Agenda for 2009 Conference

Tuesday, May 12, 2009

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

Wednesday, May 13, 2009

#	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			Pipeline Simulation Solutions Providers Commercial Session
					Tutorial Workshop
09A1	Wednesday	1:30 – 2:15	Paul Dickerson	Energy Solutions International	Pipeline Modeling: Getting the Right Data and Getting the Data Right. This paper cuts through the important and the superfluous in the construction of pipeline models. The effects of data variation and selection of equations are discussed, and "universal" parameters are investigated under both steady-state and transient conditions.
09A2	Wednesday	2:15 – 3:00	James M Gregg, Thomas L. Rey, Jen Jo Wang	Gregg Engineering	Constructing a Well-Engineered Simulation Model This tutorial session discusses a systematic approach to building a well balanced pipeline model. The presentation will describe a step-by-step method for constructing a stable pipeline network simulation model. Explanation on local isolations, control conflicts, and pitfalls to avoid while building and setting up a good model will also be explored. The audience will be encouraged to participate in this dialogue as it pertains to gathering, distribution, and transmission systems.
		3:00 – 3:30			**Break**
09A3	Wednesday	3:30 – 4:15	Martin Styblo, Zdenek Vostry	Simone Research Group	Gas Network Simulation and Uncertainty of Pipe Leg Surrounding Parameters Users of simulation packages are interested rather in accuracy of simulated scenarios then in precise description of heat dynamics phenomenon. We shall discuss impact of the

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					surroundings' parameters of the heat exchange model (geometry, heat conductivity, heat capacity and density, and far soil temperature) on the results that are usually considered by the users as a measure of accuracy, as their uncertainty is usually very high. A case study will be presented, illustrating the influence of heat transfer parameters in situations mostly met in practical tasks (steady-state and transient ones). The aim is to bring reasonable engineering guidelines how to cope with this uncertainty.
09A4	Wednesday	4:15 – 5:00	Fred Odom Gordon L. Muster	GTC Consulting El Paso Corporation	Tutorial on Modeling of Gas Turbine driven Centrifugal Compressors This paper describes the fundamental performance of gas turbines and centrifugal compressors and how to model them for pipeline simulations. Presented in this paper is a straightforward, simple and accurate method of modeling turbomachinery performance, which is not specific to any manufacturer's performance curve format, is easily input into your pipeline simulation model and includes factors for contamination and degradation to more realistically predict the performance. And, this paper also presents a template model of a gas turbine driven centrifugal compressor, which will accept curve-fit coefficients of your turbomachinery to simulate it in your pipeline simulation software.
				Liquid and Multiphase Systems	
09B1	Wednesday	1:30 – 2:15	Jianzhi Ge, Mahmood A. Rasheed	Saudi Aramco	Wet Gas Pipeline Liquid Holdup and Pressure Calculation by Different Calculation Methods Using a typical hilly terrain, this paper presents the calculation results for wet gas pipeline liquid holdup and pressure from OLGA and PipePhase. Different water and condensate loading amounts are considered. Gas flowrate is varied and different calculation methods (Beggs-Brill, Eaton, OLGA 2P, OLGA 3P, etc.) in PipePhase are used.
09B2	Wednesday	2:15 – 3:00	Augusto Garcia-Hernandez Dr. Klaus Brun Alfredo Ramos Aparicio	Southwest Research Institute CIATEQ, A.C.	Case Study of Liquids Drop-Out in a Natural Gas Pipeline Network This paper provides a methodology on how to determine the possible hydrocarbon liquid drop-out in a pipeline network by combining a modeling tool with mathematical calculations. In addition, results for a case study are presented and discussed. It will also provide a solution for predicting liquids accumulation to improve the general operation of the pipeline

