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Can the Electronic Bill of Lading Go Paperless?

SUSAN BEECHER*

I. Introduction: The Venerable Bill of Lading

Business people who trade across international borders have for millennia found ways of working out their own chemistry with only limited help from their respective governments. A variety of devices have enabled merchants to efficiently communicate, form contracts, allocate risk and protect their own interests while dealing with counterparts who do not share the same culture, who are not under the same legal structure, and who may be strangers personally. One such device, the carrier's bill of lading, has been with us since at least 1794, when the document was recognized in *Lickbarrow v. Mason*, a House of Lords decision.¹

In recent years, many scholars have urged that the time has come to replace the paper bill of lading with an electronic instrument. Shippers, consignees, carriers, and intermediaries all incur expenses due to the delays caused by the handling and transmittal of paper documents. Paper documents are also, in some ways, less secure than electronic transmissions. However, many participants in the process harbor concerns about security and about how the controlling functions of the bill of lading can be retained in the electronic version.

This article will take a close look at what functions the bill of lading is expected to perform and the different ways it is being used. It will then briefly examine a few of the problems that are developing specifically with the bill of lading, as the shipping industry tries to address economic and national security needs of the 21st century using 18th century tools. It will then discuss the directions that carriers, importers, exporters, and intermediaries are currently moving, often in apparent disregard of the advice and predictions of the legal profession. It will examine the legal and market expectations that an electronic bill of lading must meet, as well as some of the efforts that have been made so far to introduce an

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1. See Kurt Grönfors, *The Paperless Transfer of Transport Information and Legal Functions*, in 1 *INTERNATIONAL CARRIAGE OF GOODS: SOME LEGAL PROBLEMS AND POSSIBLE SOLUTIONS* 28 (C.M. Schmitthoff & R.M. Goode eds., 1988).

electronic bill of lading. Finally, it will examine the U.S. Customs and Border Protection's (CBP) proposed Automated Commercial Environment (ACE) program and will argue that modest modifications to the mandatory ACE program for handling the bill of lading's hidden twin, the freight manifest, would provide a cost effective, reliable, and readily available alternative to the paper bill of lading.

II. The Situation Described

A. THE BILL OF LADING DEFINED—BASIC MEANING AND PURPOSE OF THE DOCUMENT

Black's Law Dictionary defines a bill of lading as "[a] document of title acknowledging receipt of goods by a carrier or by the shipper's agent; a document that indicates the receipt of goods for shipment and that is issued by a person engaged in the business of transporting or forwarding goods."² The Uniform Commercial Code concurs.³ The bill of lading has long been the product of common law and established business practices and is now governed by federal law.

Any mention of the legal purposes of the traditional bill of lading among members of the transportation industry prompts a recitation of the three functions this document serves. These functions, which were originally drawn from common law,⁴ are outlined in the Harter Act,⁵ the Federal Bill of Lading Act,⁶ and the Carriage of Goods at Sea Act (COGSA).⁷ Any instrument designed to function as a bill of lading must serve all three functions. First, the bill of lading is a contract of affreightment; i.e., a written agreement between the cargo owner and the cargo carrier for the transport of the goods.⁸ Second, it is evidence of affreightment, indicating to the buyer of the goods and to any concerned intermediaries that the cargo has been tendered to the carrier for shipment.⁹ Finally, it is evidence of title, indicating who has interest in the goods¹⁰ and, when the bill of lading is negotiable,¹¹ facilitating and documenting transfer of title through an uncomplicated transaction.¹²

B. CARRIERS IN THE MODERN OCEAN TRANSPORT INDUSTRY

Before considering how bills of lading are currently used in international ocean transportation, it might be helpful to discuss who is issuing them. COGSA provides that, "[a]fter receiving the goods into his charge, the carrier or master or agent of the carrier, shall, on demand of the shipper, issue to the shipper a bill of lading."¹³ The term "Common Carrier" is defined for purposes of the Shipping Act of 1984 as:

2. BLACK'S LAW DICTIONARY 159 (7th ed. 1999).

3. U.C.C. § 1-201(6), (16) (2004).

4. Pollard v. Vinton, 105 U.S. 7, 8 (1881).

5. 46 U.S.C. app. §§ 190-196 (2004).

