



Sixteenth International Conference & Exhibition on Liquefied Natural Gas 18 – 21 April 2010

PROGRAMME AGENDA

Paper Session 1: The Market Outlook for LNG after the Global Recession
Sunday 18 April 2010, 14:45-17:45, Auditorium

Chair: Guy Broggi, Head of LNG Supply, LNG Division, Total Gas & Power
Vice-Chairs: Takashi Kuroko, Vice-President, Global Gas Unit, Natural Gas Business Division B, Mitsubishi Corporation
 William E. Hauhe, General Manager, Angola LNG Supply Services

	Title & Authors	Presenter
PS1-1	An Approach for Adapting Gas Marketing Strategies to the Evolution of Markets and to Ensure Supply and Demand Securities <i>Dr. Chawki Mohamed Rahal (Sonatrach)</i>	Dr. Chawki Mohamed Rahal
PS1-2	Natural Gas: Essential in the Global Energy Mix <i>De La Rey Venter (Shell Upstream International)</i>	De La Rey Venter
PS1-3	Sustaining Gas and LNG Growth Through Economic Cycles: How Should Producers Adjust Their Forecasting Tools? <i>François Ravel (Total S.A.)</i>	François Ravel
PS1-4	The Role of the US in a Globalizing Industry <i>Betsy Spomer and Andrew Walker (BG Group)</i>	Betsy Spomer
PS1-5	Moving Forward After a Year of Historic Achievements in the LNG Industry <i>Ahmed Al Klulaifi and Marcellus Catalano (Qatargas Operating Company Ltd)</i>	Ahmed Al Klulaifi
PS1-6	Evolution of the LNG market in a Context of Global Crisis and Rising LNG Production <i>Philip Olivier (GDF Suez)</i>	Philip Olivier
PS1-7	Can the Emerging Asian Markets Save the LNG Market? <i>Fereidun Fesharaki, Shahriar Fesharaki, and Alexis Aik (Facts Global Energy)</i>	Fereidun Fesharaki

Paper Session 2: Floating and Other Unconventional LNG Sources – The Future?

Monday 19 April 2010, 09:00-12:00, Auditorium

Chair: Anthony Acton, ActOn LNG Consulting
Vice-Chairs: Max Nussbaum, LNG Development Manager, Gaz de France Exploration and Production Division
Masayuki Hirabayashi, Business Development Manager, LNG Terminal & Power Generation Business Unit, Osaka Gas Co., Ltd.

	Title & Authors	Presenter
PS2-1	An Unconventional Future for LNG Supply? <i>Frank Harris, Andrew Pearson, Andrew McManus, and Gavin Law (Wood Mackenzie)</i>	Frank Harris
PS2-2	Development of Large Offshore Gas Fields Using Multiple LNG FPSOs <i>Fredrik Savio, Nicholas Jones and Jostein Ueland, and (Flex LNG Management Ltd)</i>	Fredrik Savio
PS2-3	Floating LNG: Shell's recent History and Current Approach <i>Neil Gilmour and Damian Deveney (Shell Upstream International)</i>	Neil Gilmour
PS2-4	FLNG—Determining the Technical and Commercial Boundaries <i>Christopher Caswell, Charles Durr, and Mark Kilcran (KBR)</i>	Christopher Caswell
PS2-5	Unconventional Gas: Good And Bad News For Global LNG <i>Daryl Houghton, (Poten & Partners [Australia] Pty. Ltd.); Majed Limam and Stephen Thompson (Poten & Partners, Inc)</i>	Daryl Houghton
PS2-6	LNG from CSG – Challenges and Opportunities <i>Nigel J. Unsworth (Foster Wheeler)</i>	Tariq Shukri
PS2-7	Coal Seam Gas to LNG- the Gladstone LNG (GLNG)™ Project <i>Peter Mitchley (Santos Ltd)</i>	Peter Mitchley

Paper Session 3: Technology Development

Monday 19 April 2010, 15:00-18:00, Auditorium

Chair: Jean-Pascal Biaggi, Project Director, Technip
Vice-Chairs: Moritaka Nakamura, General Manager, Innovation Business Division, Chiyoda Corporation
Himanshu Patel, Manager - Gas Technologies, Bechtel Corporation

