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CISG AND THE FINAL FRONTIER: CONTRACTING FOR THE INTERNATIONAL SALE OF GOODS THAT ORIGINATE FROM, ARE DELIVERED IN, OR TRANSIT THROUGH OUTER SPACE AND THE PASSAGE OF RISK OF LOSS

Michael C. Mineiro

Institute of Air and Space Law, McGill University- Montreal, Canada

Michael.mineiro@mail.mcgill.ca

Abstract

As the commercial potential of outer space is developed, goods will be demanded and so will contracts to govern the sale of those goods.

This paper examines the applicability of CISG to contracts for the international sale of goods that originate from, are delivered in, or transit through outer space. CISG default provisions are assessed for their adequacy to proportion risk of loss given the environmental and technical challenges of outer space.

Finally, based on the findings of these analyses, this paper concludes as to the sufficiency of CISG to govern the contracts for the international sale of goods that originate from, are delivered in, or transit through outer space.

I. Introduction

There is no agreement under international private law *specifically designed* to govern contracting for the international sale of goods that originate from, are delivered in, or transit through outer space.

The current void in international law raises the following questions: Does the United Nations Convention on Contracts for the International Sale of Goods (CISG)¹ apply to contracts for the international sale of goods that originate from, are delivered in, or transit through outer space? If applied, does CISG adequately take into account the

unique characteristics of outer space to such an extent that CISG can be relied upon? Should default CISG provision be modified to better facilitate contracting for the international sale of goods in outer space?

This paper first assesses CISG's applicability to contracts for the international sale of goods that originate from, are delivered in, or transit through outer space. Thereafter, given the environmental and technical challenges of outer space, CISG's adequacy to proportion the risk of loss, passing of risk, and obligations to transfer goods in outer space is assessed.

The assessment of passage of risk provisions is undertaken via hypothetical scenarios that are designed to provide legal practitioners with a framework from which to begin analyzing the complexities of contracting for risk of loss in outer space. Proposals are made to modify the default CISG risk of loss provisions to better suit the unique characteristics of outer space. The need for outer space specific trade terms, i.e. Incoterms, is discussed. Cross-waiver of liability provisions are examined.

Based on the findings of these analyses, this paper concludes as to the sufficiency of CISG to govern the contracts for the international sale of goods that originate from, are delivered in, or transit through outer space.

II. What is CISG?

The United Nations Convention on Contracts for the International Sale of Goods (CISG) was adopted on April

¹ *United Nations Convention on Contracts for the International Sale of Goods (CISG)*, 11 April 1980, 1489 U.N.T.S. 3 (entered into force 1 January 1988).

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11th, 1980. It is an international treaty that provides a uniform text of law for the international sale of goods.² CISG does not apply to contracts for the sale of services.³ Its subject matter is restricted to the formation of the contract and the rights and duties of the buyer arising from such a contract.⁴ Seventy-one states are party to the convention.⁵

III. CISG and Outer Space: CISG can apply to contracts even if the goods originate from, are delivered in, or transit through outer space

While originally conceived as a convention covering contracts for the terrestrial international sale of goods, CISG does not prohibit its application to the international sale of goods that originate from, are delivered in, or transit through outer space.

Part I of CISG, *Sphere of Application and General Provisions*, sets the conditions necessary for CISG's applicability. If these conditions are fulfilled, CISG could apply, regardless of the geographic location of the goods.⁶

Article 1 provides the basic rules to determine if CISG is applicable.⁷ Article 1(1) states: "This

Convention applies to contracts of sale of goods between parties whose places of business are in different States."⁸ In addition to this requirement, one of two other conditions must be fulfilled: either the parties' places of business are located in Contracting States or the rules of private international law lead to the application of the law of a Contracting State.⁹

These conditions can be fulfilled, even if the goods originate from, are delivered in, or transit through outer space. For example, S is a space-widget company, whose place of business is located in the United States.¹⁰ S has 1,000 space-widgets in storage in an outer space cargo facility. B is a mining company whose place of business is located in China.¹¹ B wishes to purchase the 1,000 space-widgets for their mining operation on an asteroid in outer space. S agrees to this contract and delivers the goods (as contracted) to a location on B's mining asteroid.

