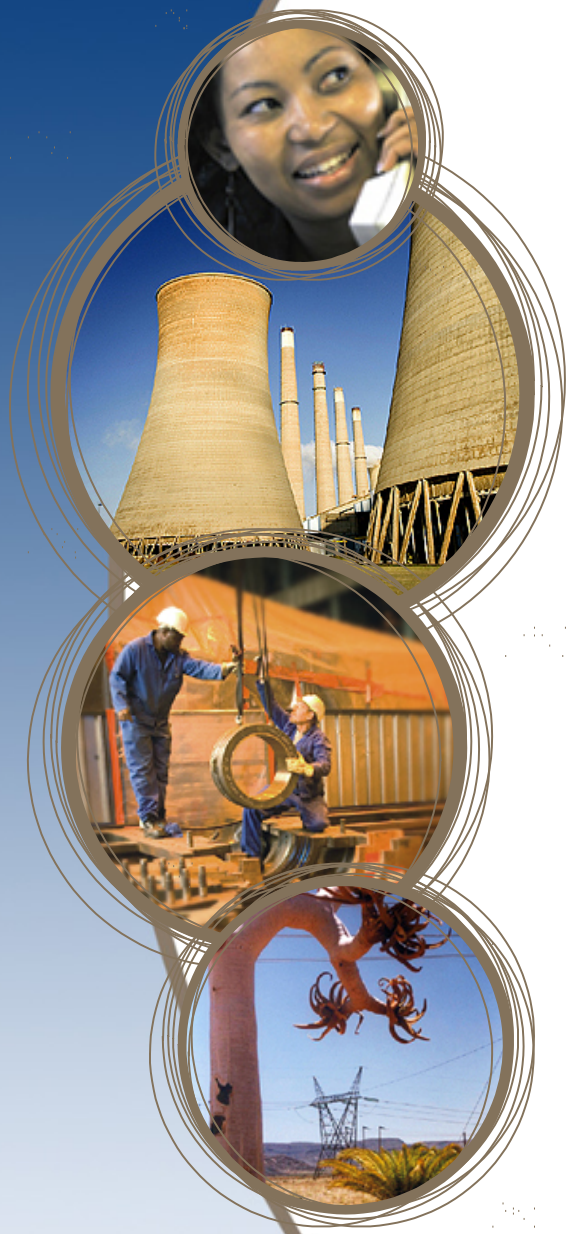


Domestic Electric Loads Seminar

Implementation of an LV QOS Reporting System

Hennie Mostert

12 November 2014

Contents

- Background
- DLR Program and QOS partnership
- How does it work?
- What do get from it?
- Closing Remark

