

## **Development of the Governor Remote Monitoring System**

Toho Gas Co., Ltd.  
Aichi Electric Co., Ltd.

Achieving the best mix of technology for the digitalization of governor pressure information and mobile phone communications, Toho Gas and Aichi Electric have developed the governor remote monitoring system jointly in order to radically improve governor maintenance and management efficiency and improve safety levels through 24-hour monitoring.

After regulations regarding the frequency of governor inspection patrols were relaxed in accordance with the revision of safety regulations in 1995, we sought an alternative approach to replace the collection of recording paper from the pressure gauge in the governor room. As a result, we developed a digital self-recording pressure gauge capable of recording long-term pressure data in digital form on a PC card and added a communications function making it possible to retrieve highly reliable data from the main office. In this way, we reduced the frequency of governor room inspection patrols from once a week to once a month.

Furthermore, in order to take full advantage of communications capabilities, a warning function for gas leaks, etc. and a local disaster response mode were added, and concentrated monitoring of governors is now possible in the vicinity of one's choice.

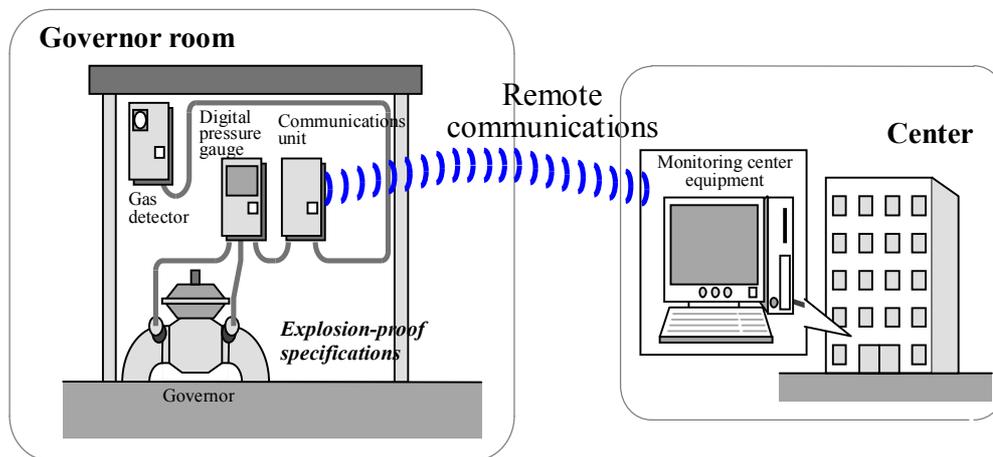
Furthermore, in order to cover areas where signals are weak, DoPa (a packet transmission type of data communications service) can now be used in addition to the standard PHS, increasing the area coverage to almost 100%.

Because this remote monitoring system requires absolutely no installation of power or communication lines, it can be installed for an initial cost of about JPY 300,000 as opposed to other remote monitoring systems that cost about JPY 1 million each. We have also reduced running costs through efficient circuit design, extending the lifespan to over half a year with batteries.

Another terminal has been provided for additional input to better understand conditions during emergencies such as floods, and alarms can be sent to the monitoring center in real-time.

The relay unit required for DoPa communications is installed outside the governor room, and either a mains power supply or a self-sufficient solar power system can be selected for operating power.

About 90 gas utility companies in Japan have installed the system, and a total of 8,200 systems have been installed.



### Outline of the System

Further information is available at the following URL:

[http://www.tohogas.co.jp/ir\\_eng/index.html](http://www.tohogas.co.jp/ir_eng/index.html)

For details of the R&D process for the governor remote monitoring system, please contact Hiroshi Sato at the Distribution Planning & Administration Department of Toho Gas

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