The contracting parties, B and S, have their places of business in different States. Both of these States are Contracting States.¹² Article 1 conditions for CISG's application have been fulfilled, irregardless of the goods having originated in, transited through, and been delivered in outer space. So long as other relevant CISG provisions are met, CISG will apply to this contract.

² CISG merges two earlier conventions, the 1964 Hague Formation Convention and the 1964 Hague Sales Convention.

³ CISG, Art. 3(2).

⁴ CISG, Art. 4.

⁵ As of July 8th, 2008, seventy-one States are party to the Convention. See UNCITRAL website

<http://www.uncitral.org/uncitral/en/uncitral_exts/sale_goods/1980CISG_status.html>.

⁶ During the initial demand for contracts involving goods in outer space, Sellers and Buyer will be located on earth. While the goods under contract may be located in outer space, business will still be conducted on earth. The cost of business operations, the convenience of contract formation, and practical reasons will make earth the location for places of business to be located.

⁷ CISG, Article 1.

⁸ Id.

⁹ CISG, Art. 1(a) and 1(b).

¹⁰ Both parties have places of businesses located in outer space (i.e. multiple places of business). In the contract they agree their respective business headquarters, which are located in China and the United States, are the relevant places of business for the purposes of the contract.

¹¹ Id.

¹² Both China and the United States are Contracting States.

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IV. Other Articles Governing CISG's Scope of Application to Consider

Three key articles governing CISG's scope of application are Article 2(e), Article 6, and Article 90.

Article 2(e) excludes CISG application to the sale of "ships, vessels, hovercraft or aircraft."¹³ This exclusion does not explicitly apply to spacecraft or other space objects. Some commentators have proffered that rockets, satellites, and space stations are not excluded under Article 2(e) and hence fall under the Convention.¹⁴ This is mostly likely the case. However, interpreting the term vessel to include spacecraft that exhibit the functional characteristics of a transport vehicle is reasonable and if so interpreted such spacecraft would not be covered by CISG. To further complicate matters, it should be noted that in outer space a vessel may take on the dual-role of being both a means of transportation and a good.¹⁵

Article 6 grants parties the freedom to contract. Parties may exclude the application of CISG or derogate from or vary the effect of any of its provision.¹⁶

Article 90 regulates the relationship between CISG and other international agreements.¹⁷ If an

¹³ CISG, Art. 2(d).

¹⁴ Peter Schlechtriem & Ingeborg Schwenzer eds., *Commentary on the UN Convention on the International Sale of Goods (CISG)* (Oxford University Press, 2005), Commentary on Art.2 at 52 [para. 35] footnote 69.

¹⁵ For example, B may contract for pre-fabricated space buildings. These buildings have the dual use of being space fairing vessels. The buildings can take off and land on different planets, although it is difficult and costly. Their primary use is to be space buildings. Do these buildings meet Article 2(e) vessel exclusion?

¹⁶ CISG, Art. 6.

¹⁷ Fritz Enderlein and Dietrich Maskow, International Sales Law: U. N. Convention on Contracts for the International Sale of Goods, (1992). Author commentary on CISG Article

international agreement contains provisions concerning matters governed by CISG, the international agreement's provisions prevail over CISG, provided that the parties have their places of business in States parties to such agreement.¹⁸

V. General Considerations of Risk of Loss and Passage of Risk in Outer Space

On earth, goods may become damaged for a variety of reasons; flood, fire, shipwreck, carrier neglect, and theft, just to name a few. In outer space, the risk of loss to goods becomes even greater. Goods may be damaged by space-debris, radiation, loss of transportation vessel, and a variety of other foreseeable and unforeseeable events. When goods are damaged or loss, the party assuming the risk of loss must deal with costly and draining legal ramifications. If there is no insurance, the party bears the complete loss of the goods. If the party does have insurance, they must press a claim against the insurer, wait for a settlement, and may have the responsibility of salvaging damaged goods.¹⁹ On earth, assignment of this risk is extremely important. Given the special environment conditions of outer space and the potential risks of loss, determining who bears that risk is paramount.

VI. CISG's Default Provisions on Risk of Loss and the Passage of Risk: Articles 66-70

CISG risk of loss and passage of risk provisions are default rules that

90; reproduced with permission on <http://www.cisg.law.pace.edu/cisg/biblio/enderlein-art90.html>.

