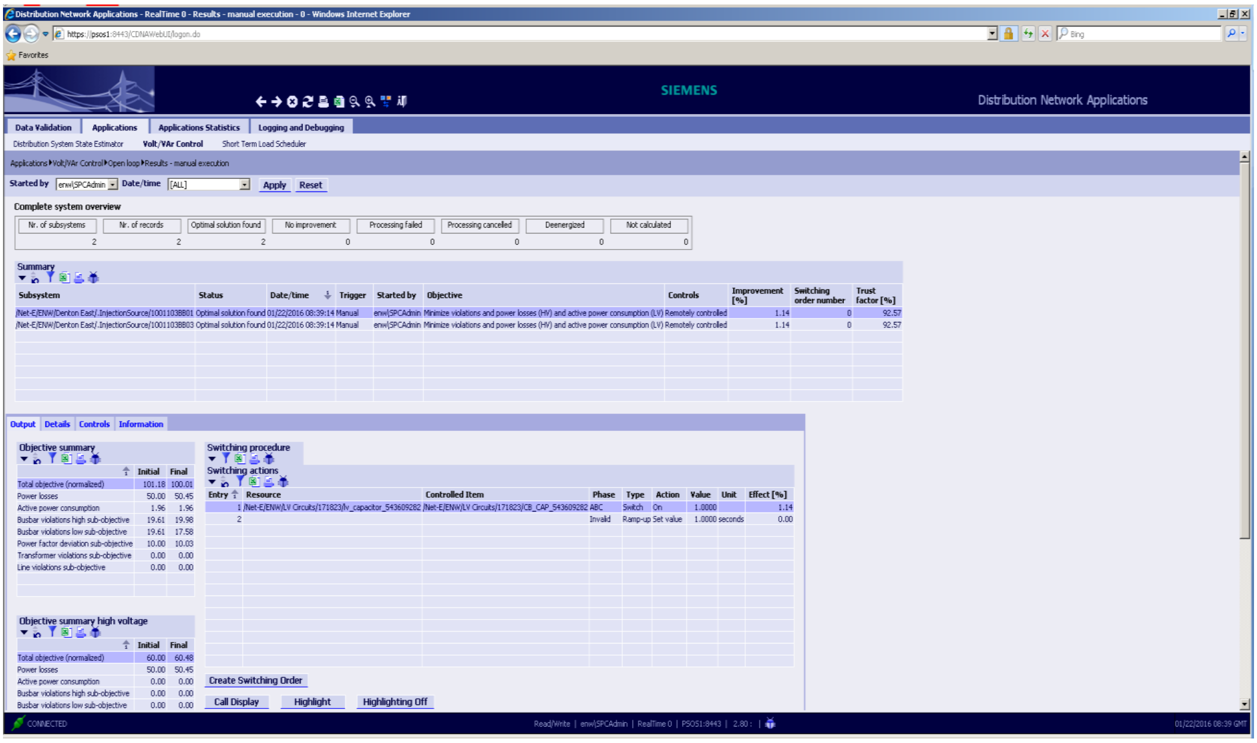
Figure 10: LV network diagram shown in SP5



4.2 Optimisation

The optimisation software built in to the SP5 system takes the analogue values measured by the on-site devices and, in conjunction with the results of the state Estimator, runs a power flow analysis of the network. The state estimator utilises the Ofgem load classes to estimate the demand profile for the various load blocks within the trial area. The software then analyses the impact of operating the Smart Street devices in that area of the network in order to meet the selected output criteria. The optimisation software can be run in either closed or open loop mode. In open loop the system will use the results of these calculation to generate a switching schedule to optimise the network which can be manually implemented by an authorised control engineer. In closed loop mode the system will automatically carry out the reconfiguration of the network. To account for the variance in signal strength and other factors affecting communications with the field devices, the system assesses the data and assigns a trust factor to the results of each study. If this trust factor falls below a configurable value then the system will not carry out the suggested optimisation. The optimisation calculation can be set to run either cyclically at pre-defined intervals, following a change to the network topology, or both. The facility is available either through SP5 or from CRMS to stop the optimisation, either globally or by area, should the network configuration change, either due to planned work or faults, such that the state estimator cannot accurately calculate the network topology. The various Smart Street devices in the trial areas can be removed from consideration in the optimisation calculations as required to meet the various tests details in the Trials and test regime report.

