

## LNG SALES AND SHIPPING: THE EVOLUTION OF DELIVERY TERMS FROM THE EMPIRICAL TO THE EXISTENTIAL

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*From the beginning of the seaborne liquefied natural gas industry over forty years ago until recently, delivery terms for virtually all LNG sales were either FOB the liquefaction plant or DES the re-gasification plant. Details relating to the hand-off of an LNG cargo from seller to buyer and the corresponding transfer of risks were established in relatively straight-forward contractual provisions that reflected standard INCOTERMS definitions. As the relationships between LNG buyers and sellers have become increasingly complex and new participants have entered the LNG club, new arrangements for LNG deliveries have evolved. These arrangements now include deliveries which are, in effect, made on CIF terms. Some parties are even considering deliveries on the high seas. It is important that these new arrangements be properly examined, creatively analyzed, and carefully documented in a fashion that effectively (1) deals with the unique physical characteristics of LNG, a very cold, perishable commodity, (2) addresses the commercial realities of ever more sophisticated LNG trades, and (3) minimizes the incidence of taxation.*

I. THE NEED FOR CERTAINTY YET FLEXIBILITY IN DELIVERY TERMS.....	36
II. LNG: A COLD, PERISHABLE CARGO .....	38
III. EXAMINING THE LIKELY ALTERNATIVE DELIVERY TERMS.....	39
A. FOB and DES Sales .....	39
B. CIF Sales .....	41
C. Sales on the High Seas.....	44

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36	Texas Journal of Oil, Gas, and Energy Law	[Vol. 2
	D. Other Delivery Terms .....	46
	IV. MINIMIZING <i>SELLER'S</i> EXPOSURE TO	
	RISKS AT THE <i>UNLOADING</i> PORT .....	46
	A. DES Sales .....	46
	1. Third Party Liability .....	46
	2. Government Regulation.....	47
	3. Taxation .....	47
	B. CIF and "High Seas" Sales.....	49
	V. MINIMIZING <i>BUYER'S</i> EXPOSURE TO RISKS AT THE <i>LOADING</i>	
	PORT .....	49
	VI. MULTIPLE STAKEHOLDERS.....	50
	VII. THE BOTTOM LINE.....	50
	SCHEDULE A: EXAMPLES OF LNG DELIVERY TERMS .....	52

#### I. THE NEED FOR CERTAINTY YET FLEXIBILITY IN DELIVERY TERMS

An Englishman is self-assured, as being a citizen of the best-organized state in the world, and therefore as an Englishman always knows what he should do and knows that all he does as an Englishman is undoubtedly correct.

Tolstoy<sup>1</sup>

To paraphrase Tolstoy: Based on years of experience with FOB<sup>2</sup> and DES (Ex-Ship)<sup>3</sup> sales in a well organized, close-knit industry, liquefied natural gas (LNG) buyers and sellers "know what they should do and

1. LEO TOLSTOY, *WAR AND PEACE* 362 (Louise Maude & Aylmer Maude trans. William Benton 1952) (1869). To make life more interesting, the author often utilizes literary allusions in writing about legal subjects. This can be controversial, especially when the allusions involve generalizations about national groups. Nevertheless, generalizations can be useful tools for the communication of ideas. In the present case, the generalizations have been borrowed from the author's literary hero, a Russian, who was certainly no existentialist.

2. **FOB** (Free On Board): A term of sale that means the seller fulfills his obligation to deliver goods when they have passed over the ship's rail at the named port of shipment. This means that the buyer has to bear all costs and risks for loss of or damage to the goods from that point. The FOB term requires the buyer to contract for shipping, but the seller must clear the goods for export. INTERNATIONAL CHAMBER OF COMMERCE, PUBL'N NO. 560, INCOTERMS 2000: ICC OFFICIAL RULES FOR THE INTERPRETATION OF TRADE TERMS 49 (1999); see also N.Y. U.C.C. LAW § 2-319 (McKinney 2002).

3. **DES** (Delivered Ex Ship): A term of sale that means the seller fulfills his obligation to deliver when the goods have been placed at the disposal of the buyer on board the ship, but not cleared for import, at the named port of destination. The seller bears all costs and risks involved in bringing the goods to the named port destination. INCOTERMS 2000, *supra* note 2, at 97; see also N.Y. U.C.C. LAW § 2-322 (McKinney 2002).

they know that what they do is undoubtedly correct.”<sup>4</sup> However, with the rapid growth of the LNG industry in recent years and the entry of new participants into the business, planners have been faced with the need for new choices in structuring the means by which LNG is sold and delivered. The traditional empirical approach used in FOB and DES terms remains viable because it presents the parties with a well-organized system for the sale and purchase of LNG which is “undoubtedly correct” in the appropriate circumstances. Yet, as the LNG industry evolves, it is time to re-examine traditional delivery terms and to consider new ones in regard to the allocation of responsibilities for various commercial risks, governmental regulation, and taxation. Less empirical, more flexible alternatives to traditional delivery terms should be considered. In fact, as we shall see, some LNG traders are being tempted into considering LNG delivery terms that are downright existential.<sup>5</sup>

One approach has been to adapt CIF<sup>6</sup> delivery terms to LNG sales. CIF terms are commonly used in the sale of other commodities because these terms can be irresistibly attractive to both buyer and seller in certain instances. There is no reason that CIF terms should not be adapted for use in the sale of LNG, but to do so successfully, the draftsman must give careful attention to the special characteristics of LNG and make certain that CIF terms are properly adapted to deal with those characteristics.