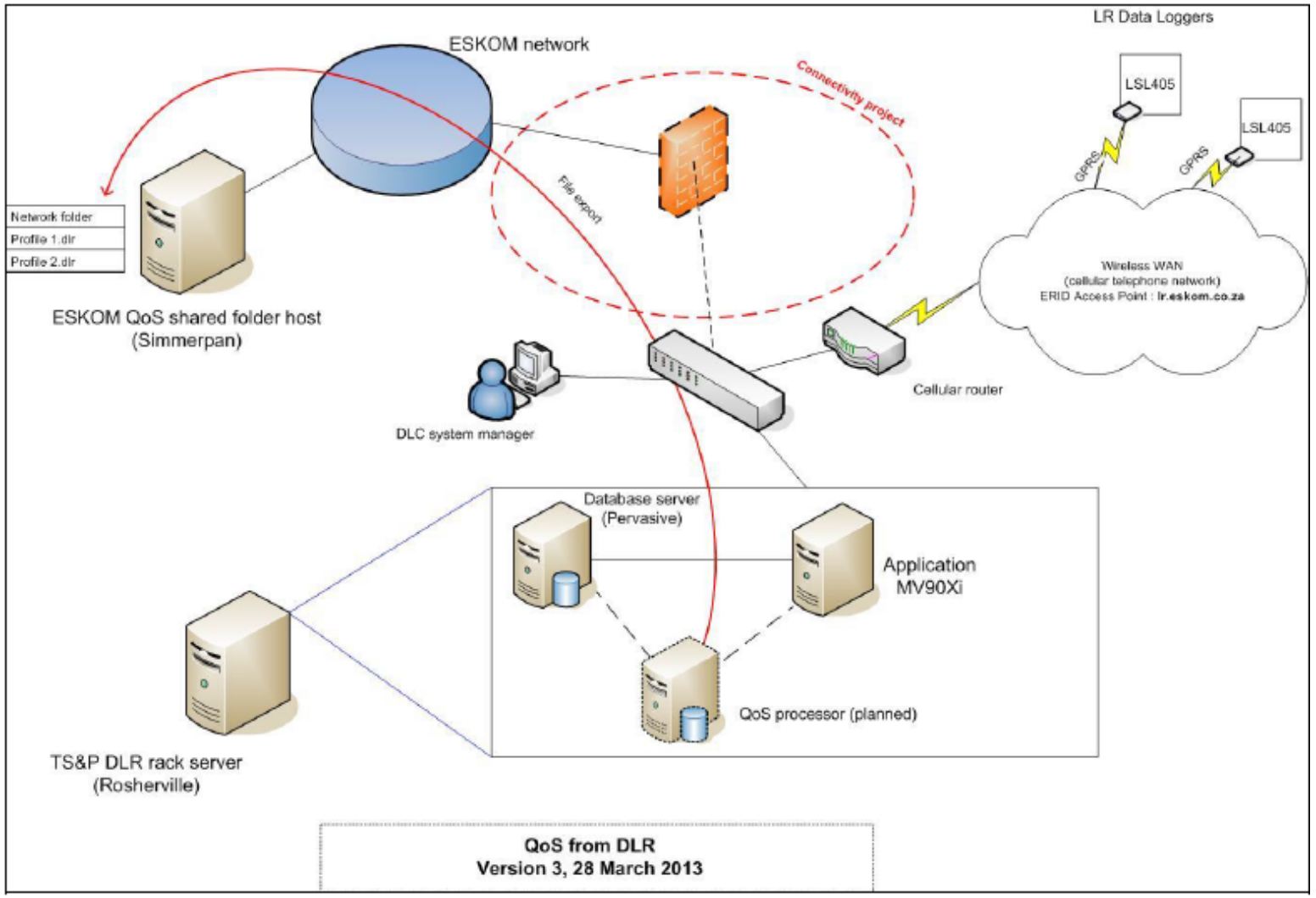
Background

- More than 3m residential customers supplied at LV, what do they want?
- Customers to receive a voltage of 230V ±10% - NRS048-2
- Challenges :
  1) Final customer numbers
  2) Final Load
  3) Construction Challenges, including phase connections
  4) Controlled busbars
  5) Control of trfr ratios / tap positions
  6) Network configuration changes
- Regulatory Reporting – small sample of 1 / 20 000 – placement bias
- Old Measurement Sites

DLR Program and QOS partnership

- 10 years of Development
- Less resources – Man & Machine
- Utilize the strengths in the business (National group vs OU's)
- No biasing in meter placement

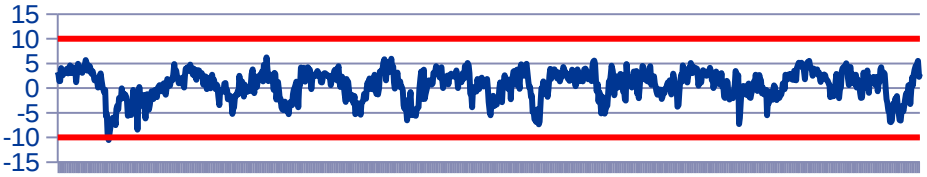
How does it work?



What do we get from it?

