Pressure management

Shahin Ali
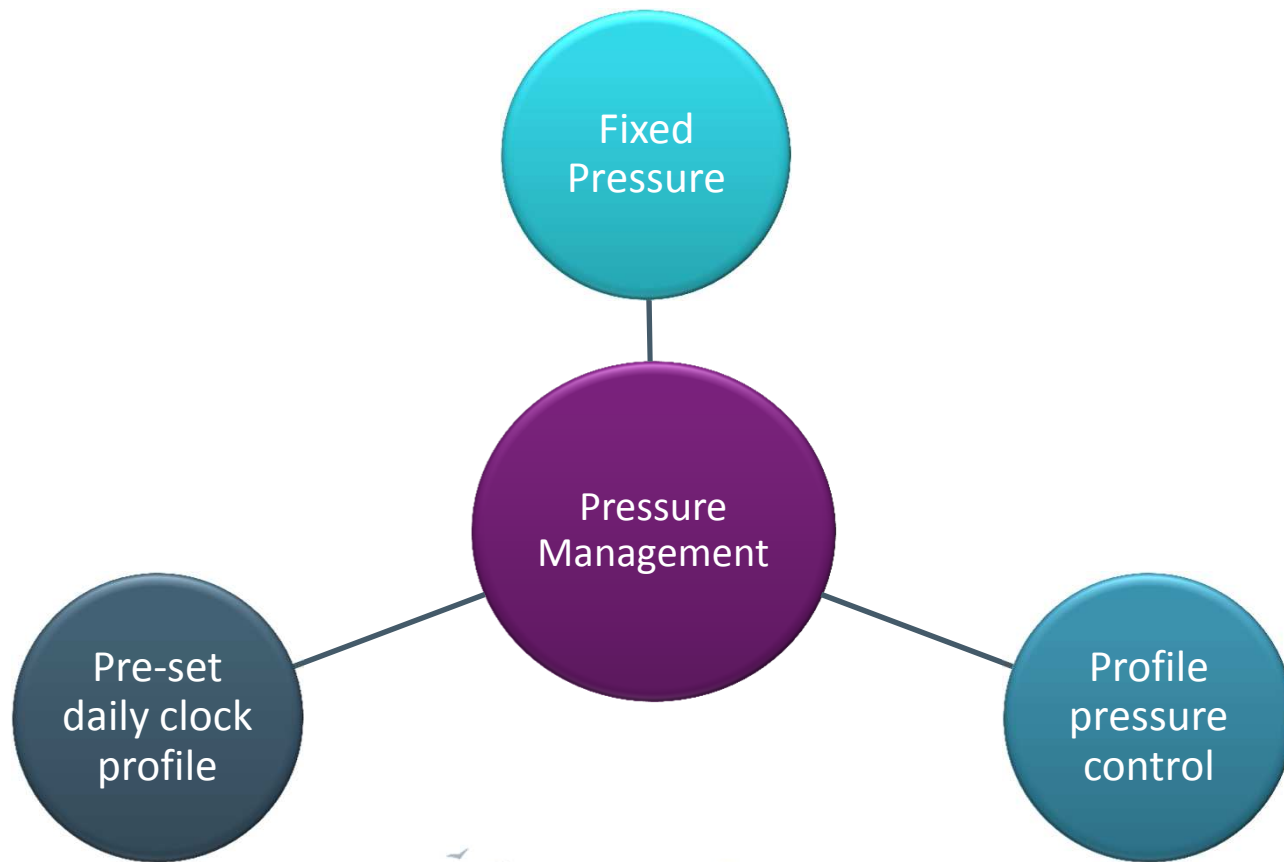
WALES&WEST
UTILITIES