But why stop with CIF terms? In recent years, LNG planners have taken a step beyond CIF. They have made a case for deliveries on the high seas. This approach could produce benefits, but, because it strays farthest from the commercial “correctness” of FOB and DES terms, it exposes the parties to risks which were previously unknown or not considered. In fact, some observers will say that, in the context of a delivery on the high seas, it will be impossible for the parties to “know” essential details of the deliveries.<sup>7</sup> Nonetheless, one might argue that, with a careful investigation into those risks and a commercially acceptable allocation of those risks among the parties involved, where the benefits justify the complexities, successful LNG planners should have complete freedom to

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4. TOLSTOY, *supra* note 1.

5. In sorting out delivery terms, LNG traders go through the same sort of anguished thought processes that the existentialist philosophers go through in examining life: “Through my freedom and power as conscious being, I think of what is *absent*, of what is *not* the case, of what my *future* job possibilities are, which do *not* exist at present, I think of how I would like to change my personality or my appearance to be *other* than what they are now.” T. Z. LAVINE, FROM SOCRATES TO SARTRE: THE PHILOSOPHIC QUEST 356 (Bantam Books 1984). See also RICHARD H. POPKIN & AVRUM STROLL, PHILOSOPHY MADE SIMPLE 147, 190 (Doubleday 1956), for a not so “simple” exposition of the major schools of philosophical thought.

6. See INCOTERMS 2000, *supra* note 2, at 65; see also N.Y. U.C.C. LAW §§ 2-320, 2-321 (McKinney 2002).

7. For example, with a “high seas” delivery, it will be difficult, if not impossible, to determine quantities weathering, contamination, or other changes in quality at the moment of “delivery.”

structure an LNG trade around deliveries at a point on the high seas. In exercising that freedom, however, LNG planners must remain cognizant of the warning from the existentialist philosophers that, although complete freedom of choice abides, there is no way one can escape from the consequences of a choice once made.<sup>8</sup>

Lightly edited examples of various types of LNG contract delivery terms are included in Schedule A at the end of this article.

## II. LNG: A COLD, PERISHABLE CARGO

To examine the issues surrounding LNG delivery terms, one must keep the special characteristics of LNG in mind. LNG is unique. It is an extremely cold commodity that is as perishable as a banana. It is inert, yet it packs a bundle of energy. As it warms up, its vapors can ignite, but only if mixed with air in a narrow flammable range of 5-15 percent natural gas to air.<sup>9</sup> Mixtures outside that range are either too rich or too lean to burn. Consequently, LNG is safer than most other petroleum products.<sup>10</sup>

LNG is primarily methane, cooled to roughly minus 160° Centigrade (-260° F) at atmospheric pressure.<sup>11</sup> It is an odorless, non-toxic, non-corrosive substance that is less dense than water. The conversion of natural gas into liquid is achieved through a refrigeration process known as liquefaction. Liquefaction reduces the gas volume by approximately 600 times, making it more economical to transport over long distances by sea in special purpose, highly insulated tankers – floating thermos bottles, so to speak.<sup>12</sup> LNG is converted back to a gaseous substance through a warming process known as regasification.<sup>13</sup>

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8. LAVINE, *supra* note 5, at 360.

9. INTERNATIONAL ENERGY AND RESOURCES LAW AND POLICY SERIES, LIQUEFIED NATURAL GAS: DEVELOPING AND FINANCING INTERNATIONAL ENERGY PROJECTS 2 (Gerald B. Greenwald ed., Kluwer 1998).

10. *Id.*

11. *Id.* at 1.

12. *Id.* at 2.

13. Economist Intelligence Unit, "World Economy: LNG Trade Surges" May 12, 2006. The liquefaction of natural gas to produce LNG has its origins in the laboratories of 19<sup>th</sup> century chemists. The technology was first used commercially in the early part of the 20<sup>th</sup> century as a medium for the storage of natural gas to be used to meet seasonal peak shaving requirements. The liquefaction of natural gas by super cooling does not change the chemical properties of the cooled down gas, but the cooling process does turn the gas into a liquid, thereby reducing the space required to store natural gas. This storage advantage is what ultimately made liquefaction attractive not simply for storage but also for transportation in ocean-going tankers.

The world's first LNG tanker, the *Methane Pioneer*, a converted freighter containing five aluminum tanks with balsa wood supports and insulation of plywood and urethane, carried LNG from Lake Charles, Louisiana to Canvey Island, United Kingdom in January of 1959. This event demonstrated that large quantities of liquefied natural gas could be transported safely by ocean-going tankers. Commercial exports from Algeria to Western Europe began shortly after that. In 2005, a total of 141.7 million tonnes of LNG were exported from 13 producing nations to 14 consuming nations, and projections indicate a strong, continuing trend upward. LNG TRANS-

Since LNG evaporates or “boils off” at ambient temperatures, the quantity of LNG shipped is always greater than what arrives at a receiving terminal, unless the boil-off is reliquefied on board. LNG tankers were not traditionally equipped with onboard reliquefaction plants, so there was no effective way to recapture boil-off except as a fuel supply for the LNG carrier transporting the cargo. However, the recent development of super LNG tankers capable of carrying in excess of 250,000 cubic meters of LNG presents economies of scale which make investment in onboard reliquefaction plants worthwhile.

Boil-off affects an LNG cargo in two ways. First, it reduces the volume of LNG on board. Second, it increases the calorific value (Btu content) of the volume that remains. This characteristic is called “weathering” and can have a negative impact if the “richer” LNG caused by weathering, which is what the buyer receives at the *unloading* port, exceeds the buyer’s specifications. Calorific value is particularly important to watch when the regasified LNG is intended for send-out to a pipeline having relatively “lean” specifications, such as interstate pipelines in the United States.

Another factor in the carriage of LNG by sea which planners must keep in mind is the need to retain a percentage of each cargo onboard for return voyages in order to keep the cargo tanks cool and ready to accept the next cargo. LNG which is retained onboard after delivery of the bulk of the cargo is known as the *heel*.