¹⁸ CISG, Art. 90.

¹⁹ Enderlein, *supra* note 17; Author commentary on CISG Article 67; reproduced with permission on <http://www.cisg.law.pace.edu/cisg/text/secomm/secomm-67.html>.

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operate in the absence of the parties' contrary agreement. Depending on the desires of parties involved, the default CISG provisions may or may not be adopted. It is common practice for parties to derogate from CISG and draft their own risk of loss and passage of risk provisions. Nonetheless, these provisions are still important because they provide guidance to practitioners drafting alternative provisions.

CISG Chapter IV Articles 66-70 are the default provisions governing the passing of risk of loss. These articles allocate the risk of loss and passage of risk in four different situations. Article 67 allocates the risk of loss when the contract involves the carriage of goods. Article 68 allocates the risk of loss when the goods are sold in transit. Article 69(1) allocates risk when the buyer picks up the goods from the seller's place of business. Article 69(2) applies to all other transactions, such as "destination contracts, bailment contracts, and contracts in which the seller uses his own vehicle to deliver goods to the buyer."²⁰ Article 66 establishes that loss of or damage of goods after the risk has passed to the buyer does not discharge the buyer from his obligation to pay the price, unless the loss or damage is due to an act or omission of the seller.²¹ Article 70 clarifies that buyer's remedies on account of the seller's fundamental breach of contract take priority over the risk rules.²²

Article 67 applies when seller is required to ship the goods or is

authorized to do so.²³ If the contract involves carriage of the goods and the seller is not bound to hand them over at a particular place, the risk passes to the buyer when the goods are handed over the first carrier for transmission to the buyer. Alternatively, if the seller is bound to hand the goods over to a carrier at a particular place, the risk does not pass to the buyer until the goods are handed over the carrier at that place.

Article 68 applies when the goods are in transit at the time the contract of sale is concluded.²⁴ The risk of loss transfers to the buyer at the time of contract conclusion, but the buyer's risk retroactively begins in certain circumstances when the goods were placed on the carrier.²⁵ The buyer is protected if the seller knew or ought to have known at the conclusion of the contract of sale that the goods had been lost or damaged and did not disclose this to buyer.²⁶

Article 69 applies to cases not within articles 67 and 68. Article 69 "anticipates that the buyer will take possession of the goods and arrange for the necessary transport."²⁷ Risk passes to the buyer when he takes over the goods or, if he does not do so in due time, from the time when the goods are placed at his disposal and buyer commits breach for failing to

²⁰ Mitchell Stocks, *Risk of Loss Under the Uniform Commercial Code and the United Nations Convention on Contracts for the International Sale of Goods: A Comparative Analysis and Proposed Revision of UCC Sections 2-509 and 2-510*, 87 NW. U.L. Rev. 1415 at 1434.

²¹ CISG, Art. 66.

²² Schlechtriem, *supra* note 14; Commentary on Art.70 at 696 [para. 2].

²³ *Supra* note 17; Author commentary on CISG Article 67; reproduced with permission at <http://www.cisg.law.pace.edu/cisg/text/secomm/secomm-67.html>.

²⁴ CISG, Art. 68.

²⁵ Enderlein, *supra* note 17; Author commentary on CISG Article 68; reproduced with permission at <http://www.cisg.law.pace.edu/cisg/text/secomm/secomm-68.html>.

²⁶ CISG, Art. 68.

²⁷ Enderlein, *supra* note 17; Author commentary on CISG Article 69; reproduced with permission at <http://www.cisg.law.pace.edu/cisg/text/secomm/secomm-69.html>.

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take delivery. In accordance with Article 69(2), if the buyer is bound to take over the goods or, if he does not do so in due time, from the time when the goods are placed at his disposal and buyer commits breach for failing to take delivery. If the buyer is bound to take over the goods at a place other than the place of business of the seller, the risk passes when delivery is due and the buyer is aware of the fact that the goods are placed at his disposal at that place.

CISG default passage of risk provisions needs to be read in conjunction the Convention as a whole, in particular with Article 36, Article 7(2), and Article 49(1) of CISG. Article 36 establishes the time at which goods must be in conformity with the contract. However with goods transiting through outer space, determining the time at which goods are in conformity may prove difficult. Article 7(2) fills the non-conformity timing gap with the general principle that a person who relies on a rule in his favor must prove that the preconditions for the application of the rule are satisfied.