6. 49 U.S.C. §§ 80101-80116 (2006).

7. 46 U.S.C. app. §§ 1300-1315 (2004).

8. 46 U.S.C. app. § 1302 (2006); *see also* S. Pac. Transp. Co. v. Commercial Metals Co., 456 U.S. 336, 342 (1982) ("The bill of lading is the basic transportation contract between the shipper-consignor and the carrier; its terms and conditions bind the shipper and all connecting carriers.").

9. 46 U.S.C. app. § 193 (2004); 46 U.S.C. App. § 1303(4) (2000).

10. 49 U.S.C. § 80110(b) (2000).

11. 49 U.S.C. § 80103(a)-(b) (2000).

12. 49 U.S.C. § 80104(a) (2000).

13. 46 U.S.C. app. § 1303(3) (2004).

a person holding itself out to the public to provide transportation by water of passengers or cargo between the United States and a foreign country for compensation that (A) assumes responsibility for the transportation from the port or point of receipt to the port or point of destination, and (B) utilizes, for all or part of that transportation, a vessel operating on the high seas.¹⁴

The Shipping Act of 1984 formally recognized Non-Vessel Operating Common Carriers (NVOCCs), a new type of common carrier that began appearing in the 1960s, defining the term as “a common carrier that does not operate vessels by which the ocean transportation is provided, and is a shipper in its relationship with an ocean common carrier.”¹⁵ NVOCCs are, for all purposes relevant to this article, subject to the same laws as the more widely understood Vessel Operating Common Carriers (VOCCs), and both are regulated by the Federal Maritime Commission.¹⁶ While NVOCCs have been significant participants in the ocean transportation industry for only the last twenty years, an understanding of their role is indispensable in any discussion of ocean bills of lading as they are used today.

As the statutory definition suggests, NVOCCs stand in relationship to the steamship line as a shipper. The bill of lading issued by the steamship line will show the NVOCC as the shipper, and the NVOCC’s destination agent as the consignee. The NVOCC will then issue its own “house” bill of lading to its customer, showing the actual shipper and consignee. At destination, the “true” consignee must surrender the original “house” bill to the destination agent, who then surrenders the steamship line original bill of lading to the VOCC agent.

While the process described above may bring to mind the classic price-padding middlemen, NVOCCs benefit cargo owners in two ways. First, NVOCCs provide consolidation services. In most trade lanes, the smallest available container accommodates 27 cubic meters of cargo. The shipper with 1 or 2 cubic meters of cargo is best served by turning his shipment over to an NVOCC, which will combine it with other small shipments to the same destination to fill an ocean container, and whose agent will split up the container at destination and release each shipment to its individual consignee. The cargo owner pays freight based on the number of cubic meters shipped, equivalent to a prorated portion of the cost of an entire container. Steamship lines seldom provide this service. Second, NVOCCs negotiate volume contracts (also called service contracts, discussed in greater detail below) with the steamship lines, committing themselves to ship significant numbers of containers over a period of time, usually one year. A cargo owner who imports ten containers per year lacks the bargaining power to negotiate a discount from the steamship line, but can obtain a rate from an NVOCC that is below the steamship line’s published rate, even with the NVOCC’s profit margin included.

C. THE BILL OF LADING REDEFINED—HOW THE INDUSTRY USES THE DOCUMENT

While cargo and vessel owners alike loyally recite the need for the three functions of the bill of lading, they have been trading them away, usually unconsciously, in order to meet more pressing needs. Whether through the use of the bill of lading’s half sisters—the cargo

14. 46 U.S.C. app. § 1702(6) (2004).

15. 46 U.S.C. app. § 1702(17)(B) (2004).

16. 46 C.F.R. § 515.11 (2005).

receipt,¹⁷ the waybill,¹⁸ and the straight bill of lading,¹⁹—or through changes in accepted practice, trading partners have been relinquishing or weakening the role of the bill of lading in providing a contract of affreightment, evidence of affreightment, and evidence of title.

