

**Book Review***Liquefied Natural Gas: The Law and Business of LNG*

Although the first international commercial shipment of liquefied natural gas (LNG) landed on the shores of the United Kingdom nearly 50 years ago, and notwithstanding the fact that the global LNG industry now accounts for billions of dollars in sales and infrastructure costs each year, lawyers, businesspeople and students interested in obtaining a better understanding of this rapidly developing industry have previously been disappointed with the scarcity of helpful resource materials. With the exception of the very readable LNG Today by Andy Flower (Energy Publishing Network, 2004) there has been very little available to assist those interested in better understanding the legal and commercial issues relevant to the LNG business. All of this now changes with the recent release of Mr Griffin's very helpful book: Liquefied Natural Gas - The Law and Business of LNG.

This volume comes at an opportune time. From Kitimat, British Columbia on Canada's west coast to Australia's Withnell Bay, from Trinidad & Tobago's Point Fortin to Nigeria's Bonny Island, and at almost every point on the globe in between, commercial analysts, financiers, engineers and lawyers are all anxiously examining opportunities and negotiating transactions for the development of LNG projects or the purchase and sale of LNG cargos. Last year the Natural Gas Review published by the International Energy Agency reported that "... LNG is one of the fastest growing sectors of the energy market. It is expected to almost double in size between 2005 and 2010 delivering around 40% of global supply growth in just five years". With these enthusiastic forecasts it is little wonder that so many industry players have been anxiously awaiting Mr Griffin's publication.

Given the nature of the LNG industry, it would be difficult to identify any one individual with the breadth of experience necessary to authoritatively write on the various component parts of an LNG transaction (typically called "links" in the LNG "value chain"). For this reason Mr Griffin has approached more than a dozen experts, each well regarded in his or her own field, to write a chapter on their particular area of expertise. The result is this well written and very readable volume.

Following an introduction by Mr Griffin, the first chapter by Juan Marcano and Ramesh Raman (Taylor-DeJongh) examines the LNG trade in the Atlantic basin. The authors "set the stage" for the future, providing an overview of the increasing demand for gas in the United States and Europe and examining the potential for additional LNG production from the Atlantic Basin. The discussions regarding cost escalation, market arbitrage and project financing, although very brief, provide a helpful introduction to much of the material examined in subsequent chapters.

Chapter Two by Peter Roberts (Jones Day) provides an overview of the structuring of LNG projects and, by necessity, an introduction to the "LNG Value Chain". Beginning with upstream natural gas production, through the liquefaction stage, the LNG sales and shipping stage, and then ending with downstream storage and regasification, Roberts explains the interrelations between the various component parts of a typical LNG project and identifies the commercial sensitivities likely to emerge at each step. Roberts illustrates his points with references to a number of projects from around the globe. This is likely to be one of the most educational chapters for the uninitiated reader.

Chapter Three by Susan Farmer (Watson, Farley & Williams) reviews a half-dozen key issues which must be addressed in the negotiation and drafting of an LNG sale and purchase agreement ("SPA"). Although these documents typically run to one hundred pages or more in length Farmer provides us with a clear summary of the issues to be addressed when negotiating quantities, price, price review, liability for default, force majeure and the conditions precedent that ought to be considered. One issue of particular interest recently deals with destination flexibility and the ability of the parties to divert cargos to more lucrative markets.

LNG Trading is addressed in Chapter Four by Anthony Patten and Philip Thomson (Ashurst) and will be read anxiously by the growing complement of LNG traders intent on further developing these opportunities. Patten and Thomson provide an introduction to the buying and selling of LNG on terms other than the traditional "long term -- high volume -- take or pay arrangements" which have historically characterized the industry.

Chapter Four begins with a review of various short term trading models (spot cargos, swaps and short term contracts) and summarizes the legal agreements required to support these transactions. The entirety of the LNG chain is about risk identification and allocation, and Patten and Thomson examine price risk, destination flexibility, and termination rights. Various examples are then given with respect to the benefits of cargo swaps and the ability of the parties to share in the upside. Readers interested in better understanding the possibility of negotiating beneficial destination clauses will be particularly interested in this discussion.