Figure 11: Optimisation study results for Denton East network



5 APPENDICES

5.1 Appendix A: Sample Weezap commissioning sheet

Substation Name ____________ **Date** ____________

Substation No. ____________ **Commissioned by** ____________

		Way 1				Way 2				Way 3				Way 4				Way 5				Way 6				Way 7				Way 8				Way 9				Comments
		local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	
Amps	L1																																					
	L2																																					
	L3																																					
Bar Volts	L1																																					
	L2																																					
	L3																																					
Feeder Volts	L1																																					
	L2																																					
	L3																																					
Real Power	L1																																					
	L2																																					
	L3																																					
Reactive Power	L1																																					
	L2																																					
	L3																																					
TTL																																						
AR state																																						
State																																						
Local trip																																						
Local Close																																						
Remote Open																																						
Remote Close																																						
AR out																																						
AR in																																						

5.2 Appendix B: Completed commissioning log sheets

Substation Name	Kennedy Way		**Date**	01/10/2015	
Substation No.	172165		**Commissioned by**	B Ingham/ J Simpson	

		Way 1				**Way 2**				**Way 3**				**Way 4**				**Way 5**			
		local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek
Amps	L1					0	0	0	0	53		34	33	15		11	15	48		36	64
	L2					0	0	0	0	24		23	24	15		15	15	68		66	48
	L3					0	0	0	0	19		31	19	19		34	19	33		41	33
Bar Volts	L1					249		248	248	246		246	246	245		247	245	248		248	247
	L2					249		248	248	256		246	246	246		248	246	248		248	248
	L3					249		248	248	245		246	246	247		246	246	250		250	250
Feeder Volts	L1					249			249	246			246	245			247	248			247
	L2					249			249	246			246	245			247	248			248
	L3					249			249	246			246	27			247	250			250
Real Power	L1																				
	L2																				
	L3																				
Reactive Power	L1																				
	L2																				
	L3																				
TTL						5/5/5			5/5/5	5/5/5			5/5/5	5/5/5			5/5/5	5/5/5			5/5/5
AR state						In			In	In			In	In			In	In			In
State						Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Local trip						ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/ok
Local Close						ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/ok
Remote Open						ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	fail	fail	fail	fail	fail	fail	fail	fail	fail	fail	fail	fail
Remote Close						fail/ok/c	fail/ok/c	fail/ok/c	fail/ok/c	fail	fail	afil	afil	fail	fail	afil	afil	fail	fail	afil	afil
AR out						ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/ok
AR in						ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/o	ok/ok/ok

		Way 6				**Way 7**				**Way 8**				**Way 9**				**Comments**
		local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	local	CRMS	Spectrum	Kelvatek	
Amps	L1																	
	L2																	
	L3																	
Bar Volts	L1																	
	L2																	
	L3																	
Feeder Volts	L1																	
	L2																	
	L3																	
Real Power	L1																	
	L2																	
	L3																	
Reactive Power	L1																	
	L2																	
	L3																	
TTL																		
AR state																		
State																		
Local trip																		
Local Close																		
Remote Open																		L2 Control rejected by RTU, L3 -
Remote Close																		lose via CRMS, Auto reclose diab
AR out																		
AR in																		

5.3 Appendix C: Example Lynx commissioning sheet

Site	Cemetary Rd Lynx (X8854)		
	L1	L2	L3
Site F1 A	0	0	0
Server F1 A	0	0	0
Spectrum A	0	0	0
CRMS A	0	0	0
Site F1 V	247	249	249
Server F1 V	247.4	249.7	249.2
Spectrum F1 V	243	249	244
CRMS V	N/A	N/A	N/A
Site F2 V	247	249	249
Server F2 V	247.3	249.5	249.1
Spectrum F2 V	245	247	245
Spectrum P	0	0	0
Spectrum Q	0	0	0
Site Close	Y	Y	Y
Site Open	Y	Y	Y
Server Close	Y	Y	Y
Server Close	Y	Y	Y
CRMS Close	Y	Y	Y
CRMS Open	Y	Y	Y
Checked	B Ingham		

5.4 Appendix D: Kelvatek I/O schedule

Analog Inputs

Feeder/Way	1	
Phase L	1	
Starting Point	100	Reference point for W1-L1
Phase spacing	30	Point spacing between phases of the same feeder