1. *The Bill of Lading as a Contract*

Although the bill of lading is hailed as the contract between the cargo owner and the cargo carrier, both parties are in fact looking beyond the bill of lading for the terms of their agreements with each other. Carriers, both NVOCCs and steamship lines, are required to publish the terms of their bills of lading in their tariffs, filed with the Federal Maritime Commission.²⁰ These are contracts of adhesion, nearly identical from one carrier to the next, and not subject to negotiation. Many of their terms are dictated by COGSA. Only the particulars on the face of the bill of lading, such as whether freight is prepaid or collect, whether the cargo owner accepts the \$500 per package liability limitation or wishes to declare a higher value and pay an ad valorem rate, or whether on-deck stowage is permitted, may be adjusted to meet the needs of the cargo owner. Some courts will infer that the published terms apply even when no bill of lading is issued.²¹ Some carriers issue a bill of lading for their own files in the expectation that this will place the shipment under contract, even when a non-negotiable document such as a cargo receipt is issued to the cargo owner in lieu of a bill of lading.²² Thus, the contract appears to be assumed by all parties, even when no bill of lading passes into the hands of the cargo owner.

The popularity of service contracts in the shipping industry also bears witness to the inadequacy of the bill of lading as an integrated agreement. Service contracts first began to be widely used in the late 1970s. These contracts are negotiated between the carrier and its customer and generally incorporate the terms of the bill of lading by reference. Typically, the party contracting with the carrier is either an importer, who ultimately bears the cost of shipping, or an NVOCC, who will resell the space (though exporters also sometimes have service contracts). The contract normally commits both carrier and customer to a set of rates for the duration of the agreement (though scheduled increases and decreases may also be negotiated and contracted for), and also commits the carrier to reserve and the customer to book a certain amount of vessel space. A seemingly infinite variety of other terms are also included at the collective discretion of the traffic manager for the cargo owner and the sales department for the steamship line.

In the current market, the majority of all containerized cargo moves under a service contract, sometimes held by the cargo owner and sometimes by the NVOCC carrying the cargo. It is impossible to say exactly how much, as carriers consider this information proprietary. However, a large percentage of published rates, those rates available to members of the public who do not have a service contract, are not competitive, suggesting that the

17. A cargo receipt is a non-negotiable document issued prior to vessel departure that does not have a contract printed on the back.

18. A waybill is a non-negotiable document issued in lieu of a bill of lading, requiring surrender of the goods to the named consignee without presentation of the document.

19. A straight bill of lading is a directly consigned bill of lading, considered non-negotiable.

20. 46 C.F.R. § 520.4(a)(5) (1999).

21. *Delphi-Delco Elec. Sys. v. M/V Nedlloyd Europa*, 324 F. Supp. 2d 403, 427 (S.D.N.Y. 2004); *see also Sea-Land Servs., Inc. v. Lozen Int'l, L.L.C.*, 285 F.3d 808, 815 (9th Cir. 2002).

22. Conversation with Robert L. Harris, President, Noram Ocean Transport (July 1991) (offering advice to his protégé, the author).

carriers do not expect them to be used. Those importers with volumes too small to negotiate a contract tend to rely on NVOCCs which in turn sign contracts with the carriers and resell the space.

Even the courts do not always seem to see bills of lading as integrated contracts. Recently, in a dispute involving liability for freight charges, the Court of Appeals for the First Circuit ruled that a corporation that was not a party to the bill of lading could nonetheless be held liable for freight costs.²³ Specifically, the defendant's oral representations that it would assume responsibility for payment were enough to form a contract that trumped the bill of lading. The court held that "there is nothing in general maritime law or in the precedents concerning bills of lading that makes them the exclusive means of creating liability for freight charges."²⁴

2. *The Bill of Lading as Evidence of Affreightment*

Just as importers and exporters are often willing to look past the bill of lading as a contract of affreightment, they also sometimes elect not to rely upon it for evidence of affreightment. NVOCCs frequently offer cargo receipts in lieu of bills of lading at the shipper's option. Cargo receipts look something like a bill of lading, but do not have a contract printed on the back and, as the name suggests, are issued as soon as the cargo is received by the carrier, while bills of lading are normally not issued until the vessel sails. Though they establish title, they do not prove that cargo was actually shipped, only that it was surrendered.

