



### ***Invisible Systems & The Marlay***

12 months on from installing **Invisible Systems** monitoring equipment for both Energy monitoring & Legionella monitoring, the Marlay Nursing Home has created a more sustainable, lower risk environment for residents to live - all whilst being more cost efficient.

### ***Key Results At A Glance***



Installed Both Energy & Legionella Compliance Monitoring



Reduced water management & sampling costs by 50%



Changed staff behaviours around Legionella prevention processes & energy consumption

### ***About The Project***

The Marlay (**Part Of The CareChoice Group**), is a luxury nursing home focused on providing an excellent quality of life & care to it's residents. The CareChoice Group provides safe supportive living spaces for the elderly, who may also have health concerns.

**The Marlay Nursing Home** made the decision 12 months ago to install a non - invasive, real-time Energy, Gas & Water monitoring system alongside a Legionella monitoring system. The project goals around the two systems were:

### ***Project Goals***

- 1) To use **real time monitoring** to improve Legionella prevention processes
- 2) To ensure compliance around Legionella prevention and identify which water outlets on the premises were high risk in terms of lack of usage and issues around temperature
- 3) To be more aware of peak times in energy, & water usage & to implement more cost efficient behaviours & solutions around energy consumption





### ***The Marlay Nursing Home & It's Energy Usage***

The Marlay facilities team were looking to monitor peaks and troughs in energy usage, particularly within the kitchen & laundry units of the complex, throughout the working week. With a real-time view of energy usage within these two areas, the facilities team at the Marlay were able to investigate unexpected peaks along with exploring other inefficiencies in energy usage and apply corrective solutions.

### ***Key findings from energy monitoring & investigations***

- Lights were being left on outside of operating hours within the kitchen & laundry areas
- Some of the calorifiers within the nursing home were running inefficiently, resulting in energy wastage
- Demand for hot water peaked in the early morning. This coupled with inefficient boiler elements put a strain on hot water supply



### ***Key Corrective Actions***



Based on key the findings that **Invisible Sytems' real time monitoring reports** had highlited, the facilities team at the Marlay were able to decide on which corrective actions could help cut down on energy costs. These key corrective actions were:

- **Implementation of PIR sensor lighting so that lights would only switch on when areas were in use**
- **Replacement of inefficient or faulty heating elements within the calorifier**

### ***Notable Benefits Of The Project***

- Positive behaviours around energy consumption, ie switching off outlets at evenings etc
- Ability to set achievable, measurable goals around energy consumption
- Ability to accurately forecast future energy costs
- Ability to compare energy usage reports to energy provider's bills (Some of which have the potential to be inaccurate)
- Being a more sustainable community for their residents to live within
- The Marlay were able to take a step toward creating a cohesive sustainability **"road map"** 

### Legionella Monitoring, Compliance & Prevention

Legionella prevention is critical to the CareChoice Group as part of ensuring their residents safety and peace of mind. The Marlay Nursing Home facilities team have always put a huge amount of resource into combatting Legionella. However, without a real time monitoring system, it was always a challenge to pinpoint exactly which water outlets were most vulnerable to an outbreak and why.

It was also difficult for the facilities team to have an analytical view of flushing protocols at each outlet to ensure the staff were being compliant.

Lastly without a real time monitoring system, the facilities team did not have a comprehensive view of which elements(heating coils) within the calorifier were performing sub-optimally. Heating elements not reaching correct temperatures for the correct duration could also leave certain water outlets vulnerable to an outbreak.



### Key findings from Legionella monitoring


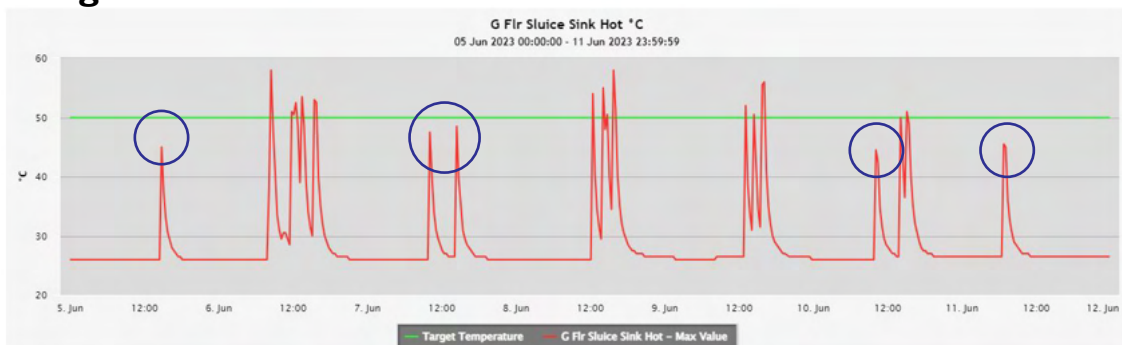
- There were a number of infrequently used water outlets on site. Outlets included **rooms with bed bound residents, shower outlets & sinks within consultation rooms**
- Flushing protocols associated with some specific outlets were not being met
- Some elements within the calorifier weren't reaching the correct temperatures **above 50°C on the hot & below 20°C on the cold.**  
(See  markings in figure 1.1 & 1.2, two flushing schedules at two different outlets)