* Note deadband limits are currently not defined

Object Grou	Point Inde	Name	Summary	RBE (Object 32	Weezap Sent to Spectru	Weezap Sent to CRM	Lynx Sent to Spectru	Lynx Sent to CRM	Range	Resolution	Units	Variations	Bits
W1-L1													
30	100	FUSE_CURVE	Active Protection Fuse Curve	Y	N	N	n/a	n/a	0 = 25A BS88 1 = 32A BS88 2 = 50A BS88 3 = 63A BS88 4 = 80A BS88 5 = 100A BS88 6 = 125A BS88 7 = 160A BS88 8 = 200A BS88 9 = 250A BS88 10 = 315A BS88 11 = 355A BS88 12 = 400A BS88			4	16-bit
30	101	BREAKER_LIFE_REM	Breaker life remaining	Y*	N	N	N	N	0.0 to 100.0	0.1	% * 10	4	16-bit
30	102	TTL_REMAINING	Trips to lockout remaining	Y	N	Y	n/a	n/a	0 - 30 (0 means lockout)			4	16-bit
30	103	LM_MEAN_CURRENT	Mean 10ms RMS feeder current over window (60 sec)	Y*	Y	Y	Y	Y	0 to 32768	1	Amps	3	32-bit
30	104	LM_MEAN_BUS_VOLTS	Mean 10ms RMS bus-neutral voltage over window (60 sec)	Y*	Y	Y	Y	N	0.0 to 625.0	0.1	Volts	3	32-bit
30	105	LM_REAL_PWR	Mean 1 second Real power over window (60 sec)	Y*	Y	N	Y	N	-2GW to +2GW	1	W	3	32-bit
30	106	LM_REACTIVE_PWR	Mean 1 second Reactive power over window (60 sec)	Y*	Y	N	Y	N	-2GVAR to +2GVAR	1	VAR	3	32-bit
30	107	LM_MEAN_FDR2_VOLTS	Mean 10ms RMS Feeder 2-neutral voltage over window (60 sec)	Y*	n/a	n/a	Y	N	0.0 to 625.0	0.1	Volts * 10	3	32-bit

Binary Inputs

Feeder/Way	1	
Phase L	1	
Starting Point	100	Reference point for W1-L1
Phase spacing	30	Point spacing between phases of the same feeder

Object Grou	Point Inde	Name	Summary	Range	Class 0 Respons	RBE (Object 2	Event clas	Timestamp Origi	Gateway Sent to Spectru	Gateway Sent to CRM	Weezap Sent to Spectru	Weezap Sent to CRM	Lynx Sent to Spectru	Lynx Sent to CRM
1	0	REMOTE_OPERATION_STATUS	Remote operation	0 = Remote, 1 = Local	Always	Y	1	Gateway	N	Y	n/a	n/a	n/a	n/a
W1-L1														
1	100	BREAKER_STATE	Breaker state	0 = Open, 1 = Closed	Always	Y	1	Device	n/a	n/a	N	Y	N	Y
1	101	IMMEDIATE_CLOSE_EN	Immediate closing enabled/disabled	0 = Disabled, 1 = Enabled	Always	Y	1	Device	n/a	n/a	N	N	N	N
1	102	PHPH_CLOSE_EN	Setting to allow close in case of phase to phase voltage	0 = Disabled, 1 = Enabled	Always	Y	1	Device	n/a	n/a	N	N	N	N
1	103	AUTO_ENABLED	Auto reclose switch state	0 = Disabled, 1 = Enabled	Always	Y	1	Device	n/a	n/a	N	Y	N	Y
1	104	INLINE_FUSE_STATE	Inline Fuse state	0 = Intact, 1 = ruptured	Always	Y	1	Device	n/a	n/a	N	N	n/a	n/a