	Title & Authors	Presenter
PS3-1	The Right Technical Choices Lead to Commercial Success <i>William P. Schmidt, Christopher M. Ott, Yu Nan Liu, and William A. Kennington (Air Products and Chemicals, Inc)</i>	William P. Schmidt
PS3-2	Next Generation On-Shore LNG Plant Designs <i>Sjarel van de Lisdonk, Cathalijn van Rijmenam, Irina Tanaeva, Gianluca Di Nola, Marjan van Loon, and Rob Klein Nagelvoort (Shell Global Solutions International B.V.)</i>	Marjan van Loon

PS3-3	Development of Medium-Sized Gas Turbines for LNG Applications <i>Bengt Gudmundsson, Jenny Larfeldt, and Christian Troger (Siemens Industrial Turbomachinery AB); Gordon Cox (Siemens Ltd)</i>	Bengt Gudmundsson
PS3-4	Progress in the Qualification Process of Components and Systems for LNG Offshore Transfer <i>Evert van Bokhorst, Bas van den Beemt, and Gerard van der Weijde, (TNO)</i>	Evert van Bokhorst
PS3-5	The Challenge With the World's Largest 250,000kl LNG Tank <i>Hiroshi Hiraga (Tokyo Gas Co Ltd); Masaki Wakabayashi (Shimizu Corp); Isho Nakachi and Masaharu Miyazaki (IHI Corp)</i>	Hiroshi Hiraga
PS3-6	GST, a New Generation of LNG Membrane Type Storage Tank <i>Pascale Grieve (G.T.T.—Gaztransport & Technigaz)</i>	Pascale Grieve
PS3-7	Technical Issues Related to Send Out Gas Calorific Value Control at LNG Receiving Terminals in Japan <i>Yoshifumi Numata and Daisuke Wada (Chiyoda Corp)</i>	Daisuke Wada
PS3-Spare	Cost-Effective LNG Regasification With Multi-Temperature Level (MTL) Air Heaters—An Economic and Environmentally Friendly Approach <i>Cong Dinh, Joseph Cho, and Jay Yang (SK Engineering & Construction Co Ltd)</i>	Cong Dinh

Paper Session 4: Plant Construction, Start-up, and Operations

Tuesday 20 April 2010, 09:00-12:00, Auditorium

Chair: Hidefumi Omori, Chief Engineer, Gas Process, Engineering Division, JGC Corporation

Vice-Chair: Francis Van De Walle, LNG Plant Manager, Fluxys LNG

	Title & Authors	Presenter
PS4-1	Successful Start-Up and Operation of GE Frame 9E Gas Turbine Refrigerant Strings <i>Steven Judd (ExxonMobil Development Co); Roy Salisbury (Qatargas Operating Co Ltd); Peter Rasmussen (ExxonMobil Upstream Research Co); Paolo Battagli (GE Oil and Gas); Darrell Mosier (RasGas Co Ltd); Arthur Smith, III (W.S. Nelson)</i>	Steven Judd
PS4-2	How to Enhance LNG Assets' Performance Through an Efficient Maintenance <i>Filippo Cinelli, Fernando Roberto Biagi, Fausto Carlevaro, Mochi Gianni, and Amore Bianco Francesco (GE Oil & Gas)</i>	Filippo Cinelli
PS4-3	LNG Mega Trains—"Design One, Build Many," the Qatargas 2 Example <i>Yow Yeen Lee, David A. Williams, Abdelkader Haouari, Robert Talbot, Robert C. Collins, and Georges A. Maalouf (Qatargas Operating Co Ltd)</i>	David A. Williams
PS4-4	Start-Up Experiences From Hammerfest LNG, A Frontier Project in the North of Europe <i>Sivert Vist, Morten Svenning, Hilde Furuholt Valle, Henrik Ormbostad, Gunder Bure Gabrielsen, Dan Pedersen, Roy Ivar Nielsen, Jostein Pettersen, and Arne Olav Fredheim (Statoil ASA)</i>	Sivert Vist