- Converted 5 – 10 min Voltage RMS values for compliance testing
- Possible Interruption Data in future
- Voltage Dips and Voltage unbalance not possible
- Summated data (Max/Min/Ave, Daily/Weekly 95/5% and - 99/1 % values
- Exceedance reports from QOS Database based on summated data and NRS048 compatibility values (limits)
- Detail Voltage profiles to assist in addressing site specific problems
- Identifying of national issues

Healthy Supply 10min. data



Voltage (% deviation from 230V)

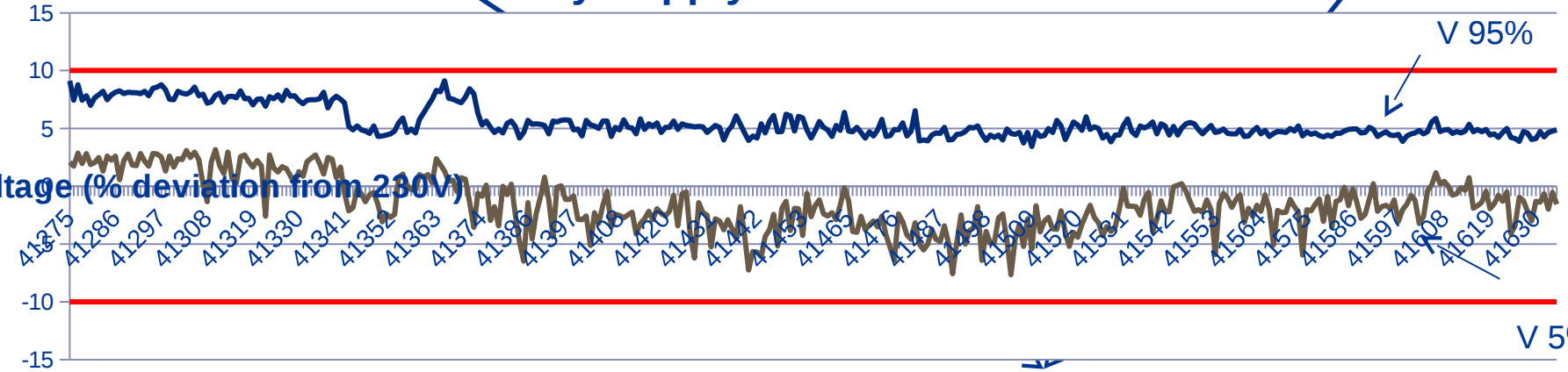
41497.010416666664

41498.732638888891

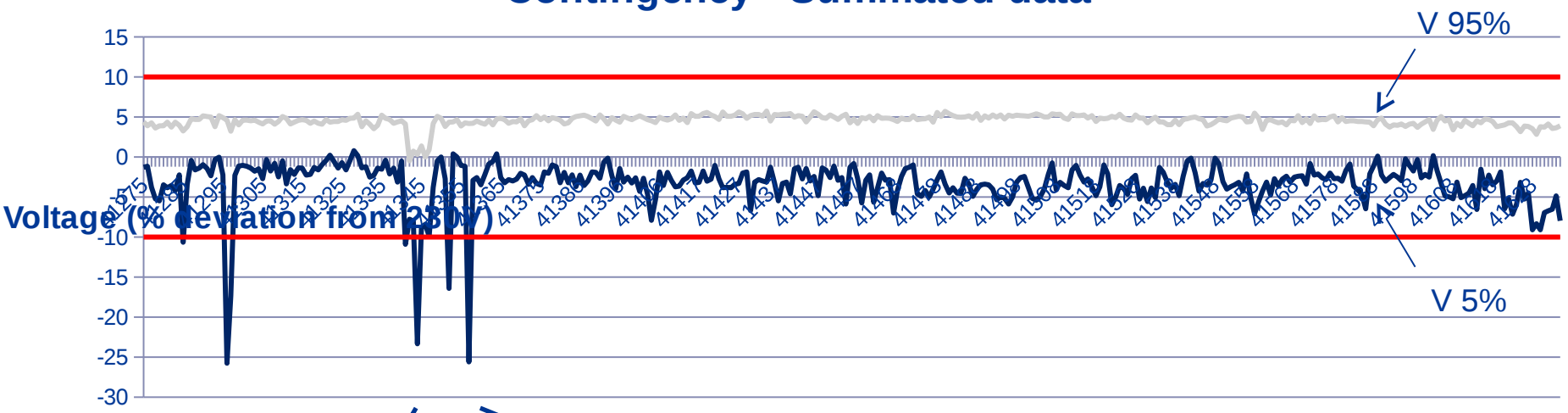
41500.454861111109

41502.177083333336

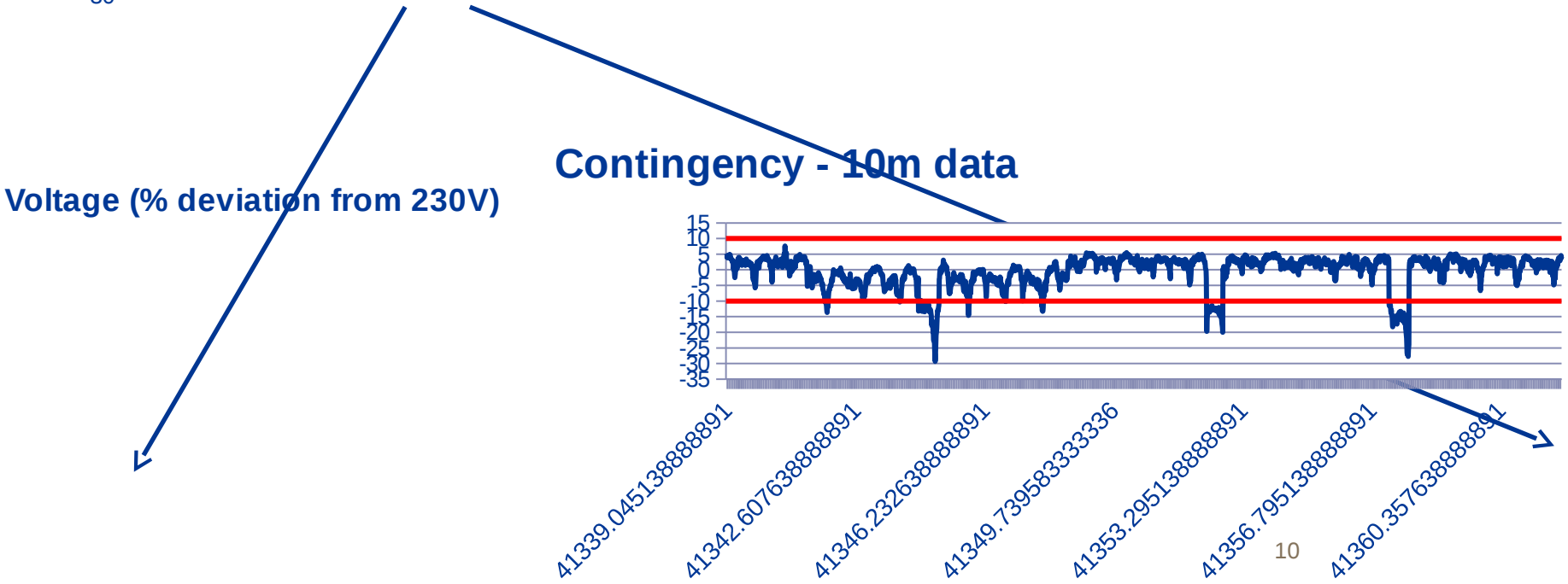