3. *The Bill of Lading as Evidence of Title*

Finally, it is unclear how frequently interested parties rely upon bills of lading to establish title to the cargo, how secure the document actually is for that purpose, and how open ended the question of negotiability needs to be to serve the needs of the trading community. Many cargo owners forego negotiability in title to the goods in order to save time, as will be further discussed below. Non-negotiable bills of lading and waybills permit carriers to release cargo without presentation of the bill of lading, and shippers may simply fax or email scanned copies of the waybill and the relevant customs documents to the consignees. Customs now accepts copies of all documents, rather than originals, for clearance purposes, making the negotiable bill of lading the only document which the shipper may not transmit by fax or email.²⁵

International air freight has entirely abandoned the use of negotiable bills of lading and has been exclusively using the air waybill for decades. The contract between cargo owner and airline is memorialized on the air waybill,²⁶ which also provides evidence of receipt of the goods by the airline.²⁷ As a practical matter, the cargo owner is able to trace and confirm movement of the cargo by phone, and now, online, through the air waybill and flight number. As with ocean waybills, air waybills are not negotiable, so title passes to the consignee without formalities. The shipper cannot retain control, and ownership cannot be

23. *EIMSKIP USA, Inc. v. Atl. Fish Mkt., Inc.*, 417 F.3d 72 (1st Cir. 2005).

24. *Id.* at 77.

25. 19 C.F.R. § 141.83(c)(2) (2005) (indicating that a port director "may" accept a copy. Moreover, an import manager confirmed that, in practice, CBP always accepts copies. Telephone interview with Ida Derringer, Import Manager, Rialto, Inc. (July 25, 2005) [hereinafter Derringer Interview].

26. Warsaw Convention for the Unification of Certain Rules Relating to International Transportation by Air, Oct. 12, 1929, art. 11(1), 49 Stat. 3000, 3017, 37 L.N.T.S. at 21.

27. *Id.*

passed to a third party while cargo is en route. When air cargo moves on a letter of credit, banks treat the letter of credit as an independent transaction from the contract controlling the actual shipment,²⁸ and the bank does not expect to hold the cargo as security.

Even when the carrier duly prepares and issues paper bills of lading to the shipper, these documents do not provide iron-clad protection of title. Freight cashiers for both steamship lines and NVOCCs are the employees of these carriers directly responsible for receiving and examining bills of lading, and for releasing cargo. Freight cashiers are usually entry level employees who are not qualified decision makers, and who often do not understand the full legal significance of the bill of lading as a document. Neither Freight cashiers, nor the personnel at steamship lines, nor NVOCCs responsible for receiving and examining bills of lading and releasing cargo to the consignee are qualified decision makers. Moreover, they are often entry-level employees who do not understand the full legal significance of the bill of lading as a document. Cargo is sometimes released against a photocopy of the original, against a corresponding NVOCC house bill of lading, or, almost routinely, against a bill of lading that is not properly endorsed. Roanoke Trade, an insurance company providing errors and omissions coverage to the maritime industry, found that over half of all errors and omissions claims paid were due to improper release of cargo, which includes release without a duly endorsed bill of lading.²⁹ This happens more frequently than court records or insurance claims would suggest because improper bill of lading presentation is most often not the result of intentional fraud. Usually it results simply from sloppy or uninformed document handling on the part of the consignee or his customs broker, so no harm actually results. "Hacking" the paper system is in fact much easier than breaking into a computer system.

It is also unclear whether the ability to change title to the cargo is being used the way the legal profession seems to contemplate. Many scholars suggest that it is necessary for the buyer to be able to resell the goods once they are "on the water."³⁰ This can be done legally as far as commercial law is concerned.³¹ On rare occasions, a seller may find that his buyer is not paying and may resell to another party, or a buyer may decide to resell to a third party. This scenario is not customary, however, for a number of reasons. First, CBP must know prior to vessel sailing who the importer of record will be (as will be discussed in greater detail below), and transactions such as those just outlined complicate the customs clearance process. Second, such sales on short notice usually include a discount for the ultimate buyer, and a loss for one of the other parties. More frequently, title will change hands during the voyage in one of three situations, all of which are foreseen prior to the delivery of the goods to the pier.