PS4-5	Sakhalin Energy's Initial Operating Experience From Simulation to Reality: Making the DMR Process Work <i>René Verburg and Sander Kaart (Sakhalin Energy Investment Co Ltd); Bert Benckhuijsen, Padraig Collins, and Rob Klein Nagelvoort (Shell Global Solutions International)</i>	René Verburg
PS4-6	Pluto LNG—LNG Optimisation Using Existing Plant Experience <i>Antonio Pelagotti and Emiliano Toci (GE Oil & Gas); Rob Nibbelke (Shell Global Solutions); and Gary Bowtell (Woodside Energy Ltd)</i>	Antonio Pelagotti
PS4-7	GNL Quintero: A Success Story on Many Fronts <i>Steve Ollerearnshaw (BG Group)</i>	Steve Ollerearnshaw
PS4-Spare	Snohvit; Storage and Loading: How to Respect The Planning in Spite of Harsh Climatic Conditions <i>Pierre Vander Meulen (Tractebel Engineering, GDF Suez)</i>	Pierre Vander Meulen

Paper Session 5: New Projects and Commercial Terms in a Time of Change

Wednesday 21 April 2010, 09:00-12:00, Auditorium

Chair: Mohammed Taleb, CEO, HELIOS Spa, Secretary Task Force LNG 16
Vice-Chairs: Yoga P. Suprpto, President Director, PT Badak NGL Co
Gonzalo Fernández Viejo, Executive Vice President for Business Development and Trading, Union Fenosa Gas

	Title & Authors	Presenter
PS5-1	Price Re-openers-in LNG SPAs <i>Paul Griffin (Herbert Smith LLP)</i>	Paul Griffin
PS5-2	Yemen LNG Project Places Yemen on the Global Map of Producers and Exporters of LNG <i>Jean-Luc Boisset (Yemen LNG Co); Bruno Delesquen (Technip)</i>	Jean-Luc Boisset
PS5-3	Long-Term LNG Contracts Flexibility Driver of Spot Market <i>Amine Mohsen Yacef (Sonatrach)</i>	Amine Mohsen Yacef
PS5-4	Outline of Inpex's Ichthys and Abadi Projects <i>Seiya Ito and Shunichiro Sugaya (Inpex Corp)</i>	Toshiaki Kitamura
PS5-5	Can Henry Hub or NBP Become a Price Index for Asia Pacific LNG Contracts? <i>Kyoichi Miyazaki, (Poten & Partners, Inc); Daryl Houghton and Christopher Rumley (Poten & Partners [Australia] Pty Ltd)</i>	Kyoichi Miyazaki
PS5-6	GNL Mejillones – Energy Diversification and Vision on Long Term Regional Integration <i>Frederik Janssens (GNL Mejillones); Jean-Louis Pairon (GDF Suez)</i>	Frederik Janssens
PS5-7	Can Price Terms in Yesterday's LNG Contracts Survive the Upheaval of Today's Markets? <i>Rob Fenton and James Ball (Gas Strategies)</i>	James Ball
PS5-Spare	The Skikda New LNG Train Project—A New Train With New Innovations <i>Kamel Bouzid (Sonatrach); Pamela Roche and David Coyle (KBR)</i>	To Be Determined

Paper Session 6: LNG Shipping and Terminals
Wednesday 21 April 2010, 09:00-12:00, Session Room 2

Chair: Roald T. Lokken, Senior Marine Consultant, ExxonMobil Development Company
Vice-Chairs: Lorenz Claes, Senior Naval Architect, Head of LNG Department – France, STX Europe
 Julio Trenas Fernández, Maritime Transport Director, Repsol – Gas Natural LNG, S.L.