Healthy Supply - summated data



Contingency - Summated data

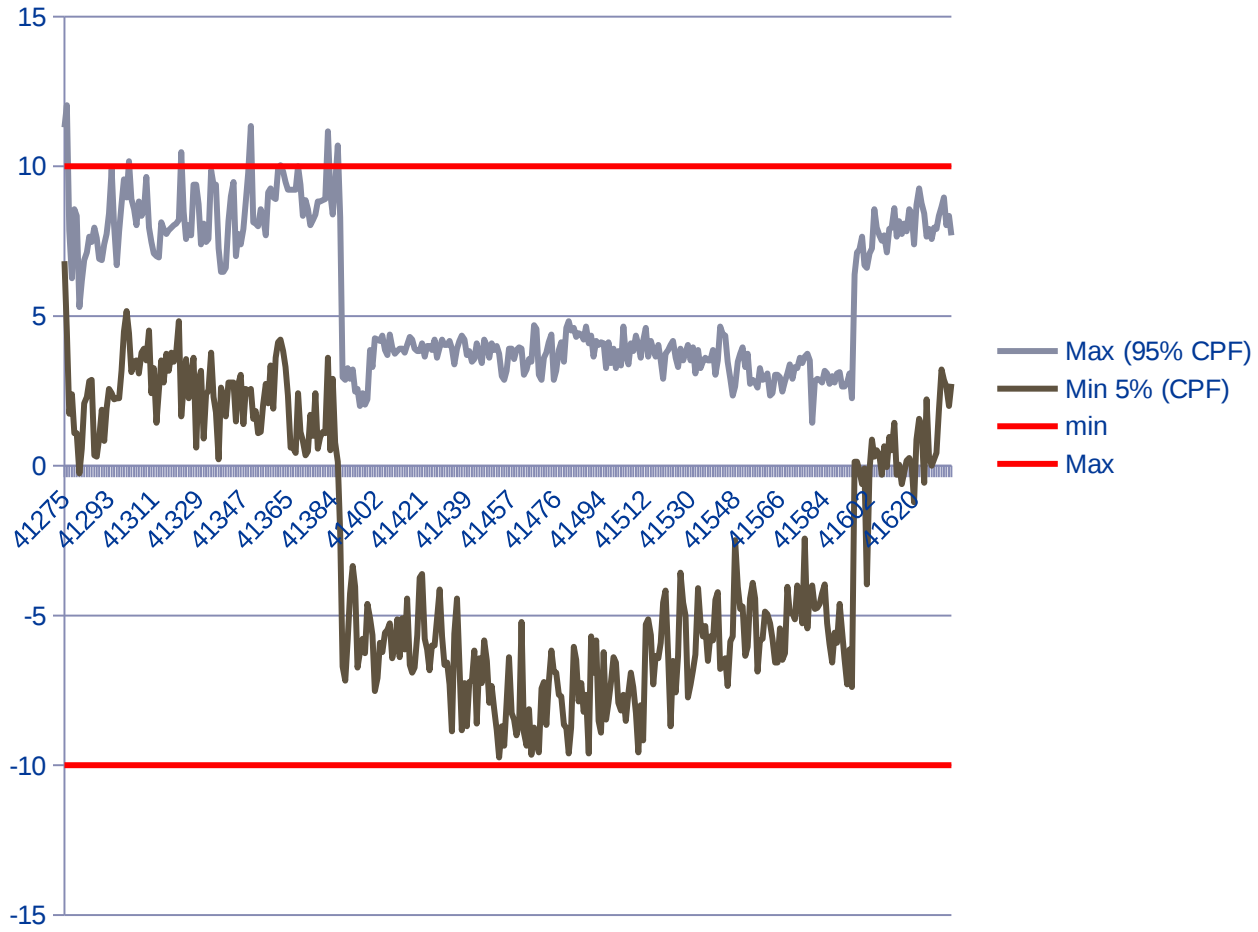


Contingency - 10m data

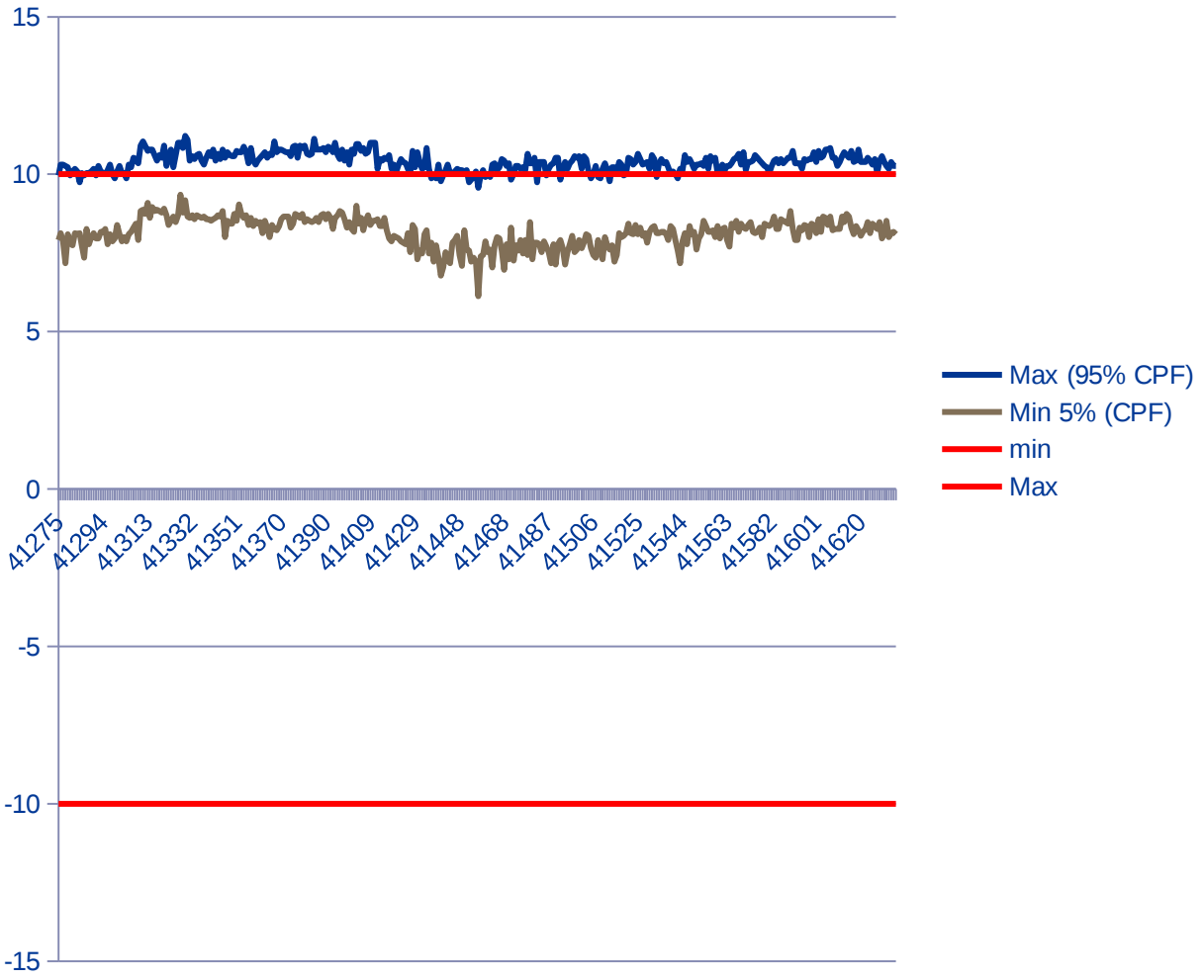


Operational changes

Voltage (% deviation 230V)