Both liquefaction and regasification processes use advanced technologies with strong safety records. Over the past 45 years, there have been more than 40,000 laden voyages covering 100 million miles without a major accident.<sup>14</sup>

### III. EXAMINING THE LIKELY ALTERNATIVE DELIVERY TERMS

#### A. FOB and DES Sales

Although many would take issue with Tolstoy’s rather glib characterization of an Englishman quoted above, it exemplifies the draftsman of traditional LNG sales structures, namely the rather clear-cut sale of LNG as it is either loaded at a *loading* port (an FOB sale) or unloaded at an *unloading* port (a DES sale). Such sales are well organized approaches to passing title and risk of loss so that the buyer and seller always know what they should do. These two approaches to LNG sales are based on

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PORTATION INTERNATIONAL, HISTORY OF LIQUEFIED NATURAL GAS (2004), <http://www.lngti.com/history.html>.

14. Center for Liquefied Natural Gas, Can LNG be Shipped Safely? (2006), <http://www.lngfacts.org/About-LNG/FAQ.asp>.

long experience, not only in the LNG industry but in many other international trades too numerous to mention. Choosing an FOB or a DES sales arrangement is, in effect, an empirical approach to structuring LNG sales.<sup>15</sup>

By structuring their sales either on an FOB or DES basis in a well drafted contract, the buyer and seller know, with quite a bit of certainty, (a) who has responsibility for arranging shipping and insurance, (b) who must deal with import and export formalities, (c) at what point the risk of loss to this rather exotic cargo passes from seller to buyer, and (d) the quantities of LNG being delivered. In addition, to the extent that responsibility for liabilities to third parties arising from LNG operations is based on ownership of the product, they know precisely when that responsibility shifts from seller to buyer. In a DES sale, the impact of boil-off and heel are primarily matters of concern for the seller. In an FOB sale, the converse is true. Either way, the issues are well known and a well structured agreement takes them into account.

It is important to note, however, that even an Englishman or an LNG trader can be wrong on occasion. For example, although LNG sales on FOB and DES terms have prevailed for over forty years, the physical and commercial realities of LNG do not always precisely fit even a traditional FOB or DES regime. In recognition of these realities, alert draftsmen over the years have modified the details of LNG delivery terms so that they are not always precisely in line with the standard definitions. In fact, although LNG sale and purchase agreements are typically categorized as either “FOB agreements” or “DES agreements,” the terms themselves are seldom used in the actual contracts.

One fairly consistent example of where LNG contract draftsmen are not as alert as Tolstoy’s Englishman is the failure to address the reality of circulating gas vapor between lines and tanks on board LNG tankers and shore-side facilities. This circulation is necessary in order to maintain required pressures, but issues such as ownership and risks related to the vapor are frequently ignored in LNG contracts. Perhaps this is because the value of the vapor involved is relatively low, but there are risks associated with the vapor which should be addressed in any event.

LNG sales contracts spell out the process of transfer and delivery in detail, without actually using the terms FOB or DES. Instead of saying “title and risk of loss shall pass FOB the LNG loading terminal,” LNG contracts typically say, “title and risk of loss shall pass as the LNG passes

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15. “[T]hese philosophers have begun with our sense experience as the source and basis of what we know, and have tried to construct an account of knowledge [and, as a corollary, they have tried to construct guidelines for human behavior], in terms of sense experience.” This theory, which attempts to explain knowledge in terms of sense experience, is called empiricism. POPKIN & STROLL, *supra*, note 5, at 130.

the flange of the LNG tanker at the loading port,” without ever mentioning the term FOB (as one would expect in a contract for the sale of most other commodities). Similarly, one can look in vain for the term DES in a DES LNG contract.<sup>16</sup> Additional contractual provisions are used to spell out even more details relating to the transfer of various aspects of ownership and responsibility from seller to buyer. These provisions normally include (a) details setting out requirements for loading or offloading facilities and LNG tankers, (b) allocation of responsibility for pilots, tugs, and various marine services, (c) allocation of tax responsibilities, and (d) indemnities and allocations between the parties relating to specified types of liability to third parties incurred in the course of LNG operations, including port operations.

If the parties opt for an FOB loading port sale, the buyer pays for the quantity of LNG loaded on board at the *loading* port, absorbs the cost of shipping, and takes all the risks of the cargo from there on, particularly the cost and risk of boil-off, heel, weathering, and, as the Hazardous & Noxious Substances Convention gains acceptance, contributions to the LNG Account of the HNS Fund.<sup>17</sup> With FOB, the buyer controls the shipping, which can be a great benefit to the buyer for several reasons, not the least of which is to give the buyer flexibility in purchasing LNG from alternate sources in the event of a seller default or a seller force majeure. It can also be a benefit to a seller who does not wish to bear the risks of a maritime “adventure” or the financial commitment which LNG shipping requires. If the parties opt for a DES unloading port sale, the buyer pays for the quantity of LNG on board at the *unloading* port, and the costs and risks of transportation are reversed.

The use of FOB and DES trade terms in the LNG industry grew out of practical experiences among merchants over long periods of time. New LNG trade terms will evolve as new experiences are encountered. Nevertheless, FOB and DES terms are likely to remain the standards in LNG sales because of the relative certainty and comfort that these tried and true terms provide.

### *B. CIF Sales*

A Frenchman is self-assured because he regards himself personally, both in mind and body, as irresistibly attractive to men and women.

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16. In an LNG DES sale, the LNG sales agreement would not normally state that “title and risk of loss shall pass DES the LNG unloading terminal.” Instead, the LNG DES agreement would typically say “title and risk of loss shall pass as the LNG passes the flange of the LNG tanker at the unloading port,” without ever mentioning the term “DES.”

17. International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances By Sea (HNS), arts. 16, 19, May 3, 1996, 35 I.L.M. 1406.