Managing our network pressures

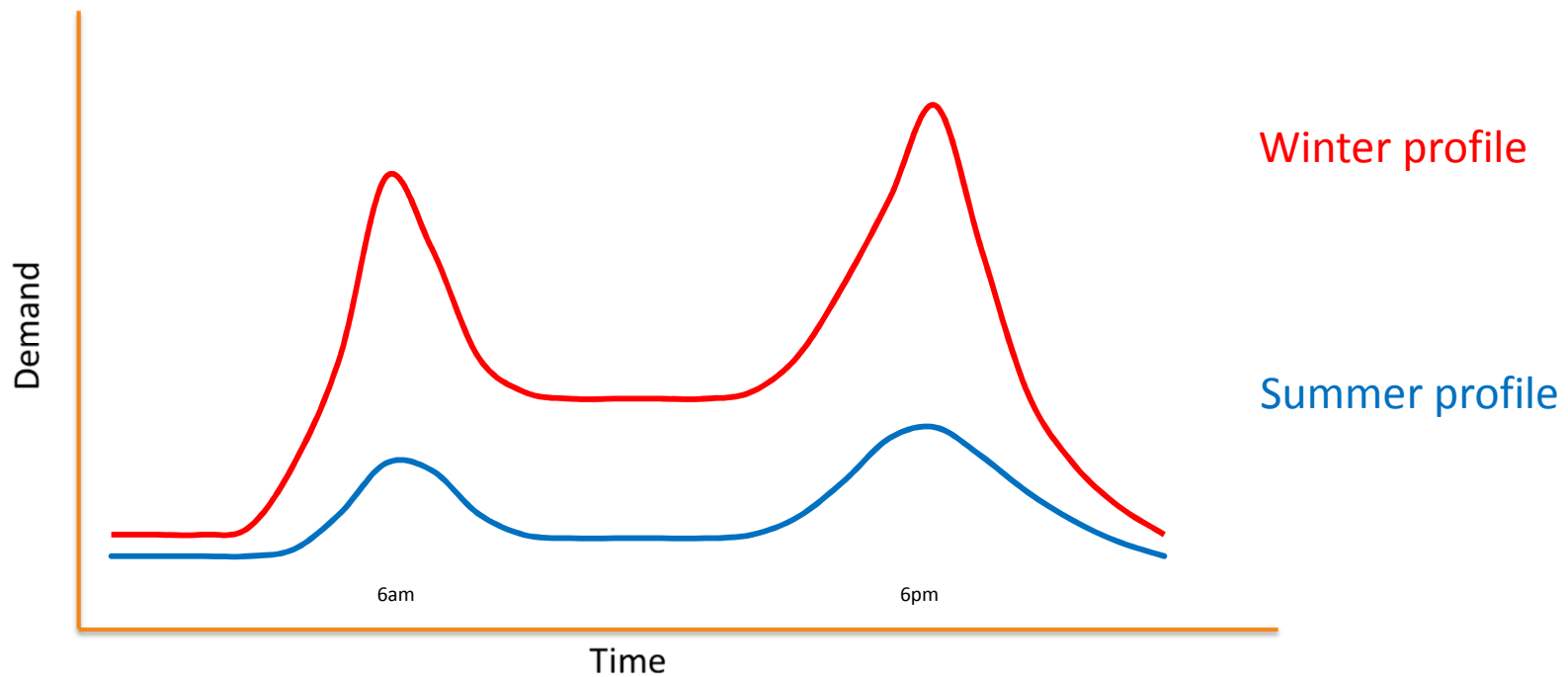- Maintain adequate pressures for our customers