Figure 1.1



Select Dates

From 05/06/2023 To 11/06/2023 Submit

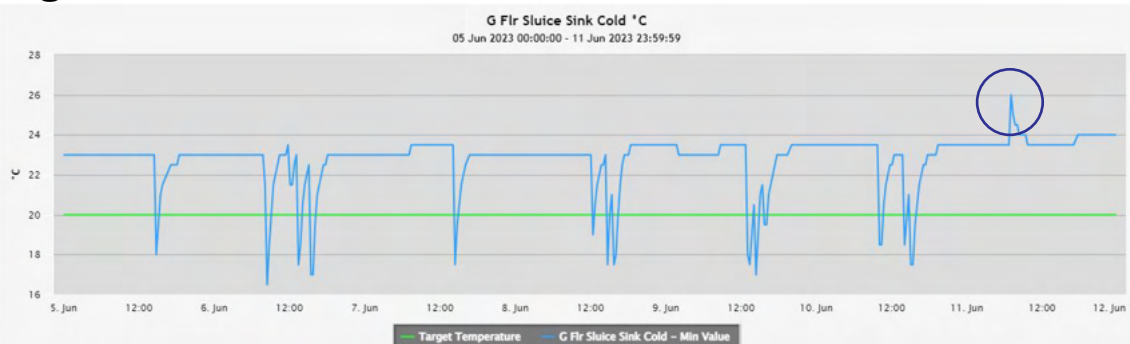
Cal 3 Return	4	4	5	6	3	3	2	3	1	0	0	0	3	3	0
G Fir Front Porch WHB Cold	0	0	0	0	0	0	0	0	0	0	3	5	0	1	0
G Fir Front Porch WHB Hot	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
G Fir Sluice Sink Cold	1	2	4	2	1	1	0	1	2	1	2	5	2	2	1
G Fir Sluice Sink Hot	5	7	7	6	3	0	2	2	2	3	3	4	4	6	5

N.B. Values show number of days during which compliance was not achieved



### Key findings from Legionella monitoring

**Figure 1.2**



Select Dates

From 05/06/2023 To 11/06/2023 Submit

Cal 3 Return	4	4	5	6	3	3	2		1	0	0	0	3	3	0
G Flr Front Porch WHB Cold	0	0	0	0	0	0	0	0	0	0	3	5	0	1	0
G Flr Front Porch WHB Hot	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
G Flr Sluice Sink Cold	1	2	4	2	1	1	0	1	2	1	2	5	2	2	1
G Flr Sluice Sink Hot	5	7	7	6	3	0	2	2	2	3	3	4	4	6	5

N.B. Values show number of days during which compliance was not achieved

### Key Corrective Actions

The below key corrective actions taken following thorough investigation of the real time monitoring reports:

- Replacement of faulty heating elements within the calorifier that could not reach the compliant temperatures
- Replacement or repair of elements that were taking too long to heat/cool
- Creating a comprehensive list of outlets that were high risk and ensuring they were allocated extra resource
- Engagement with staff members responsible for specific outlets around flushing protocols (Where flushing schedules were missed).

### Key Results

Through the implementation of Invisible Systems monitoring for Legionella, the facilities team at the Marlay were able to:

- Cut their WSMC Fees by around **50%**
- **Cut** outsourced Legionella Monitoring & water safety management control parameters, from **monthly monitoring** visits, to **quarterly** (sampling) & annual (tank cleans/TMV) only
- Better identify unused outlets, which allowed better in-house water safety management
- Optimise flushing protocols which helped staff to comply with **HTM-04-Part B**
- Identify exactly which outlets were flushed during the week, helping the team to reduce the risk significantly





### **Key takeaways**

#### **Through the Implementation of Invisible Systems monitoring for energy & Legionella, the Marlay Nursing Home was able to:**

- Grow it's value to shareholders whilst also offering a safer, more sustainable place for residents to live
- Position itself closer to it's core value of keeping residents safe
- Become a more cost effective and sustainable operation
- Position itself as a thought leader within the market
- Improve productivity amongst staff
- Create an environment that truly offered peace of mind to residents, family members and staff alike

“The implementation of **Invisible Systems** was a win win win for the residents, the staff & the shareholders of Marlay Nursing Home alike. It's been a hugely significant step forward for us as a Nursing home at all levels”.

For more information about how **Invisible Systems** might benefit your organisation, speak to our **Product Specialist** today.

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