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					by minimizing maintenance and operational costs.
		3:00 – 3:30			**Break**
09B3	Wednesday	3:30 – 4:15	Tom Hill	Advantica	How to fabricate reasonable and useful performance curves for a centrifugal pump based on a single operating point at BEP This paper identifies procedures which can be used to quantify reasonable and useful data arrays for head versus flow, efficiency versus flow, and BHP versus flow of a centrifugal pump for use in hydraulic simulation models. Data arrays for positive pump head, efficiency, and BHP versus flow can be fabricated reasonably well using statistical correlations based on a large collection of such data for various types of centrifugal pumps. This paper provides details of those performance correlations, with discussion of their applicability and limitations.
09B4	Wednesday	4:15 – 5:00	Lisa Callaghan and John Anderton	Energy Solutions International Inc.	Why Go to Paradise When You Can Stay in Stockton? This paper discusses the installation and testing of an off-the-shelf model based leak detection system. The presentation discussed how the solution provided a flexible solution and used advanced tools to identify optimum leak detection performance. Further, it describes the benefits and pitfalls of a globally diverse team.

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Thursday, May 14, 2009

		8:00			**Conference Start**
0901	Thursday	8:00 – 8:45	Joakim Ramsen Svein-Erik Losnegård Leif Idar Langelandsvik Willy Postvoll Are J. Simonsen	Polytec R&D Foundation Gassco AS Dynavec AS	Important Aspects of Gas Temperature Modeling in Long Subsea Pipelines This paper focuses on heat transfer modeling, and how this affects the modeled gas temperature in long subsea pipelines. Total heat transfer coefficients for different conditions have been studied, and the most important parameters associated with this coefficient have been identified. An analytical model has been used to calculate the total heat transfer coefficient when the pipeline is partially buried.
0902	Thursday	8:45– 9:30	Antonius Aris Sudjatmiko, Adam Bawono Andrew Liddell Einac van Meurs Jun Zhang	PGN ATMOS International	The Integrated Application of Pipeline Models and Gas Management Systems to Gas Transmission Networks This paper addresses gas nominations and allocations in gas transmission networks. An integrated system of nominations and on-line simulation will be described, followed by a demonstration.
		9:30 – 10:00			**Break**
0903	Thursday	10:00 – 10:45	Henry Rachford, Richard Carter, Todd Dupont	Advantica	Using Optimization in Transient Gas Transmission Optimization for real time support requires rapid, accurate determination of the current pipeline system state, i.e., the flow and pressure by milepost. In the past, on-demand availability of a current state for launching forward simulations has often been compromised by one or more SCADA outages. This paper presents new work which uses optimization to determine an accurate pipeline state in a few minutes requiring only the most recent ½-hour's SCADA history; we show by example that this functionality is effective even if some of the data are bad or missing.
0904	Thursday	10:45 – 11:30	Tom van der Hoeven	GasTerra	Network Simulation of Transmission and Distribution Systems. Stationary simulation of a network is actually finding a solution within constraints. If there is more than one solution one should take the best one. This presentation shows the relations and the constraints. A demo will be gives to show