- Reduce leakage

- Help minimise gas escapes
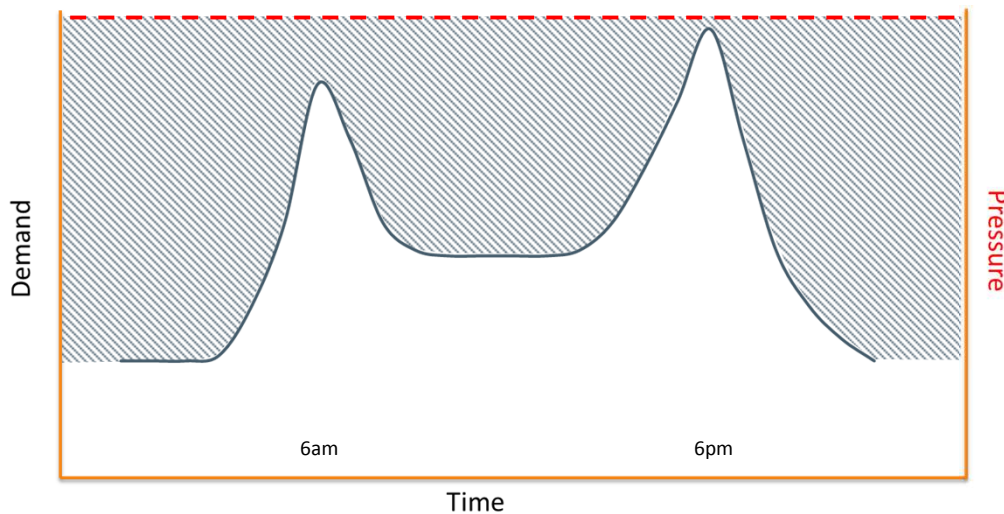
- Maximise "Green Gas" entry

WALES&WEST
UTILITIES

Types of pressure management

Fixed Pressure

Pressure Management

Pre-set daily clock profile

Profile pressure control

WALES&WEST
UTILITIES

Diurnal demand swing

Winter profile
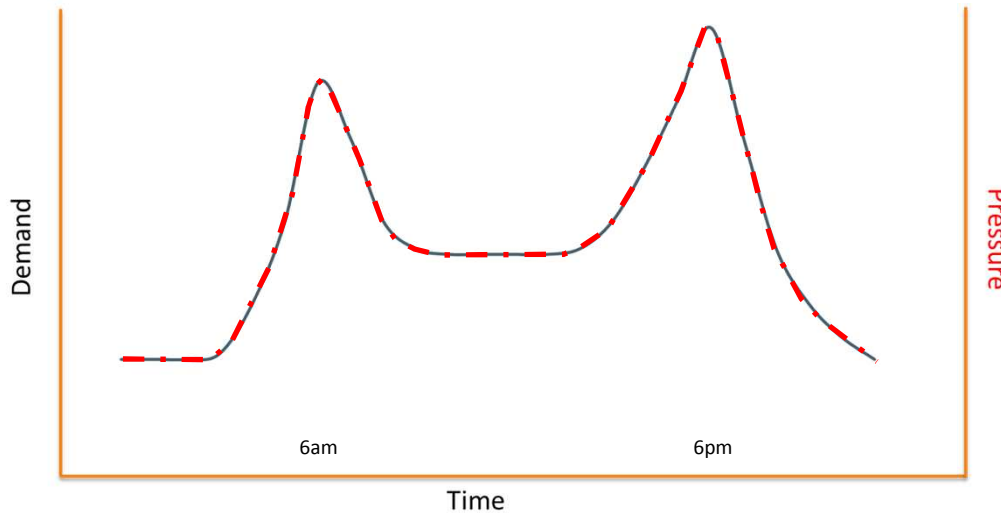
Summer profile

WALES&WEST UTILITIES

Fixed pressure networks


- Low cost

- Utilised where Low Pressure networks are predominantly plastic

- Seasonal adjustments

- Medium pressure networks and above

WALES&WEST
UTILITIES

Profile pressure control

Demand / Pressure vs Time (6am, 6pm)

- Network pressure reactive to network demand

- Utilised for mixed material networks

- Maximise leakage reduction

- Telemetry installation at district governors and strategic locations across the network