Deciding who bears the risk of loss is crucial when negotiating and agreeing upon a contract. In practice, the default provisions listed *supra* may not allocate risk as desired among the contracting parties. It is likely, especially when outer space is involved, parties will want to alter or exclude the default CISG provisions on the passage of risk.

VII. CISG's Default Passage of Risk Provisions within the Context of Outer Space

Outer space poses new and sometimes riskier environmental conditions than earth. How goods are to be delivered, the risks involved in transport, the time needed to reasonably determine if goods have

been damaged, the ramifications in case of breach; all of these contractual issues are given an extra dimension in outer space. To be sure, the lessons learned from contracting on earth can apply to outer space. However, practitioners unfamiliar with outer space need to take into special consideration how parties will want to contract in this new environment. The passage of risk provisions in CISG are an excellent example of contractual provisions that might need to be varied given the particulars of outer space.

In the following section, Articles 67, 68, and 69, are reviewed within the context of outer space. Each article's review begins with a hypothetical scenario. Each scenario applies CISG and the relevant passage of risk provisions when the goods are geographically located in outer space. Then, the provisions are examined and potential short-comings in default application of the provisions are discussed. Finally, alternatives to the default provisions are given. These alternatives attempt to harmonize CISG's passage of risk provisions with outer space.

1. Article 67: Shipping Contracts

Article 67 applies in two different scenarios involving the carriage of goods. In the first scenario, the risk of loss passes to the buyer when the goods are handed over to the first carrier for transmission in accordance with the contract of sale.²⁸ In the second, the Seller assumes the risk until goods are handed over to a particular carrier at a particular place.²⁹

For example, under the first scenario, a typical contract may be as follows: Seller owns a factory on the Moon. Buyer contracts for the sale of

²⁸ CISG, Art. 67.

²⁹ *Id.*

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goods. According to the terms of the contract, goods are to be picked up at Seller's factory and Seller does not need to transport the goods. Buyer independently hires a carrier to ship to the goods to earth. The carrier arrives at Seller's factory and the Seller hands over the goods to the carrier for transmission to the Buyer. When the goods are "handed over," the passage of risk has occurred.³⁰

Allocating risk of loss under this provision, just as it would be on earth, works well in the given context of outer space. On earth, an overland carrier may pick up goods from the Seller factory and ship them to a second carrier for international transport. In outer space, a similar situation may arise if the Seller would lack a facility capable of accommodating the carrier or the carrier refused to go directly to Seller's factory. In either situation, the risk of loss passes when the goods are handed over to the first carrier for transmission.³¹ This is a fairly clear passage of risk that provides predictability for the parties involved.

In the second scenario, the passage of risk occurs when the goods are handed over to a particular carrier. Multiple carriers are involved and the Seller assumes the risk of loss during part of the goods transport. For example, Seller owns a factory on the Moon. Buyer contracts for the sale of goods. According to the terms of the contract, Seller is to handover the goods at a space station in low earth orbit. Buyer has contracted for a carrier to ship the goods from the space station to Earth. The Seller assumes the risk until the goods are handed over to the Buyer's particular carrier.³²

In the event that goods are lost or damaged while the goods were

being handed over, an important question will be raised: At what point were the goods and the risk of loss handed over?

Outer space will require special methods and technology to pickup, handover, and transport goods. Depending on the method and technology used, it may be difficult for parties to determine exactly when the goods were handed over. There may be no precedent dealing with this method of transfer for the parties to rely on. The point in time when "goods are handed over" may be ambiguous or undefined. A good lawyer will draft an additional provision to Article 67, clearly defining the process of "handing over" and the procedure for determining when the goods were "handed over." Such a definition will need to be created for each contract and the special circumstances presented. Once defined, risks of loss will be more predictable. This is essential because it will allow both parties involved to consider the risks of the contract and take steps to mitigate that risk.³³

Under Article 67 the passage of risk may become split in three cases, "namely if the seller (i) uses his own personnel to transport , (ii) is obliged to hand over the goods to the carrier at a particular place, or (iii) identifies the goods to the contract only after the transport has commenced."³⁴ If the place where damage occurred cannot be established in such cases "which party bears the risk will ultimately be decided by the question which party bears the burden of

³⁰ Id.