	Title & Authors	Presenter
PS6-1	An Overview of Future Regulation of Greenhouse Gases and the Effect On LNG Shipping <i>Gordon Milne (GDF Suez)</i>	Gordon Milne
PS6-2	An Environmental Sea Change in LNG Shipping <i>Julie Nelson (BG Group)</i>	Julie Nelson
PS6-3	Improving propulsion on a Diesel Electric LNG Carrier by BOG Quality Management: Setting an Analytical Unit on Board for A Better Control <i>Stéphanie Regni, Christophe Tastard, Noela Vazquez, and Philippe Loisel (GDF Suez)</i>	Noela Vazquez Fernandez
PS6-4	Refloating the Global LNG Shipping Industry <i>Majed Limam and Anne Tricerri (Poten & Partners, Inc)</i>	Majed Limam
PS6-5	Summary of Investigations Into the Effect of Fire on LNG Carrier Cargo Containment Systems <i>Mark Hodgson (Shell International Trading and Shipping); Roger Roue (Society of International Gas Tanker & Terminal Operators); and Jim Gaughan (American Bureau of Shipping)</i>	Jim Gaughan
PS6-6	On Assessing Rollover Under Offshore Conditions <i>Yacine Zellouf and Julia Mariotti (GDF Suez)</i>	Yacine Zellouf
PS6-7	LionGas LNG Terminal in Rotterdam: A New Approach to Nautical Risk Analysis <i>Geoffrey Bothamley and R. Dirkx (Royal Haskoning); H. Ligteringen (Delft University of Technology); C. van der Tak (MARIN); and F.A. de Boer (4GAS B.V.)</i>	Geoffrey Bothamley

Paper Session 7: Environment, Safety, and Training
Wednesday 21 April 2010, 15:00-17:15, Session Room 1

Chair: John Driscoll, Manager Process and Process Safety Engineering, BP Exploration Operating Company Limited
Vice-Chair: TBD

	Title & Authors	Presenter
PS7-1	Tangguh LNG: Energy Efficient Production <i>Fawaz Bitar, Peter Nuttall, Refrizal Boestaman (BP Berau Ltd)</i>	Fawaz Bitar
PS7-2	Innovated Use of Emulated Operator Training Simulator in the Yemen LNG Bal Haf Plant <i>Pierre Rabeau, Régis Rieubon, and Romain Coupier (Technip) ; Philippe Thiabaud and Fabrice Rey (RSI)</i>	Pierre Rabeau

PS7-3	Start-Up of Freeport LNG, a Terminal With Low Environmental Impact and the First on the Gulf Coast in Two Decades <i>Rajeev Nanda (Technip); Paul Lindahl (SPX Thermal Equipment & Services); Dirk Eyer mann (Air Tower LLC)</i>	Rajeev Nanda
PS7-4	Extending the Useable Life of an LNG Receiving Terminal <i>Chihiro Nishizawa (Tokyo Gas Co Ltd)</i>	Chihiro Nishizawa
PS7-5	Making Efforts for the Accomplishment of 100% Utilization of the LNG Cold Energy <i>Hirofumi Ukitsu, Suguru Kitagaki, and Takayuki Shimokawatoko (Osaka Gas Co Ltd)</i>	Hirofumi Ukitsu

WORKSHOP AGENDA

<p><u>Workshop 1: Economy of Scale Trends and Challenges</u> Monday 19 April 2010, 09:00-11:00, Session Room 2</p>

Chair: John Baguley, VP, Gas Monetization Development, KBR
Vice-Chair: Jim Solomon, Director, LNG, Air Products and Chemicals, Inc.

Workshop Summary:

Economy of scale has been a key method to reduce the overall cost of LNG projects- both in terms of train size and size of complex. Is this still true? Does going “too big” create problems of its own? At the same time there seems to be a lot of interest in smaller or midsize LNG projects which tends to go counter to the logic of economy of scale. So what is going on? Also the optimum train size or “rightsizing” may be different for onshore and offshore FLNG projects. What is the impact of the world economy on the cost of LNG plants and ships- large or small? How will these trends affect vendor and process licensor selection? What are the issues relative to ship size? Rightsizing of ships and integration into overall LNG chain. A panel consisting of experts in the LNG field, who have been involved in handling such issues, will discuss this topic and answer questions from the floor.

Confirmed Speaker:
Leon Harland, Director LNG FPSO Development, SBM Offshore

<p><u>Workshop 2: Evolution of the LNG Market in Changing Times – Long or Short?</u> Monday 19 April 2010, 15:00-17:00, Session Room 2</p>

Chair: De La Rey Venter, Vice President - Global LNG, Shell Gas & Power International B.V.
Vice-Chair: Ieda Gomes, Head of New Ventures, & INGL, BP Gas Asia & Middle East

Workshop Summary:

Over the last two years the LNG market has experienced a fundamental structural shift as a result of the global economic recession, the emergence of unconventional gas in North America and the coming on-stream of a wave of new LNG supply projects. How will the market evolve over the medium term as a result of these developments? Will emerging markets absorb supply gluts? And how will the physical flows of LNG change - North or South; East or West? Bull or bear; long or short?