					the principles.
		11:30 – 1:00			**Lunch & Chairman's Session**
~~0905~~	~~Thursday~~	~~1:00 – 1:45~~	~~Nghia Truong~~	~~Westnet Energy~~	~~The Challenge of Modeling a Probabilistic Pipeline~~ ~~This paper discusses the challenges in simulating a natural gas pipeline with services defined by probability of supply interruption limits and capacities contracted~~ ~~by level of service or "firmness". These types of services require a different flow modeling approach – it is necessary to simulate thousands of steady state runs with different configurations of compressor units on/off in order to derive the capacity~~ ~~of each service level.~~ ~~This presentation will discuss the challenges and difficulties in setting up and integrating the flow model within Microsoft Excel for "unattended" background simulation and processing; and the practical experience required in making this model work for this pipeline.~~
0906	Thursday	1:45 – 2:30	Sidney P. Santos	Petrobras Gas & Energy	Monte Carlo Simulation – A Key for a Feasible Gas Pipeline Design This paper presents a case study that proves Monte Carlo Simulation to be of fundamental importance in gas pipeline design in conjunction with thermo-hydraulic simulation and feasibility studies. Contractual firm transmission capacity is fully dependant of this type of analysis that provides a risk mitigation approach that supports sustainable projects
0907	Thursday	2:30 – 3:15	Günter Wagner, Zdeněk Vostrý	LIWACOM, Simone Research Group	Temperature Issues in Gas Transmission Transport capacity and operating costs are key performance indicators for a gas transmission system. Gas temperature impacts on both of these indicators. This paper assesses the significance of the relevant temperature effects on transport capacity and operating costs."
		3:15 – 3:45			**Break**
0908	Thursday	3:45 – 4:30	Clay Noble, Michael L. Istre	Targa Resources, Inc., Gregg Engineering	Integrating GIS with Pipeline Simulation Software For a while energy companies, including gas gatherers, and transmission and distribution companies have been using pipeline simulation to design and operate pipeline systems. Recently they have also begun using Geographic Information Systems (GIS) to make maps, meet regulatory requirements, and as a business development and planning tool. Because GIS and pipeline simulation software have similar characteristics and use similar data these companies have begun integrating the two. This paper discusses the issues and experiences of creating pipeline simulation models from GIS

					and displaying the results in GIS.
~~0909~~	~~Thursday~~	~~4:30 – 5:15~~	~~Hasrul Nizal Hanafi~~ ~~M Adid Salleh~~	~~PETRONAS GAS~~	~~Utilizing Hydraulic Simulation for Effective Planning and Shutdown Coordination~~ ~~This paper discusses improvements made in terms of optimizing shutdown time and estimating survival time by utilizing hydraulic simulation application. The presentation will discuss the implementation of the application within Gas Control, the challenge faced throughout the process, as well as sharing the actual results.~~
		6:00 – 7:30			**Reception (including PSIG Retro)**

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Friday, May 15, 2009

		8:30			Start
0910	Friday	8:30 – 9:15	Jan Willem Turkstra, Bert Kiewiet, and Robert van der Geest	N.V. Nederlandse Gasunie	A Route Planner for Gas Transport Through the Netherlands This paper discusses 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 to minimise operational cost while maintaining security of supply. A model of the gas transport network in The Netherlands is configured and subsequently optimised with CPLEX solver algoritms within a few seconds. Key functionality of the route planner is a new pre-processor to translate a complex, non-linear optimization problem into an LP problem. During the session a live presentation of the functional prototype of the route planner will be given.
0911	Friday	9:15 – 10:00	Jason Modisette	ATMOS International, Inc.	State Estimation in Online Models This paper discusses several approaches to making the best use of the full set of available measurements to drive an online pipe model: a maximum-likelihood estimate run on each timestep individually, a Kalman filter which includes the evolution of the system over time, the Equal Error Fractions approach, and a simple pressure-boundary-based scheme. Implementations of these different approaches will be compared for simple slingshot gas and liquid pipelines in the presence of various sorts of instrument error.
		10:00 – 10:30			Break
0912	Friday	10:30 – 11:15	María Dolores Varela Pereira, Rafael Noguerol, Juan Seriñá	ENAGAS, Energy Solutions International	A Step Forward: An Effort to Automate the Search for a Better Place. A Modeling Experience This paper is the result of a test case that evaluated various options to obtain economical solutions for the daily operation planning for the Enagas pipeline network in Spain. The exercise involved the building of a set of spreadsheet-based models, the automation, and the evaluation of more advanced techniques in search for optimal solutions. The paper establishes the framework for the possible implementation of a transportation decision support tool using the described techniques in combination with real time and predictive models.

0913	Friday	11:15 – 12:00	Rainer Kurz, Robert C. White	Solar Turbines, Inc.	Modeling Emergency Shutdowns of Centrifugal Compressors Emergency shutdowns in compressor stations cause fast transients in the operating conditions. The paper and presentation will address the physics of compressor surge , as well as the physics that have to be modeled to describe the system behavior during these fast transients. Sample calculations are presented.
		12:00			**Conference Close**