5.5 Appendix E: Siemens I/O schedule

SIEMENS
Spectrum Power 5

Report **AnalogMeasurement**

ID | Description | Attributes

PCCType	Parent	Name	Guid	Descrip	MeasurementType	MeasurementType Label	MessageConfiguration	MessageConfiguration Label	Archive	OPCEnabled	WinCCTagEnabled	SOEEnabled	AreaOfResponsibility	AreaOfResponsibility Label	DelayTime	PositiveFlowIn	UnitOfMeasure	ArchiveCollectionRate	ExtendedStorage	AbsoluteError	HighControlValue	LowControlValue	Phases	Phases Label	SignInvSE	SuppressAlarmZero	WeightingSE	Value-Name
	xxxxxxxLSx1	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	xxxxxxxLSx1	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	xxxxxxxLSx1	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	Each phase has 3 anolgues as above.																											
	1713831LS41	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1713831LS41	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1713831LS41	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1713831LS42	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1713831LS42	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1713831LS42	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1713831LS43	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1713831LS43	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1713831LS43	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1713831LS51	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1713831LS51	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1713831LS51	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1713831LS52	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1713831LS52	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1713831LS52	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1713831LS53	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1713831LS53	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1713831LS53	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1713831LS61	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1713831LS61	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1713831LS61	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1713831LS62	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1713831LS62	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1713831LS62	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1713831LS63	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1713831LS63	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1713831LS63	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1718231LS11	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1718231LS11	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1718231LS11	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1718231LS12	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1718231LS12	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1718231LS12	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1718231LS13	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1718231LS13	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1718231LS13	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1718231LS31	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1718231LS31	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1718231LS31	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1718231LS32	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1718231LS32	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1718231LS32	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1718231LS33	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1718231LS33	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1718231LS33	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721651LS31	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721651LS31	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721651LS31	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721651LS32	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721651LS32	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721651LS32	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721651LS33	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721651LS33	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721651LS33	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721651LS41	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721651LS41	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721651LS41	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721651LS42	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721651LS42	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721651LS42	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721651LS43	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721651LS43	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721651LS43	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721651LS51	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721651LS51	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721651LS51	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721651LS52	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721651LS52	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721651LS52	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721651LS53	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721651LS53	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721651LS53	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721751LS21	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721751LS21	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721751LS21	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721751LS22	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721751LS22	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721751LS22	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721751LS23	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721751LS23	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721751LS23	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721751LS31	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721751LS31	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721751LS31	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721751LS32	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721751LS32	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721751LS32	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721751LS33	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721751LS33	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721751LS33	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721751LS41	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721751LS41	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721751LS41	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721751LS42	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721751LS42	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721751LS42	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721751LS43	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721751LS43	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721751LS43	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721751LS51	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721751LS51	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721751LS51	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721751LS52	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721751LS52	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721751LS52	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721751LS53	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721751LS53	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721751LS53	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1723711LS21	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1723711LS21	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1723711LS21	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1723711LS22	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1723711LS22	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1723711LS22	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1723711LS23	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1723711LS23	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1723711LS23	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1723711LS31	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1723711LS31	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1723711LS31	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1723711LS32	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1723711LS32	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1723711LS32	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1723711LS33	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1723711LS33	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1723711LS33	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1723711LS41	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1723711LS41	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1723711LS41	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1723711LS42	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1723711LS42	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1723711LS42	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1723711LS43	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1723711LS43	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1723711LS43	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1723711LS51	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1723711LS51	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1723711LS51	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1723711LS52	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1723711LS52	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1723711LS52	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1723711LS53	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1723711LS53	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1723711LS53	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721811LS11	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721811LS11	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721811LS11	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721811LS12	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721811LS12	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721811LS12	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721811LS13	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721811LS13	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721811LS13	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721811LS31	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721811LS31	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721811LS31	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721811LS32	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721811LS32	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721811LS32	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721811LS33	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721811LS33	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721811LS33	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721871LS31	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721871LS31	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721871LS31	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721871LS32	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721871LS32	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721871LS32	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721871LS33	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721871LS33	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721871LS33	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value
	1721871LS41	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L1			True		Value
	1721871LS41	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L1			True		Value
	1721871LS41	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L1			True		Value
	1721871LS42	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L2			True		Value
	1721871LS42	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L2			True		Value
	1721871LS42	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L2			True		Value
	1721871LS43	Bus Volts			Mean RMS bus-neutral voltage over 30 minute window	Voltage		Prio 1	True				Denton East				V				252	216	L3			True		Value
	1721871LS43	Real Power			Mean 1 second Real power over 30 minute window	Real Power			True				Denton East				kW						L3			True		Value
	1721871LS43	Reactive Power			Mean 1 second Reactive power over 30 minute window	Reactive Power			True				Denton East				kVAr						L3			True		Value