- Self learning

- Higher cost for initial investment and ongoing maintenance

- Software to manage and control pressures

- 70% of LP mains network – profile
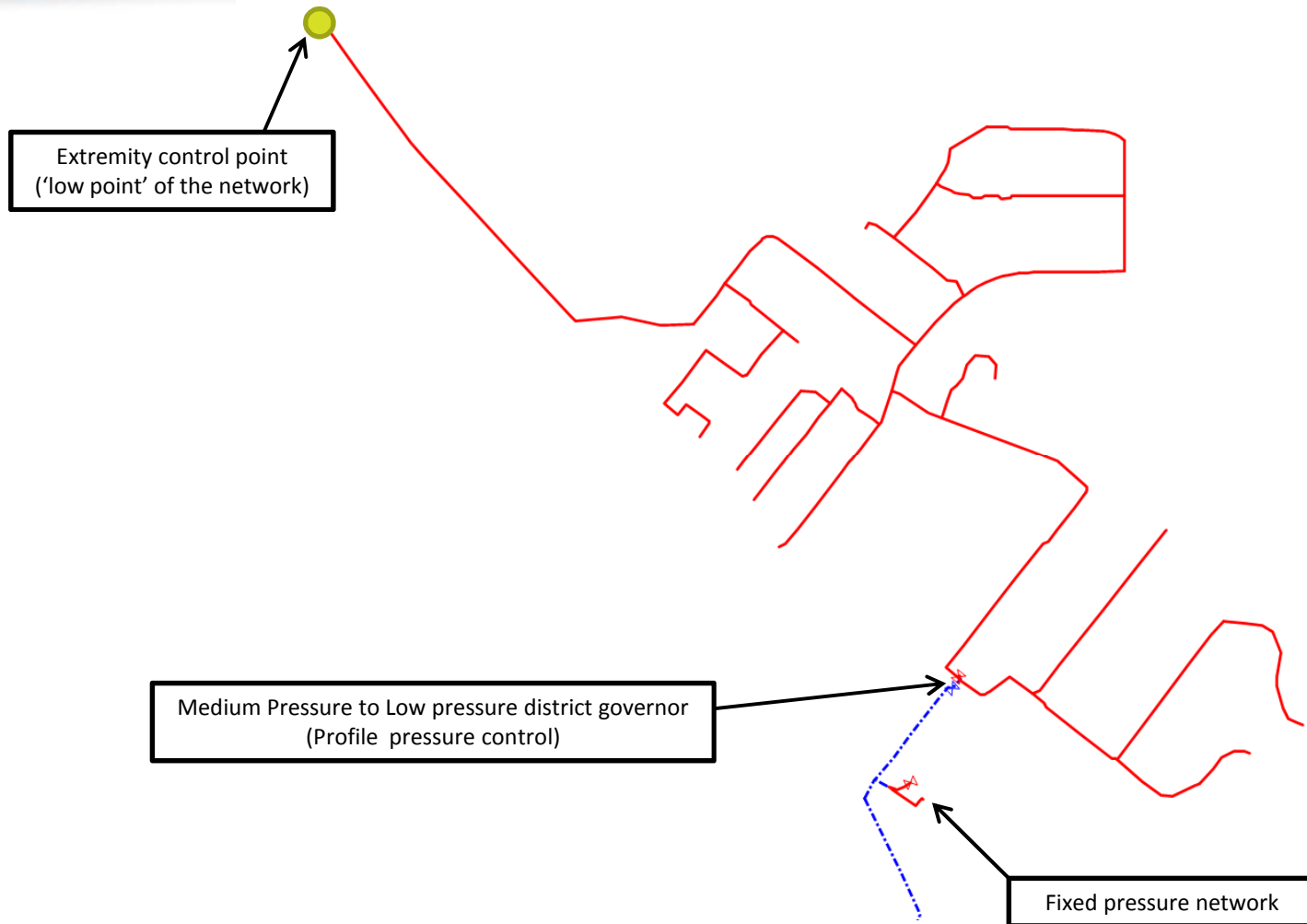
6

WALES&WEST UTILITIES
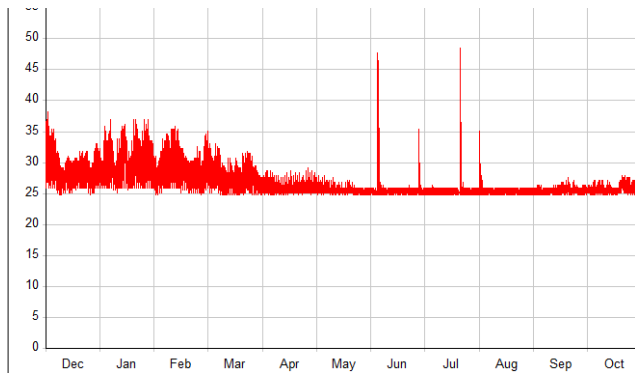
Pre-set daily clock profile
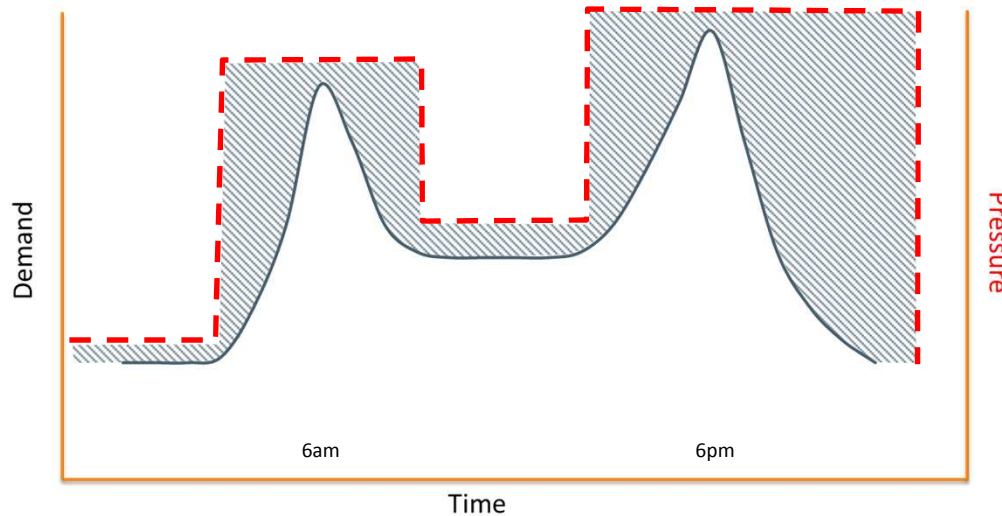
- Inexpensive initial outlay

- Utilised where networks contain metallic mains however cost-benefit analysis indicates Profile control would not be cost effective

- Seasonal adjustments

WALES&WEST
UTILITIES

Example of pressure management

Extremity control point
('low point' of the network)

Medium Pressure to Low pressure district governor
(Profile pressure control)

Fixed pressure network

WALES&WEST
UTILITIES

Calculating Average System Pressure

Actual Pressure data

x 1000's

Import into simulation tool
