

# Goole Leisure Centre: East Riding, United Kingdom

## Leisure Centre CHP Retrofit Project

*“DEIF’s DM 400 Gas provides us with better monitoring which reduces operating and maintenance costs.”*

Working with the East Riding of Yorkshire Council on a series of retrofits of CHP units, Heat and Power Services decided DEIF’s DM 400 Gas Engine Controller would provide the platform needed to deliver the savings and benefits required for these applications.

“The original CHP control systems were not user-friendly, with many of the parameters that would improve the operation or efficiency not accessible by the end user.” explains Stuart Bennett, Managing Director of Heat and Power Services Ltd. “As the DEIF DM 400 solution is so powerful and yet easy to operate, it allows us to adjust parameters to improve performance of the CHP and provides us with better monitoring which reduces operating and maintenance costs.”

The initial phase of the project required the retrofitting of the DEIF DM 400 Gas Controller to three different CHP units ranging from more than 10 years old with the most recent installation being 4 years old. There were three different engine types, Ford, Mercedes and MAN, and consequently each CHP unit was fitted with different equipment, had different electrical or thermal power outputs and each had different operating parameters.

The fact that each CHP was completely different was not an issue for the DEIF solution. The same configuration of DM 400 Gas controller hardware was able to be used for each of the three CHPs, providing Heat and Power Services and the East Riding of Yorkshire Council with the benefits of having a single, familiar operating system.

Using identical DM 400 Gas hardware with standardised input and output connections made it possible to remove existing equipment and complete installation and commissioning of the third engine in less than three days.

### Heat & Power Services Ltd.

Heat and Power Services Ltd, an independent company specialising in the supply, installation and maintenance of Combined Heat & Power (CHP) systems, has an enviable record for increasing the efficiency, reliability and energy savings for CHP plants.



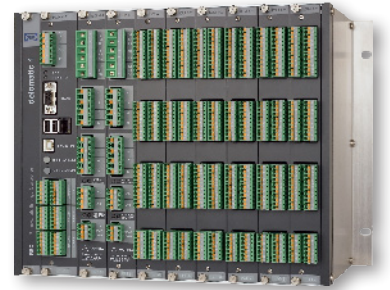
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### Data

- ✓ CHP performance optimisation
- ✓ User-friendly graphical display of system values and trending
- ✓ Standardised hardware regardless of original engine type
- ✓ Remote access capability for simplified maintenance and reporting
- ✓ Interaction with Building Management System and future plant
- ✓ Automatic power import/export control

### Product



Integrated Systems, DM 400 Gas

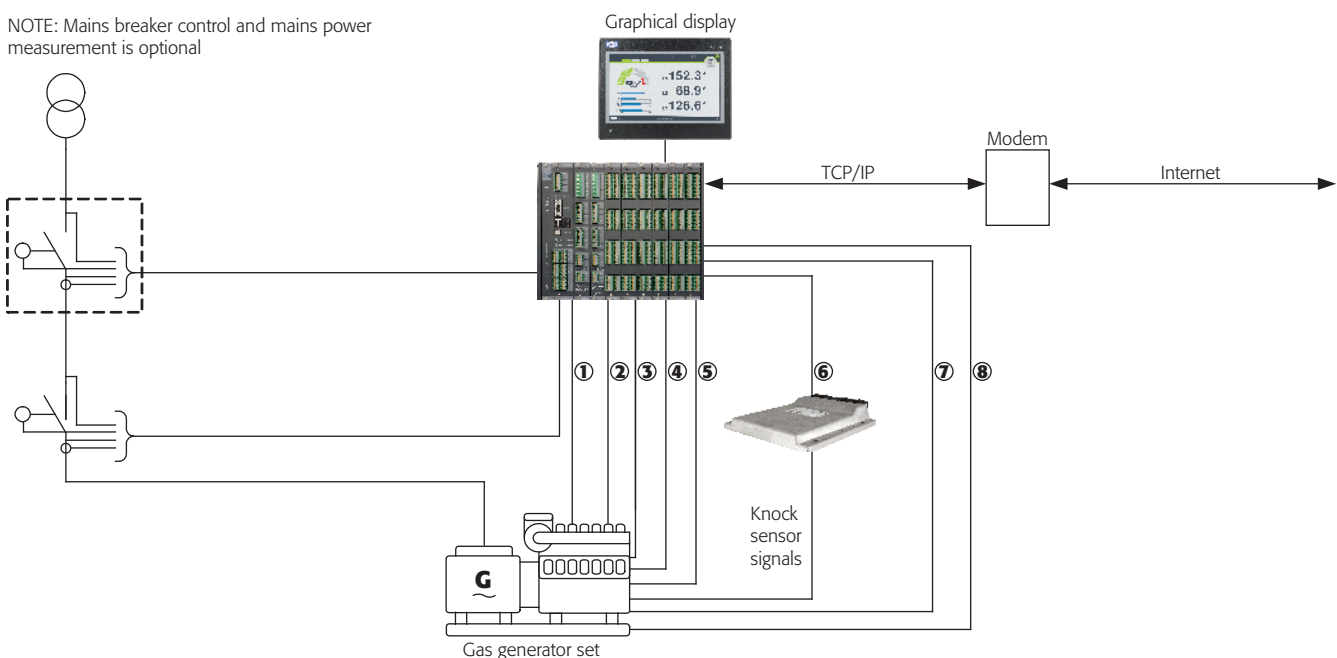
### The DEIF Solution

The DM 400 Gas Controller is able to provide greater amounts of data than the original control systems for the integration of the CHP unit with the wider Building Management System (BMS) within each leisure centre. This provides the end user with the potential of additional operational benefits should they wish to fully integrate the performance of the CHP units into the overall BMS.

The benefits of the DM 400 Gas Controller retrofit solution were proven within the first few weeks of operation with a representative of the East Riding of Yorkshire Council commenting that, "The CHPs never seemed to run well before the retrofit project and we are delighted with the operation of the new system as the CHPs run constantly now. This has reduced engineering call outs." This immediate operational improvement has resulted in Heat and Power Services and East Riding of Yorkshire Council opening discussions to install the same solution on other CHP units within their fleet.

### Case Diagram

NOTE: Mains breaker control and mains power measurement is optional



- ① AVR control
- ② Gas mixer control (analogue or stepper motor)

- ③ Gas leak control
- ④ Throttle control (analogue)

- ⑤ Ignition system
- ⑥ AKR 3 CAN J1939 communication

- ⑦ Pump control
- ⑧ Valve control