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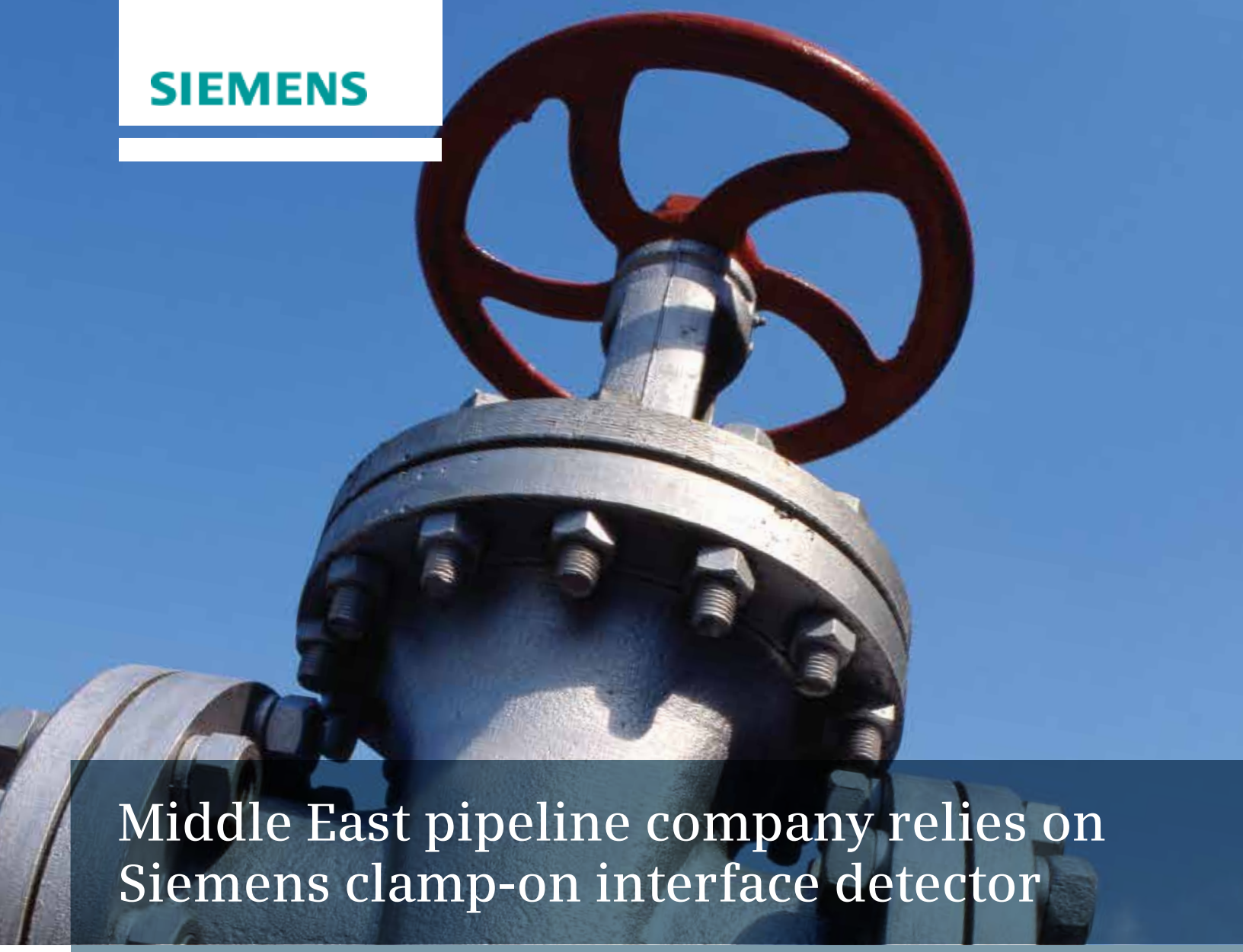

Middle East pipeline company relies on Siemens clamp-on interface detector

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Situation

A leading corporation for oil products in the Middle East provides a full spectrum of infrastructure services, from supply, storage and piping of fuel, as well as handling crude oil and refined products.