³¹ Id.

³² Id.

³³ One of the actions a party can take to mitigate a risk is insurance. As discussed later in this paper, insurance and its successful adoption in outer space is directly related to the predictability of risks of loss.

³⁴ Schlechtriem, *supra* note 14; Commentary on Art.67 at 684 [para. 11].

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proving the existence of conforming or non-conforming goods.”³⁵ Ultimately, this is a matter of substantive law governed by the proper law of the contract.³⁶ When goods are transported through outer space, depending on the type of damage and container monitoring technology, it may be challenging to identify the place where damage occurred. In such a case, the issue of burden of proof will be of significance.

2. Article 68: Contracted while the goods are in transit

A scenario involving Article 68’s application in outer space could be as follows: Seller has goods stored in an outer space warehouse orbiting earth. A carrier picks up the goods at the warehouse and begins transporting the goods to Mars. As the goods are being transported, buyer contracts with seller for sale of goods. Risk of loss passed to the buyer when the contract was concluded.³⁷

Article 68 attempts to protect the buyer by placing the risk of loss on the seller if at the time of conclusion of the contract the seller “knew or ought to know” the goods had been damaged or lost and did not disclose.³⁸ In outer space, this protective provision may not be so effective and the buyer, absent a modification of this provision, may be assuming significant risks of loss.

For example, in outer space it is very likely the storage and transportation of goods will be unmanned, i.e. completely automated. Parties wishing to check goods for damage or loss will have to do so remotely, via robots, computers, and other equipment. Depending on the

facilities the goods are stored in and the tools available to check for damage, the seller’s ability to “know” or “ought to know” will be affected. If the seller has minimal means of determining the goods have been damaged or loss, the seller may limit his risk of loss without intentionally misleading the buyer.

Prior to contract conclusion the buyer will want to know the safeguards seller has in place to determine if goods are damaged. Buyer may need to vary Article 68 if the seller has limited means of verifying goods. Failing to do so will place an additional risk of loss upon the buyer because the seller may not have known or not ought to have known that the goods were damaged or lost. As a result, at the time of contract conclusion the buyer will have assumed this risk of the unknown loss.

In this situation, the buyer can derogate from or vary Article 68 in at least two ways that will successfully mitigate this additional loss of risk.³⁹ First, the buyer can add verification standards for the goods to ensure the seller “ought to have known” the goods were damaged or lost at the time of contract conclusion. Such verifications standards will protect the buyer.

For example, special equipment can be used to test the goods in the outer space warehouse prior to handing over goods for transport. During the contracting process, the seller can provide the buyer with the test results, verifying the goods were not damaged.

A problem arises if the seller does not have the ability to provide the verification buyer is requesting. If the buyer cannot contract with a different seller, the buyer will be forced to accept the goods without the requested

³⁵ Id.

³⁶ Id.

³⁷ CISG, Art. 68.

³⁸ Id.

³⁹ CISG Article 6 allows parties to derogate or vary the effect of any of its provisions (subject to Article 12).

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verifications.⁴⁰ In this case, the buyer may adopt a second solution to mitigate this additional risk of loss. The buyer may delay the passage of risk until the buyer has had a reasonable opportunity to examine the goods for damage or loss.⁴¹

This scenario raises an important issue: the need for standards that govern outer space storage, outer space transport, and the certification of outer space goods. Without such standards, buyers and sellers will have a high degree of inconsistency and unpredictability. A universal standard would avoid this issue, allowing parties to contract efficiently and with assurances. As the law governing outer space contracts for the sale of goods develops, such standards should be established.

3. Article 69(1): Picked up by the buyer at a place of business of the seller

Article 69(1) operates under the following scenario: Buyer contracts to buy goods from Seller. The goods are at a place of business of the Sellers, such as an outer space warehouse. The Buyer contracts to take over the goods at the outer space warehouse between July 1st and July 7th. The Buyer is responsible for arranging transportation himself.

Article 69(1), like Article 67, applies well in the context of outer

space. Risk of loss is clearly allocated. The act of “taking over the goods” is the trigger for passing of risk.⁴²

The term, taking over the goods, should be defined in the contract given the unique circumstances of outer space. Drafters should take special consideration of the method and technology of transfer used. Once again, standardization of method and technology would be useful and should be developed.