One might be tempted to suggest that sales on CIF terms are a suitable compromise between FOB and DES terms. Like Tolstoy's self-assured Frenchman, in some respects CIF terms look to be irresistibly attractive to both the buyer and the seller in an LNG trade. CIF terms provide the buyer with fewer responsibilities in the *loading* port than FOB terms do, and CIF terms provide the seller with fewer responsibilities in the *unloading* port than DES terms do. In fact, CIF terms may be ideal for certain specific circumstances, but if CIF terms are to be properly utilized in the LNG context, many special issues that arise in dealing with this cold, perishable commodity must be addressed and resolved in the sales contract and transportation agreements.<sup>19</sup> In a CIF contract, the impact of excess boil-off, heel, and force majeure in determining who should bear each risk at what time and where in the chain can become quite complex. If there are multiple buyers of the cargo, the complexities increase exponentially.

The CIF trade term is among the least understood of the standard terms used in international trade of all types. Because the term must be accompanied by a geographical destination to make sense (e.g., "CIF Zebrugge" or "CIF Lake Charles"), the temptation is to consider CIF contracts to be "destination" contracts, i.e., contracts where the seller remains responsible and in charge until the goods reach their destination. For this reason, the CIF term is often confused with the DES term. However, the two terms could not be more different. A CIF contract is somewhere between a DES contract and an FOB contract. A DES contract calls for title and risk of loss in the goods to remain with the seller until they have been unloaded at the specified unloading port. The seller also arranges transportation. An FOB contract calls for title and risk of loss to pass to the buyer *at the loading port* when delivered on board a carrier provided by the buyer. Similarly, a CIF contract calls for title and risk of loss in the goods to pass to the buyer *at the loading port* after the seller has arranged for shipping and insurance, but FOB contracts differ from CIF contracts because, among other things, the buyer arranges transportation in the former and the seller arranges transportation in the latter.

Consider boil-off. In an FOB contract, the buyer clearly absorbs the cost and risk of boil-off, both normal boil-off as well as any excess. Conversely, in a DES contract, the seller clearly absorbs those costs and risks.

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18. TOLSTOY, *supra* note 1, at 362.

19. Shane B. McCarthy, Principal Legal Officer, Shell Australia Ltd., "LNG Sales and Shipping Agreements", at IBA/LawAsia Seminar, Energy Law in Asia and the Pacific; Singapore, 1982 (Bender 1982).

Since title and risk to the cargo in a CIF contract pass to the buyer at the loading port, logic would dictate that the buyer should bear the cost and risk of boil-off in a CIF trade as well. Fair enough, but what about excess boil-off resulting from a defect in the tanker's insulation or in the vessel's operations? The seller arranged for the tanker, and therefore, as between buyer and seller, it would seem fair that the seller should be responsible for any breach of warranty from the shipowner that might result in excess boil-off. This argument is particularly compelling because the seller would normally have required the shipowner to accept responsibility for excess boil-off in the charterparty negotiated between the seller and the shipowner or carrier.

However, since the bill of lading would undoubtedly be endorsed over to the buyer, there is the possibility of a double recovery by the buyer (once against the seller and once against the shipowner or carrier) unless provisions in the sales contract, charter, charter assignment, subcharter, or bill of lading adequately address the issue. Excess boil-off can also cause a problem with quality, because the greater the boil-off, the richer the remaining LNG becomes.

Handling the heel is another complication with CIF sales. Should it be transferred to the buyer at the loading port and then transferred back to the seller at the unloading port after the remainder of the cargo has been offloaded? Suppose there is a total or partial loss of the cargo during the laden voyage? Normally, in LNG trades, all of the cargo except the heel and boil-off is scheduled for physical delivery to one buyer at the named port. Under some legal systems, dividing ownership of fungible goods in the same containers is problematic.<sup>20</sup> So, the best thing that can be done is to provide, implicitly if not explicitly, in the sales contract and relevant transportation agreements that a full cargo will pass to buyer at the loading port. Then, notwithstanding the seller's (and carrier's) duty to deliver a full cargo to the buyer, the seller/carrier is entitled to receive back an appropriate quantity (the *heel*) of LNG on board in order to keep the cargo tanks cool for the return voyage, with title to the heel reverting to the seller after the rest of the cargo has been unloaded.<sup>21</sup>

If an LNG tanker were being used exclusively on multiple voyages for CIF deliveries between the same seller and the same buyer, then the problem would not be as great. The heel issue would be handled as it is in the case of FOB sales, i.e., the heel is and remains the property of the buyer. However, it is not always possible to predict whether multiple voyages to the same buyer by the same vessel will prevail, since the shipper (in the case of a CIF sale, this would be the seller) must preserve the

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20. BENJAMIN'S SALE OF GOODS para. 18-251 (A.G. Guest ed., Sweet & Maxwell, 6<sup>th</sup> ed. 2002).

21. See, *infra*, Schedule A, Part 4(g).

flexibility to utilize the vessel in other trades in the event of a buyer force majeure, a buyer default, or simply because of scheduling requirements or transportation economics.

Because of the greater certainties with FOB and DES sales, and the additional complications that are presented with the sale of LNG on CIF terms, relatively few CIF LNG contracts have been entered into. Occasionally one hears of a DES contract referred to as a CIF contract, but this is merely a mistake of nomenclature. The dearth of LNG CIF contracts in the past does not mean that the CIF contract model should be excluded from the LNG planner's tool bag. For example, in DES sales, a seller might be concerned about exposure to double taxation in the event passage of title and risk takes place within the jurisdiction of the taxing authorities at the unloading port. DES sales might also expose the seller in some cases to other forms of cumbersome business regulation in the unloading port that could be avoided if title and risk in the cargo shift to the buyer at the loading port, as is the case with CIF (and FOB) sales. Nonetheless, the CIF approach is a model that requires even more attention in the planning, structuring, pricing, and drafting than its more frequently utilized cousins. In Schedule A below, compare the relatively simple provisions required for an FOB or DES sale with the complex provisions required for a CIF sale.

