

Agenda for 2010 Conference

Tuesday, May 11, 2010

#	Day	When	Author(s)	Affiliation	Title
		6:00 – 7:30			Ice Breaker & Registration Opens

Agenda for 2010 Conference

Wednesday, May 12, 2010

#	Day	When	Author(s)	Affiliation	Title
		8:00 – 12:00			Technology Showcase
		10:00			Registration Starts & Exhibits Open
		12:00 – 1:30			Lunch & Conference Start
		12:00 – 12:15			Welcome Address
		12:15 – 1:15			General Introductions Pipeline Simulation Solutions Providers Commercial Session
		1:15 – 1:30			Break
		1:30 – 3:30	Jerry Modisette Ed Nicholas Henry Rachford	Consultant Consultant GL Noble Denton	Panel Session Pipeline Simulation – Where is the Future? A panel discussion of pipeline simulation in the future.
		3:30 – 3:45			Break
1001	Wednesday	3:45 – 4:30	Gustavo Passos Elias Sergio Alexandre Mendonça Lacerda	TRANSPORTADORA BRASILEIRA GASODUTO BOLÍVIA BRASIL	The Use of Pipeline Simulation to Analyze the Effects of A Gas Pipeline Rupture One of the most significant issues for pipeline hydraulic models is to match the model results to the operating data. In an existing pipeline network this “tuning” is carried out by comparing the measured variables and those obtained by making calculations under different operating conditions. This paper uses a rupture data, measured from SCADA system, to compare these values to results obtained from a simulation analysis.
1002	Wednesday	4:30 – 5:15	Jerry L. Modisette Jason P. Modisette	Consultant ATMOS International, Inc	Two-Dimensional Effects in Viscous Flow in Pipelines The cooling at the wall of a viscous liquid flowing in a pipeline produces a distorted velocity distribution across the pipe, so that the usual one-dimensional approach to the flow does not adequately describe what’s happening. The much higher velocity in the center produces frictional heating and more convection of heat from upstream, increasing the distortion to the extent that in some conditions, based on the relative Reynolds number, there can be a hot turbulent core flowing through a surrounding cold laminar boundary. In effect, the pipeline decreases its effective diameter. These effects can also increase the distance it takes for the liquid to reach steady state conditions after entering the pipe.

Agenda for 2010 Conference

#	Day	When	Author(s)	Affiliation	Title

Agenda for 2010 Conference

Thursday, May 13, 2010

		8:00	Conference Start		
1003	Thursday	8:00 – 8:45	Diana Gonzalez René L. Varon Jakob Buchert Juan Unriza Luis Eljach	ECOPETROL S.A., Colombia Energy Solutions International Inc. USA	<p style="text-align: center;">Real Time Modeling System Supporting Pipeline Management and Field Operations</p> <p>This paper describes in detail the key experiences of a well-established Oil & Gas company in Latin America related to the implementation and evolution of a Pipeline Advanced Application project; how these applications have helped the organization to improve the knowledge of its own networks, and how they have provided a solid foundation to manage the critical problem of product theft in their pipelines. The paper is supported by field data gathered by Ecopetrol that describes the evolution and performance of the application as well as the overall performance achieved.</p>
1004	Thursday	8:45– 9:30	Mark Malinowski Kevin Nelson Shawn Smith	TransCanada Telvent	<p style="text-align: center;">Developing and Implementing a ‘Full Scope’ Operator Trainer Simulator for the TransCanada Keystone Pipeline</p> <p>This paper discusses the development of full scope training environments: hydraulic pipeline simulation, SCADA system, on-line liquid applications and simulated pipeline controls. The presentation will address the use of full scale simulators for pipeline development, automation development and on-line application integration.</p>
		9:30 – 10:00	Break		
1005	Thursday	10:00 – 10:45	Ivor R. Ellul	Knowledge Reservoir	<p style="text-align: center;">Dynamic Multiphase Simulation – The State of Play</p> <p>The paper aims at presenting the current technology that is available to the pipeline engineer to design pipelines that will, be operated under multiphase flowing conditions. It will attempt to provide a roadmap of what technology to use to address the various challenges of hydrodynamic as well as thermo-chemical flow assurance. In particular, phenomena will be addressed that include wax deposition, hydrate and asphaltene formation, terrain induced and severe slugging. Two-phase and three-phase transport will also be addressed.</p>
1006	Thursday	10:45 – 11:30	Mary Goodreau Sanjay Yadav	GL Noble Denton	<p style="text-align: center;">Power or DRA? What is the Optimum?</p> <p>The changing regulatory market and the interest in reducing</p>