When the contract provides the buyer with a time-frame to pick up the contracted goods, seller assumes the risk of loss until the buyer “takes over the goods or does not do so in due time, from the time when the goods are placed at his disposal.”⁴³ Depending on the situation, storing goods in outer space could be extremely risky. It is possible that seller will want buyer to assume some of the risk of loss before the buyer takes over the goods. For example, the buyer may assume a proportional risk of loss depending on the length of the time-frame granted for pickup.⁴⁴

4. Article 69(2): Picked up by the buyer at a place other than a place of business of the seller

Article 69(2) applies to transaction not covered under Article 67, 68, or 69(1). These transactions include “destination contracts, bailment contracts, and contracts in which the seller uses his own vehicle to deliver goods to the buyer.”⁴⁵ The scope of 69(2) makes it difficult to discuss every possible application in outer space. In this section, destination contracts are discussed because they

⁴⁰ This is a distinct possibility, especially at the beginning of space commerce. It is very likely only a few companies will initially be in outer-space providing goods for sale. As with all new commercial venture, it takes time before extensive competition develops. Once the sale of goods in outer space becomes proven a profitable venture and the risks are well known, extensive competition will develop.

⁴¹ This represents a complete departure from Article 68’s initial allocation of risk. This essential places the risk of loss on the buyer as if Article 69(2) was invoked.

⁴² CISG, Art. 69(1).

⁴³ *Id.*

⁴⁴ The buyer may cover a portion of insurance costs during the storage of goods.

⁴⁵ Stocks, *supra* note 20 at 1422.

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are likely to be a popular when contracting goods in outer space.⁴⁶

In a destination contract, the seller is required to ship the goods to a location, in accordance with the contract, for tender of delivery to the buyer.⁴⁷ Seller bears the risk of loss during transport. Once the goods have arrived at the location, the risk of loss passes to the buyer when “delivery is due and the buyer is aware of the fact that the goods are placed at his disposal at that place.”⁴⁸

A typical destination contract for the sale of goods in outer space may be as follows: Seller and Buyer contract for the sale of goods. Seller is to deliver the goods to a location on the surface of Mars. Buyer, who has a scientific research facility on the Martian surface, is required to take control of the goods by the delivery due date. The delivery vehicle is a cargo container that has been launched from a spaceport. The cargo container is designed to withstand crash landing on the Martian surface. The contract specifies a geographic area the cargo container must land in. Once it has landed, the Seller transmits the

⁴⁶ Destination contracts are likely to be popular in outer space because delivery may be achieved with a disposable transport vessel. These disposal vessels, in certain situations, will be cheaper than a traditional freighter. For example, delivering goods to the surface of Mars would be very difficult if you wanted the transportation vessel to be reused. The vessel would have to survive the Martian environment and have the fuel to launch off Mars. It would essentially be a fully operational space ship that carries cargo. A cheaper alternative could be to deliver the goods in a disposable cargo vessel. This vessel could be launched from a location in outer space. Once it approached Mars, with minimal fuel it can navigate an approach and rely on Martian gravity to bring it to the surface. Once on the surface, buyer can go to delivery location and take control of the goods.

⁴⁷ Stokes, *supra* note 20 at 1424.

⁴⁸ CISG, Art.69(2).

location to the Buyer and Buyer has one week to take control of the goods.

A challenge when drafting destination contracts will be establishing a fixed due date when risk of loss passes. The environment of outer space and her celestial bodies may require the seller to grant buyer a non-fixed due date (i.e. a period of time) for buyer to organize a safe and efficient recovery of the cargo container and goods. For example, it's quite possible that destinations may be defined in general geographic areas, such as the “surface location of moon within 1km of lunar outpost X.” One key factor will be whether infrastructure exists, and if so to what extent, to support cargo recovery.