### *C. Sales on the High Seas*

A Russian is self-assured just because he knows nothing and does not want to know anything, since he does not believe that anything can be known.

Tolstoy<sup>22</sup>

If CIF sales introduce added complications, a sale on the high seas makes the complications even worse because of the uncertainty of precisely when the sale takes place and what is being transferred at the time (especially due to difficulties in measuring boil-off en route). Possible complications arise with insurance, relationships with the carrier and, in general, all of the problems that a CIF sale faces plus many more. In the "high seas" approach, we are faced with the dilemma faced by Tolstoy's Russian, "can anything be known?" In particular, can the quantities of LNG that are to be transferred at the designated point on the high seas be known? Presumably, with modern navigational aids, we can know the exact point where the transfer takes place, but we must still face the difficulty of measuring the quantities left after boil-off at that point. Pre-

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22. TOLSTOY, *supra* note 1, at 362.

sumably, the way out of the draftsman's existentialist dilemma is for the draftsman of a contract for "high seas" sales to make approximations which can then be the subject of "true-up" calculations from time to time, based on further experience and measurements made at the time of unloading. Whether both buyer and seller can get comfortable with this approach is another question.

Even if both the buyer and seller agree to a "high seas" sale, the parties are faced with the old conundrum of whether any interest in goods can pass if the goods cannot be clearly identified, particularly when they form part of the bulk shipment of a fungible commodity. If the quantities of LNG on board a vessel on the high seas cannot be measured with any degree of precision, can an interest in them pass at that time? This has been viewed by the commentators as a special problem in connection with overseas sales where the subject of the sale is part of a bulk shipment which will not be split up until a considerable amount of time after the sales contract has been executed, particularly where a long sea voyage is involved. In this case, some of the goods may have "perished" (e.g., through boil-off) or changed in quality (e.g., through "weathering"), or one of the parties may have become insolvent. The result may be that the rules used to determine the effect of such events cannot be readily applied. Worse yet, in some jurisdictions such a sale might not be enforceable.<sup>23</sup>

This issue is addressed to some extent in the Uniform Commercial Code and the English Sale of Goods Act. In any event, special care needs to be given to specifying the means by which the goods are "identified" and whether it is even possible to identify goods that will be subject to reduction in quantity or possible changes in quality en route due to weathering or other vagaries of a sea voyage.<sup>24</sup>

So, although sales on the high seas may be possible, they introduce another layer of complexity and uncertainty. It would seem for the most part that the reasons to consider a sale on the high seas might generally be satisfied by a CIF sale or one of the other traditional terms of sale. The one exception might be in the case where a "high seas" sale is determined to minimize optimally both (i) the buyer's exposure to risks in the loading port and (ii) the seller's exposure to risks in the *unloading* port. If not properly implemented, however, use of "high seas" delivery terms might backfire on the parties. It is interesting to note that, with good reason, Incoterms 2000, the most widely referred to set of delivery trade terms in the world, does not provide for deliveries on the high seas.

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23. BENJAMIN'S SALE OF GOODS, *supra* note 20, at paras. 18-251, 253-272.

24. N.Y. U.C.C. LAW §§ 2-105, 2-501 (McKinney 2002); Sale of Goods Act 1979, c.54 §§ 16, 20A, 20B (Eng.), *amended by* Sale of Goods Act 1995.

#### *D. Other Delivery Terms*

In theory, the draftsman is completely free to choose from a panoply of other delivery terms used in other industries, or to develop completely novel terms out of whole cloth to meet the exigencies of a given LNG sales contract. One such possibility in the appropriate circumstances might be DEQ (Delivered Ex Quay).<sup>25</sup>

### IV. MINIMIZING *SELLER'S* EXPOSURE TO RISKS AT THE *UNLOADING* PORT

For obvious reasons, LNG sellers seek to minimize their risks at unloading ports. These risks fall roughly into three categories: (i) liability to third parties, (ii) government regulation, and (iii) taxation. The traditional path to minimizing these risks has been to sell LNG on an FOB *loading* port basis. However, in situations where the seller wants to control shipping and has the bargaining power to do so, the parties are left to consider DES, CIF, or “high seas” sales. Sellers might want to control shipping as a hedge against buyer’s default, a buyer related force majeure, or other events or as a means to control the destination of their output.

#### *A. DES Sales*

Traditionally, in spite of title passage at the unloading port, sellers felt comfortable utilizing the DES approach for exports to most destinations, especially if the seller’s actual presence at the unloading port was minimized by making deliveries in tankers owned and operated by independent shipowners under time or voyage charterparties, contracts of affreightment, or other forms of agreement where the carrier becomes a bailee of the LNG.

#### 1. Third Party Liability

In DES sales, except in the limited situations where *strict* liability might be imposed on the LNG owner, exposure of the seller to third party liabilities in the unloading port is minimized because the LNG is in the hands of a bailee (the carrier) until physical delivery to the buyer. Under those circumstances, the seller would only be liable to a third party if it could be shown that the seller was negligent in the selection of the bailee and that negligence was the proximate cause of the third party’s loss. It should be noted that, even if title and risk of loss pass outside the jurisdiction of the importing country, the seller will not be perfectly shielded from third party liabilities relating to LNG sold by the seller be-

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25. INCOTERMS 2000, *supra* note 2, at 105.

cause the seller has intentionally allowed the LNG to enter into the “stream of commerce” of the importing country and has benefited from that activity. In any event, to the extent exposure to third party liabilities exists, considerable protection can be found in properly drafted contractual indemnities with creditworthy parties and insurance.