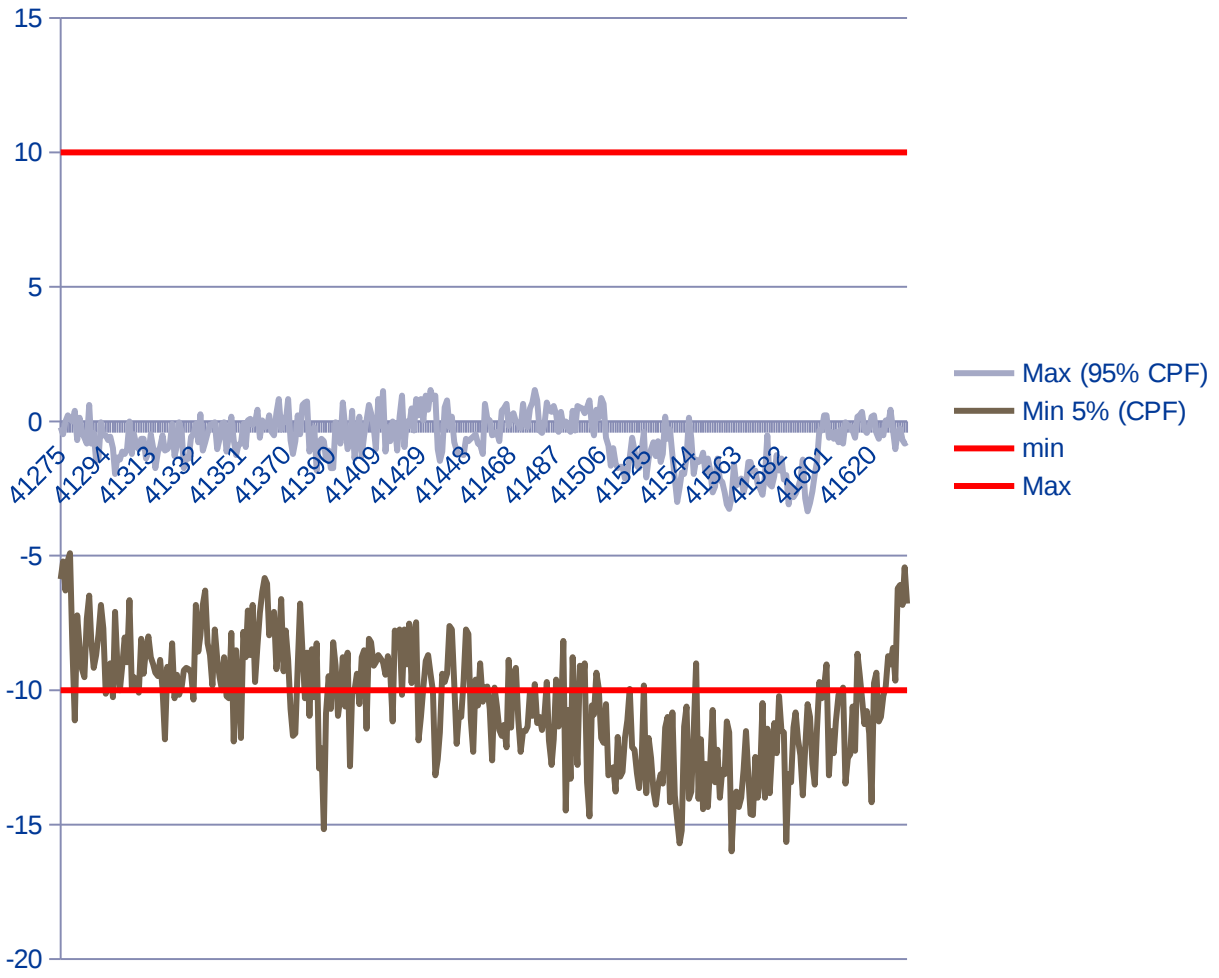
Very High Control Voltage



Voltage (% deviation from 230V)

Avoidable Low Voltage

Voltage (% deviation from 230V)



Closing Remark

We have demonstrated that we can achieve a lot more in the business if we are prepared to share, adapt and support each other – all for the benefit of the people that pays our salaries – our **customers.**

Thank you!