Chapter Five by Clare Calman and David Gardner (Curtis Davis Garrard) examines LNG shipping. From the history of LNG shipping, through to the evolution of the technical developments that have allowed for the increase in shipping volumes, to the purchase and financing of LNG carriers, Calman and Gardner provide a helpful overview of this topic. In light of the increasing costs of LNG tankers, the discussion regarding financing and price protection is particularly relevant. The authors then proceed to provide an outline of the various key clauses contained within a Charter Party agreement and conclude with an examination of short term trading arrangements.

Chapter Six by Stewart Salt (Linklaters) is a well written introduction to the world of LNG project financing. Salt begins by answering an often raised question: Why obtain external funding for LNG projects? before summarizing the sources of available funding and the way that these various funding sources typically combine together. The chapter then provides an introduction to the various agreements used to deal with the rights and responsibilities present amongst the various participants including the arrangements between the various creditors, decision making procedures, sharing of payments, and the introduction of new finance parties. Salt concludes with an examination of the security typically provided to lenders and the issues often present in equitably dealing with project expansions and merchant plant capacity.

Chapter Seven by Paula Hodges (Herbert Smith) is a brief but helpful review of potential areas of dispute within the LNG industry. Ms. Hodges accurately classifies potential disputes into three primary categories (disputes of a technical nature such as measurement inaccuracies, disputes requiring determination of a legal issue such as matters of force majeure, and disputes touching on both subjects, such as the operation of a price review mechanism). Two alternative dispute resolution mechanisms (arbitration and expert determination) are then examined although the author quite readily points out that typically disputes of this nature are resolved through commercial discussions.

Chapter Eight by Hywel Jones and Gary Pegg (Hogan & Hartson) examines, in considerable depth, the various regulatory structures governing the LNG industry. Although an examination of regulatory regimes is almost invariably tedious, Jones and Pegg provide a very readable overview. The regulatory review begins with an examination of LNG tankers while in transit. A summary of international regulations and international conventions and codes of practice is also provided. Jones and Pegg then outline regulations applicable within the United Kingdom, discussing vessel certification, health and safety issues, vessel security matters and liability for marine accidents. A similar overview, albeit a briefer one, is provided with respect to American regulations. Part three of the chapter then examines regulations governing LNG import facilities. With the construction of facilities at Milford Haven and South Hook, together with the continued operation of the Isle of Grain facility, a review of import facility regulations will be welcome. Finally, Jones and Pegg summarize the applicable EU legislation briefly before examining in some detail the regulation of LNG projects within the United States.

The final chapter, Chapter Nine, by James R. Ball and David Drury (Gas Strategies) examines the geo-politics of LNG. Those familiar with the LNG industry will readily acknowledge that project participants seek to understand and reduce the political risks associated with many LNG ventures, and that LNG importers seek to reduce supply risks by ensuring "security of supply". Ball and Drury do a good job of examining the geo-politics of LNG, and explain the ways in which the LNG industry differs from the oil in many important respects. The chapter benefits from an examination of case studies in Chile, Japan and Korea.

In all, this book is most welcome and will be very useful to those engaged in the LNG industry. As there is always room for improvement, and given that the text will likely be used as a reference tool by many, this book would have benefited from an index (so as to provide readers with ready access to the information being sought) and the few typographical errors that were identified should be corrected ("Qatargas" rather than "Qatar Gas" and "RasGas" rather than "Rasgas"). These are, of course, small matters and ought not to detract from the overall usefulness of this well crafted volume.

### **Liquefied Natural Gas: The Law and Business of LNG**

Consulting Editor: Paul Griffin

Globe Business Publishing Ltd., 2006

172 pages, £114.00

ISBN 1-905783-01-9/978-1-905783-01-4

**Thomas E. Valentine**  
**Partner: Global Resources Group**  
**Macleod Dixon, LLP**  
**Calgary, Canada**

*About the Author: Thomas E. Valentine is a partner in the Global Resources Group at Macleod Dixon, LLP where he practices in the area of international energy law with an emphasis on LNG. He is the former Senior Counsel (Projects) with Qatar Petroleum, in Doha, Qatar where he worked for both Qatargas and RasGas on various projects around the world.*