Agenda for 2010 Conference

					energy needs along with the high price of power in many locations, has prompted the need for operational optimization of liquid pipeline systems. Pipeline optimization is a complex problem that involves tradeoffs between using Drag Reducing Agents (DRAs), electric power and other fuels. These tradeoffs are difficult to analyze because of the effects of electric power rate structure and various operational constraints. This paper will discuss these tradeoffs and present a case study to show the cost savings achieved with an operational tool that incorporates these tradeoffs.
		11:30 – 1:00			Lunch & Chairman's Session
1007	Thursday	1:00 – 1:45	Laure Sinègre Eglantine Flottes Nicolas Omont Arnaud Renaud Christophe André	GDF SUEZ Artelys GRTgaz	<p style="text-align: center;">Making Investment Decisions on the French Main Gas Transmission Network : Relevant Use of Optimization</p> <p>This paper deals with the optimal-reinforcement-design problem on a meshed gas transportation network. The question is to determine the correct role of optimization in the resolution of such problems. Thanks to the analysis of simple network cases, structural difficulties in the implementation of optimization tools are pointed out. Furthermore, highlights of the errors made in cost evaluations lead to questioning the notion of "optimality" itself. Giving up the search of unique optimal solution, we show that a decision-helping tool proposing a set of relevant solutions and relying on optimization can be of great benefit for the project design engineers.</p>
1008	Thursday	1:45 – 2:30	Don Schroeder	GL Noble Denton	<p style="text-align: center;">The Use of Efficiency as a Tuning Parameter</p> <p>The use of an efficiency factor to make pipe equations match physical reality fell into some disrepute and was deemed unnecessary by some when sound theoretical equations for pipe flow began to replace the older empirical ones. Efficiency, however, is of more use than just fixing bad equations as it also is useful in adjusting specific pipes for problems and considering operational issues. This paper explores the concept of pipe efficiency, its effect on flow equations, and its value as a calibration tool as opposed to relative roughness. Along the way some concepts regarding system design in the face of load variance within a day are also discussed. Also some considerations with using the Panhandle equations that have been lost over time are mentioned.</p>

Agenda for 2010 Conference

		2:30 – 3:00			Break
1009	Thursday	3:00 – 3:45	Mahmood Al-Rasheed Austin Brell Saleh Al-Qaffas Mohammed Al-Marri	Saudi Aramco	<p>Pipeline Rupture Consequences Mitigation Comprehensive Study</p> <p>This paper focuses on improving PL safety by providing a methodology for detecting, locating rupture and reducing emergency response time. This presentation will discuss current pipeline operation emergency response plan and highlight area of improvements to reduce response time. Detailed study outcomes and recommendations will be provided to mitigate the harmful Consequences of a pipeline Rupture by MINIMIZING TIME to ISOLATE Ruptured Pipeline.</p>
1010	Thursday	3:45 – 4:30	Andrzej J. Osiadacz Maciej Chaczykowski	Warsaw University of Technology	<p>Verification of Transient Gas Flow Simulation Model</p> <p>This paper discusses a verification of pipeline gas flow model. The effect of pipeline thermal model and the accuracy of compressibility factor and friction factor calculations is investigated. The predictions from the numerical solution are compared to the field data from the Yamal-Europe pipeline.</p>
		6:00 – 7:30			Reception

Agenda for 2010 Conference

Friday, May 14, 2010

		8:00	Start		
1011	Friday	8:00 – 8:45	Richard Carter Martin Reisner Erwin Sekirnjak	GL Noble Denton, OMV Gas, ADES	<p>Transient Optimization – When is it Useful, When is it Not?</p> <p>This paper reviews projected uses of transient optimization, with examples. The intent is not to promote particular approaches, but to spark discussion among potential users of the technology on the types of transient optimization solutions they need or don't need, and why.</p>
1012	Friday	8:45 – 9:30	Jon Barley Greg Morrow	Energy Solutions International	<p>Controlling Complex Development Through Problem Domain Reduction: A Case Study</p> <p>This paper discusses a strategic approach to problem solving and its application to complex situations. The strategy is termed “problem domain reduction” and has been successfully applied to the development and testing of a simulator for modeling slack line flow for use in an on-line leak detection system.</p>
1013	Friday	9:30 – 10:15	Anton B. Tmur	Energoavtomatika, Ltd	<p>Quasi-Linearization Method for State Estimation Problems</p> <p>In this paper the pipeline state estimation problem is posed and considered for a simple pipeline system. The mathematical model of the considered pipeline is formulated. It contains the simplified Navie-Stokes equations for the interior points of the pipe, and two boundary conditions for the fluid flow through the pump and valve. The main principles of the difference scheme for solving these model equations are described. The iterative quasi-linearization method is proposed. The state estimation procedure is built on the basis of quasi-linearized model. Some results of numerical experiments are given.</p>
		10:15 – 10:30	Break		
1014	Friday	10:30 – 11:15	Jan Willem Turkstra, Robert van der Geest	KEMA	<p>A Route Planner for Gas Transport Through the Netherlands</p> <p>This paper provides an update on the development of an on-line model-based decision support tool, also known as the “route planner for gas transport”. The route planner is an on-line tool that advises dispatchers on how to minimise operational costs while maintaining security of supply. The tool consists of a model of the Dutch gas transport network</p>

Agenda for 2010 Conference

					that can be loaded with actual network status and forecasts for upcoming 24 hours. The output is the cost optimal use of compression, nitrogen ballasting and supply flexibility for network balancing i.e. the most cost effective route gas can take through the Gasunie network to meet end-user demand.
1015	Friday	11:15 – 12:00	Augusto Garcia-Hernandez Thomas Moore	Southwest Research Institute	<p align="center">Modeling and Simulation Transient Analysis Case Study of a Liquids Gathering System</p> <p>This paper presents a case study of a pipeline system installed from a gathering station to a dehydration plant. The main focus of the studied was to analyze a possible water hammer effect in the pipeline system that would induce multiples pipe breaks along the entire pipeline. The presentation will cover a field data collection task, data analysis, pipeline modeling and results. Results have indicated an unexpected failure mode for this particular system. So, it is presented and discussed as well.</p>
		12:00			Conference Close