Confirmed Speakers:

1. Maria das Graças Foster, Director of Gas and Energy, Petrobras
2. Alaa Abujbara, Marketing Director, Qatargas
3. Amitava Sengupta , Director (Finance and Commercial), Petronet LNG Ltd
4. Vitaly Vasiliev, Gazprom Marketing & Trading , Gazprom
5. Simon Cattle, Head of Gas Trading Europe and LNG, BP
6. Simon Bonini, Director, LNG, Centrica

Workshop 3: Safety and Life Duration Management

Tuesday 20 April 2010, 09:00-11:00, Session Room 2

Chair: William S. Wayne, General Manager, Society of International Gas Tanker & Terminal Operators Ltd (SIGTTO)

Vice-Chair: Alain Goy, Head of LNG Technical Department, ELENGY

Workshop Summary:

The LNG industry has well deserved reputation for operating ships and terminals for very long lives. This reputation is based on good design, together with sound operating and maintenance practices. Concomitant with this long life, is a high reputation for safety.

Before addressing the issues, we need to understand why we keep these old LNG facilities for so long. With these more mature assets, are there specific measures to be taken to ensure retention of the safety record and industry reputation? How do we do this in the face of increased demands and expectations from stakeholders and society?

A new factor in this subject is the re-use of trading ships as floating terminals. Are there specific safety implications to be addressed in this?

The panel members will bring their experience and expertise from revamping programs on their facilities to address these questions and related issues, and thus to help identify key factors for continued safe and reliable operation.

Workshop 4: Technical Innovations for the Future of the LNG Business

Wednesday 21 April 2010, 15:00-17:00, Session Room 2

Chair: Paul Sibal, Surveillance and Reliability Manager, ExxonMobil Production Company

Vice-Chair: Robert Klein Nagelvoort, Global Manager Gas Technology, Shell Global Solutions International B.V.

For an industry with over 45 years of operational experience, “mature” is not yet a fitting adjective. The past decade has seen technical innovations across the full value chain, enabling continued, rapid growth of the LNG industry. Looking ahead, we see this accelerating. Technology will be the key success factor for future projects, which are in increasingly challenging locations, in increasingly stringent regulatory environments. Focus areas for this workshop include:

- Liquefaction technology for onshore, offshore, and varying train capacity to fit the resource
- Advances in shipping, from smaller ships for small markets to mega-carriers, onboard liquefaction, propulsion, and fuel options, and use as floating storage
- Developments in LNG Transfer Systems - Cryogenic pipelines, hoses, and tandem loading

- Receiving Terminals – Floating Storage and Regasification Units, Gravity Base terminals, Shipboard regasification systems, and advances in vaporizer technology
- Impact of resource location and evolving environmental regulations on technology selection and approach to construction (modular, arctic).
- Impact of market forces on project cost and schedule

This workshop will provide a lively forum for discussing these topics, facilitated by an expert panel representing nearly all aspects of the LNG industry.