First, if a bank or other financial entity is involved because of a letter of credit, draft, or other arrangement, the bank will be the nominal owner until it collects the funds due. Second, to avoid the expense of using a letter of credit when dealing with a trading partner

28. U.C.C. § 5-103(d) (2005).

29. Roanoke Trade, *Improper Release of Merchandise Against Documents*, 5 E & O REVIEW, Fall 2003, at 4, available at <http://www.roanoketrade.com/pdf/EOREview/fall2003.pdf>.

30. Prof. Jane K. Winn, Lecture at the University of Washington School of Law regarding International Sales Law (May 10, 2005).

31. This still seems to occur occasionally in the case of large shipments of bulk commodities. Such shipments, however, would typically be documented on a charter party rather than a bill of lading as such, and thus are outside the scope of this article.

that he or she does not completely trust, the exporter may instruct the carrier to issue the bill of lading with "to order of shipper" shown as consignee, in order to ensure that goods will not be released without a duly endorsed bill of lading. If the goods are released, the shipper will then have some recourse against the carrier.³² These are both collection devices rather than actual resales of goods to a party not named on the bill of lading.

Finally, a few intermediate buyers really do purchase goods from overseas manufacturers, intending to resell to their own customers while goods are en route. The intermediate trader in these cases is often at pains to keep the ultimate buyer and the manufacturer from learning each other's identities. In trade lanes where it is still possible, these intermediate parties surrender back to the carrier the full set of originals received from the shipper and have a new set issued that shows the intermediate buyer as shipper and ultimate buyer as consignee. While the evidence of ownership aspect of the bill of lading is used in these transactions, the cumbersome process suggests that the mechanism could be re-examined, and possibly redesigned. Furthermore, because of new CBP rules, discussed further below, it is questionable whether this procedure may be used at present in trade lanes to and from the United States.

4. *The problem with paper bills of lading*

Carriers continue to issue bills of lading predominantly in paper form. Cargo owners, bankers, and carriers alike seem reluctant to retire a document so elegantly straightforward and capable of such heavy lifting. Yet, problems associated with the use of paper are developing into serious handicaps that are more aggravated with each passing year. The most prominent shortcoming of the traditional bill of lading is that it is a piece of paper, and unlike an electronic impulse, must be physically transported. If the shipper is lucky, the bill of lading is ready for pickup from the carrier the day after the vessel sails, but the average delay before the paper document is ready is three days, and it is sometimes not available for up to seven days.³³ The documents must then be pouched overseas, generally directly to the consignee's customs broker, adding roughly four days. The customs broker must then surrender the document to the carrier, which takes at least one business day and possibly two, as a large percentage of steamship lines have now nationally centralized their customer service functions in one location, often not actually near any port city. For example, American President Lines handles customer service functions, including documentation and cargo release, from Denver.³⁴

If a bank is involved, as for a letter of credit, the delays become acute. Two more parties, the seller's bank and the buyer's bank, must each have an opportunity to examine the document, and must then transmit it by courier to the next party downstream. Additionally, paper bills of lading must be laboriously hand checked, point by point, for discrepancies—a truly tedious duty that sometimes suffers from error. If the bank finds discrepancies, it

32. *B.M.A. Indus., Ltd. v. Nigerian Star Line, Ltd.*, 786 F.2d 90 (2nd Cir. 1986).

33. Eric Kulisch, *AG-Gravation; Agricultural Exporters Struggle To Stay On Top Of Transportation Challenges*, AMERICAN SHIPPER, Aug. 2005, at 10.

34. For a listing of American President Lines (APL) United States offices, refer to the APL website, http://www.apl.com/offices/html/apl_offices_united_states.html. As is the case with APL, it is often not clear from a visit to the carrier's website that freight cashier functions are centralized. However, local carrier offices often handle only sales and operational functions, such as the maintenance of fleets of chassis, the wheeled racks that allow ocean containers to be hauled over the road by common "semi" tractors.

must communicate with the parties to determine whether the discrepancies will be accepted or whether the documents must be redone.³⁵ If the consignee does not accept the discrepancies, the documents must go back to the starting point. Confirming banks, to avoid the risk of not being paid, generally simply reject discrepant documents without checking with the applicant or the applicant's bank. The import manager at a customs broker interviewed for this article found that, of the shipments she handled that moved on letters of credit, roughly 25 percent were penalized with demurrage charges because document delays prevented consignees from promptly retrieving their goods.³⁶