## 2. Government Regulation

Some government regulation in the jurisdiction of the unloading port might exist regardless of the place of the sale. However, normal DES terms would not be likely to trigger much regulation of the seller in the unloading port because DES terms normally place the responsibility for dealing with such regulation in the hands of the buyer. For example, in a DES sale under Incoterms, the buyer must obtain at its own risk and expense any import license or other official authorization and carry out, where applicable, all customs formalities necessary for the import of the LNG.<sup>26</sup> Under these terms, the seller is not maintaining an inventory at the unloading port and is not, without more, normally considered to be “doing business” at the unloading port by the mere fact that the seller is delivering goods there to the buyer at the ship’s rail. If the seller determines it is necessary to locate its own personnel on a permanent basis at the unloading port, analysis of the “doing business” issues is not likely to differ whether the sales involved are FOB, DES, CIF, or “high seas” sales.

## 3. Taxation

Traditionally, sellers have not been overly concerned about taxation on income or gross receipts from DES sales by tax authorities at unloading ports, either because of fairly clear tax rules (which might include benefits of a tax treaty) or because of a clear tax indemnity from the buyer in the sales contract. Even in the United States, tax advisors did not appear overly concerned about the possible incidence of taxation on the income or gross receipts of DES sellers by United States taxing authorities. They were presumably relying on provisions of the Internal Revenue Code and cases to the effect that, regardless of contractual delivery terms, only foreign corporations engaged in a trade or business in the United States would be subject to federal tax on income from sales of LNG, and then only if the income was effectively connected with a U.S. trade or business.<sup>27</sup>

Although no case has directly considered this issue in the context of frequent sales of a commodity from the same foreign source, several re-

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26. *Id.* at 98-103.

27. I.R.C. §§ 864(c), 865(a), (g), 882 (2000).

spectable commentators continue to maintain the view that, if sales do not involve (i) a U.S. office or agent, (ii) marketing or direct solicitation inside the U.S., or (iii) the maintenance of inventory in the U.S., then the direct sale of foreign products to U.S. purchasers will not constitute a U.S. trade or business and the foreign corporation will not therefore be subject to U.S. tax on income from these sales, regardless of where title, risk of loss, and other vestiges of ownership pass to the U.S. buyer.<sup>28</sup>

Unfortunately, reliable authority is sparse on what constitutes a “trade or business” and “effectively connected income” in this context. Because the determination of what should be included in these terms is so fact specific, the Internal Revenue Service will not normally issue rulings on the subject.<sup>29</sup> Due to this lack of authority and the recent dramatic increase in U.S. LNG imports, some tax advisors are seeking a safer approach to the U.S. tax issue by recommending that LNG sales into the U.S. be made on a CIF or “high seas” basis outside U.S. tax jurisdiction and quite possibly outside the taxing jurisdiction of any other country as well. The CIF approach is certainly a viable alternative to the DES approach, assuming the parties are willing to address the additional complications discussed above. If considered absolutely necessary, good lawyers working with good commercial and technical people can structure an effective CIF sale, assuming buyer and seller are willing to address and allocate responsibility for handling the additional complications which this approach requires. Before buyers and sellers are put through this ordeal, however, tax advisors should be completely satisfied that such an approach truly accomplishes their purpose, particularly in jurisdictions where income *effectively connected* with a trade or business inside the importing country is the test for taxing foreign corporations, rather than a test based on the physical place where ownership passes from seller to buyer. If a tax treaty is available between the importing country and the seller’s country of residence, the risk that the importing country will tax DES sales is further reduced.<sup>30</sup>

The same issues discussed above for CIF sales arise with respect to “high seas” sales but in far greater complexity.<sup>31</sup>

The best method for developing tax-optimal delivery terms is for the contract draftsmen to study the tax issues involved, for the tax advisors to study the non-tax issues involved, and then for the draftsmen and the tax advisors to work together in a flexible manner to create a set of delivery terms that meets commercial expectations without undue tax cost.

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28. See JESSICA L. KATZ, ESQ. & CHARLES T. PLAMBECK, ESQ., TAX MANAGEMENT PORTFOLIO NO. 908, U.S. INCOME TAXATION OF FOREIGN CORPORATIONS, 23, 26 (2000).

29. CCH STANDARD FEDERAL TAX REPORTER ¶ 27,189.20 (92nd ed. 2005).

30. See, *infra*, Part IV. B.

31. See, *supra*, Part III. C.

In truth, structuring sales and shipping arrangements expressly to mitigate possible detrimental tax consequences is not as simple as one would expect. In fact, sorting out risk and accountability issues, securing agreement among all parties involved, and other complications may stand in the way of achieving any hoped-for tax benefit.

### *B. CIF and "High Seas" Sales*

In cases where the seller wishes to minimize exposure to the risks listed above and does not want to control the shipping, it can propose an FOB sale. If the seller wants to minimize those risks and still wants to control shipping (and the buyer is willing to allow this), it can propose that sales be made on a CIF or "high seas" basis. Of the two latter choices, the CIF approach is clearly preferable because of the greater certainty it engenders, assuming the issues raised in Part III. B, above, are adequately addressed.

To the extent that the issue is tax driven, tax treaties can obviate the need to stray from FOB or DES transactions. In cases where a tax treaty exists between the importing country and a country in which the seller is entitled to be treated as a resident, utilization of the treaty can allow greater certainty that the seller will not be taxed in the importing country, because tax treaties typically exempt a qualified resident of the other country from tax on industrial and commercial profits in the importing country, such as profits from the sale of LNG, unless attributable to a permanent establishment in the importing country. A seller would not normally be considered to have a "permanent establishment" in an importing country where its only activity is the frequent delivery of LNG there, even if title and risk of loss actually pass inside the importing country.<sup>32</sup>

### V. MINIMIZING BUYER'S EXPOSURE TO RISKS AT THE *LOADING* PORT

Just as sellers seek, within commercially determined parameters, to minimize their risks at *unloading* ports, buyers seek to minimize their risks at *loading* ports. From this perspective, buyers are (i) best off with sales made on DES terms (delivery ex-ship at buyer's unloading port), (ii) worst off with sales made FOB at seller's loading port, and (iii) somewhere in between with CIF and "high seas" sales. Consequently, the analysis above that relates to minimizing seller's exposure at the *unloading* port applies *mutatis mutandis* to a buyer's exposure at the *loading* port. Of course, if a buyer wants to control shipping, it will opt

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32. See, e.g., Income Tax Treaty between Indonesia and the United States and Income Tax Treaty between Trinidad and Tobago and the United States, CCH, TAX TREATIES ¶¶ 4303, 9703 (2006).

for an “FOB loading port” type of sale and then address, by other means, the additional risks it takes on at the loading port and during the sea voyage.