VIII. INCOTERMS

“Incoterms” are rules of interpretation of trade terms published by the International Chamber of Commerce designed to clarify the distribution of functions, costs and risks relating to the transfer of goods from seller to buyer.⁴⁹

CISG does not deal with the interpretation of trade terms and when CISG is applicable references to Incoterms do not exclude but merely supplement the Convention.⁵⁰ Parties contracting under CISG frequently rely on delivery clauses laid down in the Incoterms to govern obligations to deliver and the place of delivery.⁵¹

In theory, Incoterms 2000 could be applied to contracts for the sale of goods in outer space. However, current Incoterms are not designed and do not take into account the unique characteristics of functions, costs and

⁴⁹ Jan Ramberg, *ICC Guide to Incoterms 2000*, (Paris: ICC Publishing, 1999) at 10.

⁵⁰ Schlechtriem, *Supra* note 14; Commentary on Art.6 at Pg.89 Section 12

⁵¹ Schlechtriem, *Supra* note 14; Commentary on Art.30 Section 3 pg.338 commentary

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risks relating to the transfer of goods from seller to buyer in outer space.

The ICC should consider adopting Incoterms tailored to transferring goods in outer space. These “Incospaceterms” would clarify concepts such as loading and unloading, outer space containerization, delivery and other important trade terms.

IX. Cross-Waivers

The principle of ‘cross-waiver’ of liability is an industry standard applied invariably by players in the space sector.⁵² How would cross-waivers of liability effect contracts for the sale of goods in outer space?

To answer this question one needs to distinguish between the contracting parties to reach a conclusion. Clearly, the ‘shipper’ (i.e. a company operating a space cargo container vehicle analogous to a terrestrial seafaring cargo container ship), if contracting with either the seller or buyer, and with a cross-waiver of liability clause included, should receive the benefit of that clause so long as the clause is enforceable.

As between the seller and buyer of goods, the question will depend on how the contract is structured, who contracts with whom, and the scope of the cross-waiver.

For example, the U.S. Commercial Space Launch Act (CLSA) contains the following mandatory cross-waiver provision:

“A launch or reentry license issued or transferred under this chapter shall contain a provision requiring the licensee or transferee to make a reciprocal waiver of claims with its

contractors, subcontractors, and customers, and contractors and subcontractors of the customers, involved in launch services or reentry services under which each party to the waiver agrees to be responsible for property damage or loss it sustains, or for personal injury to, death of, or property damage or loss sustained by its own employees resulting from an activity carried out under the applicable license.”⁵³

Based on the CLSA mandatory cross-waiver provision, one can conclude that sellers *or* buyer that contract with launch service providers are subject to cross-waiver provisions with regards to service they have contracted for and loss of goods sustained resulting from an activity carried out under the applicable license. This is a critical point because insurance providers for the seller *or* buyer who contract (and in turn assume some risk of loss) will adjust rates accordingly based on possible remedies available, including remedies from launch service providers.

However, it will be rare for both seller *and* buyer to be customers of the launch service provider. In cases where only one party is the customer, assumption of risk will pass either before or after ‘launch’ and hence the implications of cross-waiver provisions will only directly impact one party (the customer). As a result, the normal terrestrial contracting model should apply (as per the relationship between SELLER and BUYER) with the added caveat of contracting and insurance costs reflecting greater risk placed upon the customer of the launch service provider.

X. Conclusion

⁵² Statement made by Professor Ram Jakhu in an email correspondence discussing the issue of cross-waivers within the context of contracting for the sale of goods in outer space (dated July 21st, 2008).

⁵³ *Commercial Space Launch Activities*, 49 U.S.C. §70112(b) (2008).

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The assessment of CISG's risk of loss provisions illuminates the challenges of contracting for the sale of goods in outer space. While CISG default risk provisions do provide a useful framework, the unique environmental and technical challenges of outer space may require modification of default provisions to better serve the interests of contracting parties.

For the time being, CISG can suffice as the international legal regime governing contracts for the international sale of goods in outer space. CISG provides a useful framework on which to draft contracts and is progressive enough to allow contracting parties to modify default provisions to better facilitate the sale of goods in outer space. However, CISG should only be considered a stop-gap measure. Ultimately, an international agreement *specifically* governing contracts for the sale of goods in outer space will be necessary. The environment of outer space poses unique challenges to the transit, transfer, and storage of goods. While analogies and insights can be drawn from terrestrial activities (such as the containerization of goods and sea transport of containers), contracting parties, investors, and insurers will require agreements that fully integrate the unique characteristics of outer space.