

# TPE Solves Impulse Line Heat Tracing Issue with Rosemount™ 3051S Electronic Remote Sensor (ERS)™ System

## RESULTS

- Eliminate need for daily system recommissioning and reconditioning to never lose sight of process
- Real-time monitoring enables accurate prediction of shutdown/maintenance to ensure continuous operation
- Labor cost savings for daily recommissioning work, steam tracing, and elimination of steam trap usage

## CUSTOMER

Thai Polyethylene Co. Ltd (TPE) is a subsidiary of SCG Chemicals manufacturing polyethylene and polypropylene resin. It was the very first company in SCG Chemicals which was established in 1983 to produce high, medium, and low density polyethylene. TPE has a reputation for excellence in product quality, management, and business operations. Its production facility is located at Eastern Industrial Estate of Thailand in Rayong Province.

## CHALLENGE

TPE uses a heat exchanger to remove heat from the reactor. In the old system, differential pressure transmitter legs connect between the inlet and outlet of the heat exchanger. The leg, also known as impulse line, contains process gas that flows to the differential pressure (DP) transmitter for measurement. The leg is wrapped with the steam tracing line to prevent condensation of the process gas in the legs.

The DP transmitter is used to predict the time to clean the heat exchanger (main heat exchanger in the process) where it consistently encounters challenges such as impulse line blockage due to the inefficiency of steam tracing and the opposite line of liquid injection material. As a result, the plant is not able to predict the right time to clean heat exchanger. Hence, the operator has to consume additional time to purge the impulse line by manually opening the block valve and then recommission the DP transmitter to get the right measurement daily.

## SOLUTION

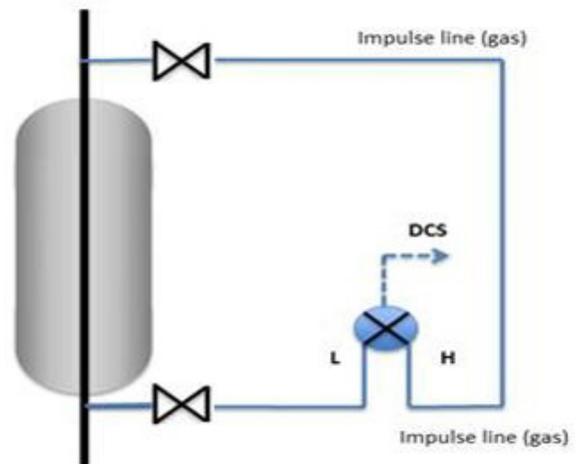
Emerson™ proposed the Rosemount ERS System to TPE to solve the problem. The system works by linking two Rosemount 3051S Pressure Sensors together electronically, offering important advantages over traditional installations that eliminates extensive impulse piping and



**“Rosemount ERS provides accurate measurement that eliminates the troublesome daily recommissioning of the heat exchanger measurement system! Now we never lose sight of the process.”**

*Process Engineer*

*Thai Polyethylene Co. Ltd*



Old system (with DP transmitter)

capillary. It obviates purge systems and heat tracing, plugging, and leak inspections required for impulse lines. Simultaneously, it provides stable and repeatable measurements while cutting response time by more than 90 percent. Its electronic architecture eliminates temperature-induced measurement drift. Hence, it helps TPE to improve measurement reliability and operational efficiency by enabling the plant to predict the time to clean the heat exchanger accurately. Ultimately, it helps TPE eliminate time consuming effort by the operator to recommission the transmitter every day.

Additionally, electrical wire between sensors can be easily installed around hazards. Each sensor can be independently serviced and replaced for reduced process downtime. Besides DP measurement, static pressure read by each sensor can be monitored in real-time. The ERS System is a best practice technology for tall vessels and towers and has been used with success on various applications such as holding tanks, reactors, distillation column and fermentation vessels.

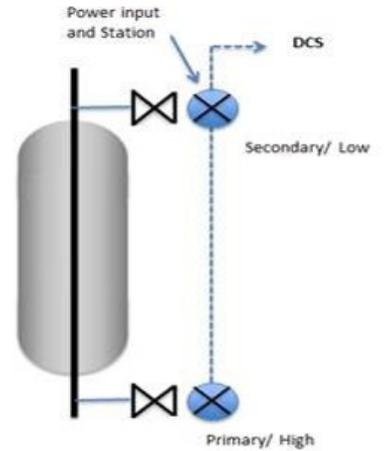
**RESOURCES**

**Emerson Chemical Industry**

[Emerson.com/Industries/Chemical](http://Emerson.com/Industries/Chemical)

**Rosemount 3051S ERS System**

[Emerson.com/Rosemount/Pressure/3051S-ERS](http://Emerson.com/Rosemount/Pressure/3051S-ERS)



*New system (Rosemount 3051S ERS System)*

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