#### VI. MULTIPLE STAKEHOLDERS

Risk allocation in LNG sales and shipping agreements under various legal and contractual regimes must take into consideration all stakeholders, including buyers, sellers, shipowners and operators, terminal owners and operators, government authorities, possible interim cargo owners, lenders, and insurers. Liability issues associated with ownership of ships and custody of cargo have encouraged chartering of LNG tankers; therefore agreements between shipowners and shippers must be aligned with other agreements. Guaranteed performance levels for tankers related to speed, fuel consumption, cargo capacity, and boil-off must be factored into agreements. How a surprising array of costs should be allocated under various delivery terms is also a complex matter that must be aligned in the agreements. Finally, arrangements must address exceptions and the broader impact of force majeure on each party. While it is tempting to venture away from time tested arrangements, due to the multiple variables involved, the venture should only be undertaken with great care and analysis of the effects.

#### VII. THE BOTTOM LINE

The traditional delivery points in an LNG sales contract are FOB named loading port and DES named unloading port. With new markets exposing sellers to new tax and other regulatory requirements, negotiators are beginning to consider alternative delivery points such as CIF or points on the high seas. While creativity is to be encouraged in developing more flexible delivery points, negotiators should make certain that the additional complications of such alternatives are fully explored and dealt with in the contracts. For example, will delivery on the high seas be adequately identifiable and will such a term achieve its purpose of protecting the seller (or buyer) from some perceived risk or liability? If bills of lading are involved, how should they be drafted and handled?

Even more complicated issues suggest themselves. Will a high-seas or CIF delivery point adequately treat such issues as boil-off and LNG heel? In both instances, the sales contract, the charter, bill of lading, and other shipping documents must be drafted in ways that are different from traditional standard provisions because of the novel title, quantity, quality, and risk of loss issues that these delivery points present. Unlike FOB sales, with sales made on the high seas or on CIF terms, the *seller* rather than the buyer arranges for the LNG tanker, yet the *buyer* owns the

cargo for all or much of the voyage. Conversely, unlike DES sales, with high seas or CIF sales the *buyer* rather than the seller takes title and risk of loss for the cargo before the vessel reaches the unloading port, yet again the *seller* arranges for the tanker.

These anomalies mean that claims for excess boil-off and weathering among seller, buyer, and shipowner must be addressed differently from the practice in FOB or DES sales. Similarly, issues related to ownership of the LNG heel remaining onboard after unloading at the LNG receiving terminal need to be addressed differently. Finally, the sales price for LNG delivered and invoicing procedures may need to be adjusted to reflect the fact that, due to boil-off, the buyer will receive LNG at the unloading port that is of a different quality (because it has “weathered”) and is less than the amount it acquired title to on the high seas or at the loading port.

As the industry moves away from rigid acceptance of traditional LNG delivery terms, the LNG planner is faced with the existentialist dilemma that he is both liberated and imprisoned by his freedom in choosing delivery terms, and he must bear the consequences of his choice.

SCHEDULE A  
EXAMPLES OF LNG DELIVERY TERMS

1. FOB-type deliveries (from a 1995 long-term Pacific Basin LNG sale and purchase agreement):

The LNG to be sold by Seller and purchased by Buyer hereunder shall be delivered to Buyer at the Delivery Point at the Loading Port. Delivery of LNG shall be deemed completed and title to and risk of loss of such LNG shall pass from Seller to Buyer as the LNG passes the Delivery Point. As used in this agreement, the "Delivery Point" means the point at the Loading Port at which the flange coupling of seller's loading line joins the flange coupling of the LNG loading manifold onboard an LNG Tanker. [Other provisions allocate responsibilities for (i) taxes and port charges in the loading port jurisdiction, (ii) LNG tankers (which Buyer agrees to provide), (iii) operations, etc.]

2. FOB-type deliveries with modified "destination clause" (from a 2005 long-term Middle East LNG sale and purchase agreement):

Title to and risk in LNG delivered under this Agreement shall pass from Seller to Buyer as the LNG passes the Delivery Point. Buyer shall be responsible for the transportation from the Delivery Point to the Discharge Port of all quantities of LNG to be sold and purchased under this Agreement. As used in this Agreement, (i) "Delivery Point" means the point at which the flange coupling of the loading line at Seller's Facilities joins the flange coupling of the loading manifold of the LNG Vessel, and (ii) "Discharge Port" means \_\_\_\_\_ [or an alternate port nominated by buyer which meets certain minimum requirements and contains provisions to calculate the increase in the delivered price of the LNG, if any, resulting from delivering the LNG to an alternate port. The net increase would then be shared between buyer and seller]

3. DES-type deliveries (from a 1995 long-term Pacific Basin LNG sale and purchase agreement):

The LNG to be sold by Seller and purchased by Buyer hereunder shall be delivered to Buyer at the Delivery Point. Delivery shall be deemed completed and title and risk of loss shall pass from Seller to buyer as the LNG reaches the Delivery Point. As used in this agreement, the "Delivery Point" means the point at an Unloading Port where the flange coupling of Buyer's unloading line joins the flange coupling of the LNG discharging manifold on board the LNG tanker. [Other provisions allocate

responsibilities for (i) taxes and port charges in both the loading port and the unloading port jurisdictions, (ii) LNG tankers (which Seller agrees to provide), (iii) operations, etc.]