Challenge

The customer's pipeline includes several valve clusters which are managed from the main control room. The position of the valves in the clusters is used to determine the transportation of the product to the required destination. It is very important that the product is sent to the correct destination. If not, a mix of different products could have a negative impact in the final quality of the product and result in economic loses, and lead to a dangerous environmental situation.

The customer needs confirmation that whenever there is a change in the valve position, the right fluid is conveyed in the right direction. They require a process instrument that can actually identify the fluid running in the pipeline. Moreover, because all of the customer's end users are operating 24 hours per day, it is not possible to make any mechanical changes in the pipeline network or shut down the process to stop the flow. The customer requested a solution that would consider those operating restrictions and still be able to determine what product was running in the pipeline. They also want to know the specific gravity of the fluids in the pipe.

Solution

The SITRANS FUH1010 clamp on interface detector is the perfect solution. Siemens supplied a dual channel SITRANS FUH1010 instrument with each channel monitoring a different branch of the pipeline. Therefore, it is possible to monitor two different pipelines with one instrument at the same time. The SITRANS FUH1010 interface detector was programmed with the parameters of the specific products transported by the customer, including product name (gasoline, kerosene, diesel oil, etc) and expected range of density. In addition, the instrument was supplied with a modbus communication module which is connected to the main control room. Both at the control room and locally in the transmitter display, there is a continuous reading of the fluid's specific gravity and product name.

Even if operating conditions such as pressure, temperature and flow velocity are constantly changing, the SITRANS FUH1010 instrument is compensating the measurement and continuously providing the customer with accurate readings, even during no-flow conditions (with pipelines full of product). Now, with one process instrument, the customer can monitor simultaneously two different pipelines and monitor liquid density independently in both pipelines. This results in a direct replacement for intrusive densitometers. The SITRANS FUH1010 interface detector performs with exceptional repeatability, independent of changes in temperature, pressure or viscosity. There is no need for straight pipe runs up or downstream sensor installation, which makes it an ideal solution in valve clusters where pipeline configuration and layouts can be extremely complicated with turbulent flow.

The installation and commissioning of the SITRANS FUH1010 interface detector was done under normal operating conditions without a need to shut down the process or stop the flow at any time.

The customer's process reliability has been improved because they can now monitor the readings from the main control room and see which product is flowing in each direction of the pipeline. There is no need to estimate flow rate and flow speed in order to make the proper changes at the valve clusters. Therefore, quality of the finished product delivered to the end users is guaranteed and monitored at every step of the process.

A unique feature of the SITRANS FUH1010 interface detector is its capability of outputting the specific gravity of the fluid. This makes it the ideal solution not only for identifying the type of fluid but also to measure the quality of the fluid in terms of density specifications.

The SITRANS FUH1010 interface detector gives:

- Precise identification of interfaces on multi-liquid pipelines
- Product identification
- Density indication

Advantages:

- Siemens global network: Siemens extensive coverage means you get sales and support when and where you need it.
- Easy Installation: Allows direct replacement of intrusive
- densitometers with liquid density and API number outputs
- Reliable Measurement: Maintains exceptional repeatability independent of changes in temperature, density or viscosity
- Saves on Installation Costs: Eliminates straight run piping requirements. Clamp-on design means there is no need to cut into pipe.
- Reduces Capital Costs: offers density output, alleviating the need for any additional equipment.

About the SITRANS FUH1010 Flowmeter

The SITRANS FUH1010 clamp-on, non-intrusive ultrasonic interface detector is ideal for hydrocarbon applications that require differentiation between various liquids in a pipeline and determination of liquid quality.

Application examples include interface detection, product identification and density indication.

Siemens Industry, Inc.
Industry Automation Division
CoC Ultrasonic Flow
HAUPPAUGE, NY, USA

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