Poster Sessions

Tuesday 20 April 2010, 15:00-18:00

Group 1 - New Developments in LNG Process, Plant and Equipment Design

	Title	Authors
PO1-1	An Experimental Method for Studying the Discrete Droplet Impact Phenomena in a Flammable Gas Environment	He Zhao (Norwegian University of Science and Technology); Amy Brunsvold, Svend T. Munkejord, and Mona J. MølInvik (SINTEF Energy Research)
PO1-2	The New Wave of LNG PC Tanks by IHI	Takashi Kanekura, Kazuyuki Kobayashi, Seiichi Ishigami and Kei Takeuchi (IHI)
PO1-3	Experience With Water Cooled Mixed Refrigerant Condensation	Jostein Pettersen, Arne Olav Fredheim, and Henrik Ormbostad (Statoil ASA)
PO1-4	CBM Liquefaction Process Integrated With Distillation Separation of Nitrogen	Ting Gao, Wensheng Lin, and Anzhong Gu (Shanghai Jiao Tong University)
PO1-5	Comparison of Expander Processes for Natural Gas Liquefaction	Knut Arild Maråk and Bengt Olau Neeraas (Statoil Research Center)
PO1-6	Introducing Flexibility Into FLNG Plant Designs	Peter J. H. Carnell, Vince A. Row, and Sebastien Grizard (Johnson Matthey Catalysts)
PO1-7	An Innovative Way of Reducing BOG on Existing or Newbuilt LNG Storage Tanks	Damien Féger (New Generation, Natural Gas)
PO1-8	Sulfinol-X for Acid Gas Removal: A Solution for LNG Production From Contaminated Gas	Djordje L Nikolic and Mark Claessen (Shell Global Solutions International B.V.); Jun-ichiro Tanaka (Chiyoda Corp)
PO1-9	Mid-Small Scale LNG Plant—Compact, Pre-assembled and Standardized Design	Shin Matsui and Yoshio Yatsushashi (JGC Corp)
PO1-10	Reducing the CO ₂ Footprint Through Increased Overall Cycle Efficiency	Filippo Cinelli, A. Miliani, and G. Seghi (GE Oil & Gas); M. Lehar (GE Global Research Center)
PO1-11	New Set of Rules for LNG FPSO	Guillaume Gourdet and Cătălin Toderan (Bureau Veritas)
PO1-12	Dual Enhanced Tubes for the Hydrocarbon Processing Industry—From Debottlenecking to Grassroots	Thomas Lang (Wieland-Werke AG); and Brigitte Ploix (Technip)
PO1-13	LNG Process Selection Considerations for Future Developments	John B. Stone, Dawn L. Rymer, Eric D. Nelson, and Robert D. Denton (ExxonMobil Upstream Research Co)
PO1-14	Carbon Capture Options for LNG Liquefaction	Michael Coulson, Suzanne Ferguson, Tim Bullen (Foster Wheeler)
PO1-15	Managing Process Operations with Nitrogen Content Excursions	Jorge Vincentelli and Ryan Rice (RasGas Co Ltd)

Group 2 - New Developments in Facility Start-up, Operation, Distribution and Commercial

	Title	Authors
PO2-01	EVOLCODE: Last Evolution for the Calculations of Consequences of LNG Releases and LNG Fires	Vincent Blanchetière and J. Duhart (GDF Suez)
PO2-02	FireSafe Isolation While Minimizing Corrosion	David Wittekind (Pikotek)

Group 3 - New Developments in Instrumentation, Control and Simulation

	Title	Authors
PO3-1	Dynamic Simulation of C3-Mr LNG Plants With Parallel Compression Strings	Matthew J. Okasinski and Yu Nan Liu (Air Products and Chemicals, Inc)
PO3-2	Fibre Optic Distributed Temperature Sensors for LNG Pipelines: A Study of LNG Pipe Cool-Down Monitoring and Leakage Detection	Femi Tanimola (Sensornet Ltd); Katrin Riesner (R&M Ship Technologies GmbH)
PO3-3	Investigation of Subsynchronous Torsional Interactions on LNG Power Plants	Piergiovanni La Seta, Edwin Lerch, Rainer Zurowski, Shiva B. Kumar, and Richard Osman (Siemens); Bharatendu Deo and Brian Bahr (QatarGas Operating Co Ltd); Junichi Sakaguchi, Yasushi Okazaki, and Toshiaki Saito (Chiyoda Corp)
PO3-4	Distributed Leak Detection and Cool-Down Monitoring on LNG Facilities	Kuljit Singh and Andrew Strong (Schlumberger Terrestrial Surveillance)
PO3-5	Effective LNG APC Applications	Sebastien Osta (IPCOS Aptitude Ltd)
PO3-6	Expansion and Integration of the RasGas Control and Information System	Elias S. Elias and Ahmed Tayeeb Zangeneh (RasGas Co Ltd – RGx2 Onshore Projects)
PO3-7	Test Method for Measuring Insulation Values of Cryogenic Pipes	J.F.M Velthuis, H. Blokland, B. W. Klaver, and C. van de Beld (TNO Science and Industry)
PO3-8	Impact of Emergency Shutdown in LNG Offshore	Evert van Bokhust, J.P.M. Smeulers and Monique Oldenburg (TNO Science and Industry)

