Atmos GMS

Easy to use web-based gas management system for transmission companies

The challenge

It is essential that pipeline operators know that the amount of gas being transported in their pipeline will meet the anticipated demand, while ensuring that the companies shipping inventoried product in their pipeline are accurately billed. With multiple gas batches traveling within the line with differing owners, it can be incredibly challenging and time consuming to accurately monitor these activities.

A gas management system should:

- **Forecast shipment volumes accurately**
- **Allow for simple and precise billing**
- **Be customizable to the operator and transporter's needs**
- **Interface easily with other systems**
- **Be accessible**

Main features

Communicating future gas use from shippers to transporters and analyzing viability

- Pipeline specifications and contractual limitations can be easily edited from the website by the transporter

- Custom forecast limitation calculations can be created for a particular system's requirements

- Forecasts can be exported and run through Atmos SIM in order to make a more accurate estimation of pipeline hydraulic limitations

- Prioritize certain shippers as uninterruptible so that their forecasted gas shipments are only changed if pipeline limitations cannot be maintained

- Multiple forecast periods can be set up within the same system

Stock monitoring and billing

- Billing rates and billing thresholds can be easily edited from the website by the transporter

- Gas allocation can be done by shipper specific metering or proportionally between shared meters

- Custom billing calculations can be created for a particular system's requirements

Report generation and distribution

- Report template editing via the website using a user friendly XML format

- Report templates can be edited without restarting the system or changing historic reports

Other features

- Password protected website with multiple levels of user access meaning that the system is available to all pipeline stakeholders including transporter, shippers, station operators, and auditors

Shipper forecast entry screen

Pipeline configuration screen

- **Multi-lingual system**
- **Encrypted database to protect sensitive material, such as billing information**
- **Historic data editing is available to the transporter on the website to prevent the user from having to make changes in the database directly**
- **Atmos GMS recalculates unedited values after any historic data has been changed**

What is Atmos GMS?

Atmos GMS is a gas management system (GMS) providing administrative and communication support between the pipeline operator (transporter) and the pipeline stake holders (shippers, station operators and auditors) within three key areas:

1. Shipping forecasts

2. Gas allocation

3. Report generation

Forecasting

Atmos GMS takes in user inputs via the website from parties shipping gas within the pipeline regarding how much gas they intend to transport. It also takes inputs from the transporter about how much fuel gas they expect to use. The inputs are then compared to pipeline and contractual limitations by Atmos GMS in order to determine if the forecast is feasible. If the forecast is not feasible within the pipeline and contractual limitations then Atmos GMS will revise the forecast to the closest possible

values to what was entered. Any changed values are then reported as events in the GMS which can be sent out as automated emails to the relevant parties.

Gas allocation

Atmos GMS is connected to the live pipeline data which allows it to estimate how much gas belongs to each shipper. The user has the ability to adjust these values in case there is a discrepancy in the data. The gas allocations are used by Atmos GMS to calculate billing for each shipper. The billing is done by customizable billing formula that is adjusted for each shipper and changed if billing agreements change.

Reporting

Atmos GMS creates reports automatically using the data within it. These reports include shipper forecasts, shipper stock, gas allocations, and billing. The reports are made available to the system users via the website.

Data source

Data can be manually entered into the system by shippers and transporters from the website

OPC based data are collected via the SCADA system to obtain live pipeline data

System outputs
- **Shipper forecasts [within the web interface]**
- **Shipper stock [within the web interface]**
- **Gas allocations [within the web interface]**
- **Bills [within the web interface]**
- **Reports on any of the above [PDF]**

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About Atmos International

Atmos International (Atmos) provides pipeline leak detection and simulation technology to the oil, gas, water and associated industries. The company was founded in 1995 in the UK by the inventor of the statistical pipeline leak detection system – Atmos Pipe, now one of a suite of leak and theft detection solutions from Atmos. These technologies are implemented on hundreds of pipelines in over 50 countries, including major oil and gas companies such as Shell, BP, ExxonMobil, and Total. With associated offices in the USA, China, Russia, Singapore and Costa Rica, and local agents in 28 countries, the multi-cultural and multilingual team can provide effective support all over the world.

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