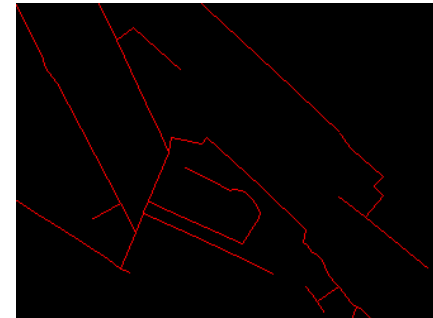
Average demand conditions

Checks and Audits

Produce report

FROM	TO	DIAMETER MM	LENGTH METERS	PRESSURE MBARS
000117cb	00010609	106.680	6.46	25.14
00006a97	0000173d	106.680	67.31	24.60
00000301	00006abd	106.680	75.30	25.14
000117cd	000117cf	106.680	5.36	24.89
000117d1	000117d3	106.680	3.72	24.30
00006ffe	000117d5	106.680	12.15	24.79
000117c9	00005a11	63.350	7.57	24.82
000117d7	00007d08	60.850	20.96	26.75
000117d9	000117db	106.680	3.71	26.37
000117dd	000117df	106.680	21.37	26.30
000117e1	000117e3	106.680	19.93	26.19
000117e5	0001060f	106.680	5.89	27.65
00011719	0001171b	106.680	73.62	24.17
00011715	00011717	106.680	2.24	24.17
0001171d	0001171f	106.680	3.43	24.23
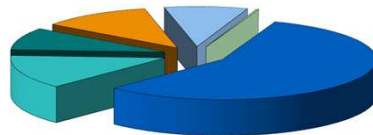
Import data into leakage model

9

WALES&WEST UTILITIES

QUESTIONS

WALES&WEST
UTILITIES