4. CIF-type deliveries (from a 2003 Atlantic Basin long-term LNG sale and purchase agreement):

Delivery Point, Title and Risk

- (a) Risk in, title to and property in the LNG to be delivered under this Agreement shall pass from Seller to Buyer as the LNG passes the Loading Points. As used in this Agreement, "Loading Points" mean the points at which the inlet flanges of the permanent loading pipe system of the LNG Tanker connect with the outlet flanges of the LNG loading arms on the LNG loading jetty at Seller's Facilities.
- (b) Seller shall either: (i) pay for Buyer to obtain Cargo Insurance (in Buyer's name) for each cargo delivered under this Agreement up to a maximum premium of US \$\_\_\_\_\_ per cargo (the "Insurance Cap"); or (ii) indemnify Buyer up to the Cargo Value for the cargo in question in the event of a loss of cargo (the "Indemnity"). The terms of the Indemnity shall be limited to Seller's current P&I cover but shall not be below the Cargo Value. For purposes of this subclause (b), Seller shall inform Buyer of its decision at least 90 days before commencement of a Sales Period or the Make-up Extension.
- (c) Buyer shall use its reasonable efforts to obtain the Cargo Insurance at the best price available, nonetheless, the level of cover obtained by Buyer may exceed that specified in the definition of cargo Insurance provided that the premium does not exceed the Insurance Cap.
- (d) If at any time (i) Cargo Insurance becomes commercially unavailable or (ii) the cost of Cargo Insurance exceeds the Insurance Cap, Seller will at Seller's option either (A) undertake to reimburse Buyer such amount as is necessary to obtain Cargo Insurance or (B) provide the Indemnity.
- (e) Seller shall reimburse Buyer, within 20 Days from receipt of an invoice from Buyer, for the costs of Cargo Insurance obtained by Buyer pursuant to this Clause, together with all documented and

reasonably incurred costs. Subject to subclause (d), the total amount payable by Seller shall not exceed the Insurance Cap.

- (f) Buyer shall at Seller's request return to the LNG Tanker Regasified LNG, at a temperature not higher than minus 110 degrees Celsius, in a quantity not exceeding that necessary to maintain the pressure in the LNG cargo tanks of the LNG Tanker between 1,080 and 1,200 millibars absolute.
- (g) In respect of the unloading at the Receiving Facilities of any LNG Tanker transporting LNG in connection herewith, provided such LNG Tanker is scheduled by Seller to load LNG within 30 (thirty) Days following completion of such unloading, Buyer consents to Seller retaining onboard the LNG Tanker an amount of LNG sufficient (in the sole opinion of Seller) to permit such LNG Tanker to maintain a temperature no higher than minus 145 degrees Celsius at the bottom of its tanks for the period ending with the expiry of 24 consecutive hours after its arrival at Seller's Facilities at the end of the return voyage, on the assumption that the LNG Tanker will proceed to Seller's Facilities directly at speeds compatible with normal operating procedures in the LNG trade.
- (h) If Seller does not comply with the proceeding provisions of this Clause prior to the time of loading of the relevant cargo, risk shall not pass at the Loading Points in accordance with subclause (a) above but shall instead pass from Seller to Buyer at the Unloading Points of the Receiving Facilities. Notwithstanding the transfer of title to a cargo to Buyer pursuant to subclause (a), Buyer's obligation to pay for such cargo remains intact. In the event of a loss of cargo, Buyer will pay Seller on the same basis and amounts as if such loss of cargo was a cancellation after loading pursuant to Clause\_\_\_ and payments shall be made in accordance with Clause\_\_\_, but Buyer will not, as a result of such payments, earn any additional rights, including but not limited to Make-up rights. ACQ shall be reduced accordingly.
- (i) Where risk in, title to and/or property in LNG to be delivered under this Agreement has passed to Buyer, risk in, title to and (as the case may be) property in that LNG or Regasified LNG (as the case may be) will revert to Seller in the following circumstances:

No. 2] LNG Sales and Shipping 55

- i. on receipt by Seller of a notice of cancellation or rejection by Buyer under the terms of this Agreement;
- ii. upon Seller requiring unloading to be discontinued in accordance with Clause \_\_\_;
- iii. upon LNG Tanker being instructed by Buyer to proceed off berth in accordance with Clause \_\_\_; and
- iv. with respect to LNG heel, upon departure of the LNG Tanker from the berth at the Receiving Facilities after unloading an LNG cargo hereunder.

Tankers

Seller shall cause the LNG purchased and sold hereunder to be transported and unloaded by LNG tankers which (at all relevant times) satisfy the following requirements: [Detailed LNG tanker requirements and provisions for substitute tankers are set out]

Invoicing

Within 48 (forty-eight) hours after the completion of unloading of each cargo of LNG purchased by Buyer under this Agreement, Buyer shall send or cause to be sent to Seller by Electronic Mail or facsimile a Certificate on Unloading substantially in the form of Attachment\_\_ containing all data necessary to determine the aggregate quantity in MMBtus of LNG unloaded at the Receiving Facilities (including all measurements and calculations required to be made by Buyer in accordance with the procedures set forth in Clause\_\_). The original Certificate on Unloading shall be sent by courier to Seller within 5 Days after completion of unloading.

5. "High Seas"-type deliveries

The author has recently been involved with three distinct LNG sale and purchase transactions in which the possibility of transfers of title, etc., on the *high seas* has been considered. None of these three transactions has yet been consummated. Although the author has his own ideas as to how such a clause should be drafted, he prefers not to submit such a clause for publication until it has been tested by the full give and take of commercial negotiations. For the present, suffice it to say that, if the reader finds the CIF clause above to be complex, a High Seas clause is even more so.