

Virtual Metering

Publieke samenvatting / Public summary

Aanleiding

The concept behind this idea was that in downward and upward flow, the slip between gas and liquid is different. Therefore, by measuring the pressure drop in two legs (without too much friction) the hold-up could be evaluated. In upward flow there is often churn/slugging whereas in the downward flow there is a falling film flow.

Doelstelling

To evaluate different methods for virtually metering liquid rates in gas wells and topside piping at gas well producers.

Korte omschrijving

This project evaluated different methods for virtually metering liquid rates in gas wells and topside piping at gas well producers. Specifically, it focused on three activities: the experimental evaluation of pressure drop measurements in a U-bend, choke noise and artificial neural networks (ANN). The U-bend and choke noise components were extended and partly combined during the study to include pipe vibrations. The overall conclusions were that U-bend pressure drop and choke noise were unsuitable for back allocation and virtual metering, while pipe vibrations were likely usable but would still require some calibration effort. ANN would be very usable in both steady and non-steady conditions.

Resultaat

The overall conclusions were that U-bend pressure drop and choke noise were unsuitable for back allocation and virtual metering, while pipe vibrations

Projectinformatie / Project information

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Algemene informatie / General information

Penvoerder / Secretariat

TNO

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De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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