Group 4 - New Developments in Mechanical and Machinery

	Title	Authors
PO4-1	The Role of an Efficient Anti-Surge System in Energy	Mohamed el Amine and Kaddour Brahim (Sonatrach)
PO4-2	Study on the Behavior and Localized Corrosion Inhibition Based Polyphosphates of Pipeline Steel API 5L X60 for Natural Gas	Samia Bensoltane, Mohamed Hadjel, and Abdelrahim Benmoussat (Physico-chemistry and materials catalysis environment laboratory, Faculty of Sciences USTO-MB)

PO4-3	Bearing Fault Detected on Instrument Air Compressor at LNG Plant	Mike Hastings and Theo van Santen (Brüel & Kjær Vibro)
PO4-4	Marine Impact On Liquefaction Processes	Marlies van Osch, S.P.C. Belfroid, and Monique Oldenburg (TNO Science and Industry)
PO4-5	7% Ni Steel Developed for LNG Tanks	Maki Yamashita (Osaka Gas Co Ltd); David Knowles (Shell Global Solutions International B.V.); Masahiko Mitsumoto (Toyo Kanetsu K.K) and Tomoya Kawabata (Sumitomo Metal Industries Ltd)
PO4-6	LNG Pipelines Thermal Insulation—Operator Evaluation Tests for Fire Protection	David Maocec and Stéphanie Regni (GDF Suez)
PO4-7	Behavior of LNG Concrete Tank at Cryogenic Temperatures	Lahlou Dahmani (Université Mouloud Mammeri)

Group 5 - New Developments in LNG Safety

	Title	Authors
PO5-1	Algerian LNG Maritime Transport Network Optimization	Chabbi Abdeldjallil and Bentabba Zine Alabidine (Sonatrach)
PO5-2	Implications of Mercury Removal Bed Material Changeout: Brownfield Versus Greenfield	Canute Hudson (Atlantic LNG Co of Trinidad and Tobago)
PO5-3	Life Cycle Assessment of the Union Fenosa Gas LNG Chain: A Mediterranean Case	Fernando Estebarez Casla and Esperanzo Hayd Leiva (Union Fenosa Gas) and Peyalo Bayón González (Novotec Consultores S.A.)
PO5-4	Work Methodology Implemented to Diagnose the LNG Terminal of Fos Tonkin and Set Up the Options for Its Life Extension	Marc Lecron (Tractebel Engineering); Pierre Bréban (ELENGY)
PO5-5	Reducing Environmental Footprint for Ageing Qatargas 1 Facilities	Muh Ilyasak and Abdelouahab Madouri (Qatargas Operating Company)
PO5-6	A Flexible Method for Adjusting LNG Heating Value, Also Applicable Offshore	Christian Bladanet and Fara Rasolondraibe (Technip); Jean-Claude Garcel and Christophe Thomas (Total)
PO5-7	Availability Model of an LNG Import Plant in Function of the Send Out Demand	José A. Lana and Claudio Rodríguez,(Enagás, S.A.); Aniceto Valverde and Gregorio Munuera (Technical University of Cartagena)
PO5-8	LNG Supply Developments Using Distributed LNG Concepts	Brian C. Price and Shawn D. Hoffart (Black & Veatch Corp)
PO5-9	Cost-Effective Revamping of LNG Plants to Maximize Production at Elevated Ambient Temperatures	Donald K. McMillan and Joseph H. Cho (SK Engineering & Construction)
PO5-10	Accumulation of Radon Decay Products in the Dehydration Process of LNG Plants	Ryosuke Tsukamoto and Shuzo Kojima (JGC Corp); Masao Murata, Jun Moriizumi, Hiromi Yamazawa, and Takao Iida (Nagoya University)

PO5-11	LNG Master[®] : Safe and Optimized Storage Despite LNG Diversity	Yacine Zellouf (GDF Suez)
PO5-12	Argentina LNG	Juan José Rodriguez and Carlos Alberto Weis (YPF S.A.)
PO5-13	First Encounter of Excessive Heat and Toxic Gas Release During Mercury Removal Unit Changeout Activity	Salihin B M Ismail (Malaysia LNG Sdn Bhd)
PO5-14	Maintaining Plant Thermal Efficiency at PT Badak NGL Plant	Rahmat Safruddin and Sutopo Ramelan (PT Badak)