In recent years, the time allotted for transmittal of the bill of lading has shortened as ocean vessel transit times have become shorter. Vessels are getting faster, but carriers are also changing vessel routing strategies.³⁷ For example, transit from Hong Kong to Seattle can be as short as nine days,³⁸ and from Bremen to New York as short as ten days.³⁹

Further, port congestion has become "a certain crisis in the United States"⁴⁰ and carriers are pushing to get import cargo quickly off the pier. At the same time, there is a serious shortage of containers because steel prices have gone up and new containers now cost about \$2,800 apiece. A steamship line running six average-sized vessels in the Trans-Pacific service, a modest operation, would need at least 48,000 20-foot containers, 24,000 40-foot containers, or some combination thereof.⁴¹ Carriers are therefore charging more for demurrage (the penalty assessed on cargo not promptly picked up) and allowing a shorter "free time" before demurrage begins.⁴² Some ports are also charging demurrage over and above what the carriers are assessing,⁴³ and even rail lines are assessing demurrage for ocean containers in their care. For example, Maersk Sealand recently advised its customers that it would begin allowing only two free calendar days, excluding Sundays and holidays, for all cargo moving on the Union Pacific, and would charge at the rate of \$225 per day for the first five days (including Sundays and holidays), \$250 per day for the next five days, and \$400 per day thereafter. Refrigerated containers and special equipment incur higher rates.⁴⁴ The delay in transmitting the bill of lading can cost hundreds per day, per container, in direct costs.

Additionally, the cost of the importer's cash that is tied up in a shipment until it can be sold contributes to the cost of delayed shipments. Delay of a shipment can also render it worthless. For example, holiday ornaments that arrive too late to reach retailers' shelves before the holiday have a value well below cost.

As cargo owners struggle to curtail the delays that bedevil their balance sheets, they are finding that the carriers, the other parties to the bill of lading, are not making a serious

35. U.C.C. § 5-108 (2002).

36. See Derringer Interview, *supra* note 25.

37. For an example, visit the sailing schedule page for Orient Overseas Container Line, http://www.oocl.com/service_routes/ (last visited Aug. 10, 2005).

38. American President Line sailing schedules, <http://www.apl.com/schedules> (last visited Aug. 18, 2005).

39. *Id.*

40. Robert Mottley, *World Ports in Crisis*, AMERICAN SHIPPER, May 2005, at 82 (quoting Don Krusel, President and CEO of Prince Rupert Port Authority).

41. Kulisch, *supra* note 33, at 7.

42. Eric Kulisch, *Los Angeles Readies For PierPass*, AMERICAN SHIPPER, Aug. 2005, at 74.

43. *Id.*

44. Sealand Client Advisory (July 20, 2005) (on file with author).

effort to assist. The approach of the carriers is summed up in a quote from one of their own executives:

We need customers to embrace the technology so they can get better service when they call. Carriers cannot afford to keep increasing their headcount along with trade to handle mundane booking, tracking and payment chores. Shippers need to build information technology links to carrier's systems that will enable more self service, simplification and automation.⁴⁵

Carriers have abdicated the role of a provider of a service and are instructing cargo owners that they should prepare to look after themselves. Carrier systems themselves, however, can be unreliable.⁴⁶ An alternative to the current system that also permits "self service" without sacrificing control by the appropriate parties would cut additional delays that accrue from carrier indifference.

D. THE ELECTRONIC ALTERNATIVE

In the face of these problems with the traditional paper bill of lading as a negotiable instrument, and in light of the increasingly relaxed attitude that many cargo owners have about the role of the bill of lading, industry specialists and legal professionals are considering a variety of electronic alternatives as possible solutions, none of which have taken root in a meaningful way.

A recurring component of these various proposals is dependence upon a reliable intermediary. The substitution of electronic documents for paper ones has been explored in a variety of contexts, whether the document in question is a bill of lading, chattel paper or electronic transfer of funds, and users seem repeatedly to have the same concerns. First, electronic data can be lost in the event of a hardware or software failure. Second, when information is in digital form, it is possible to generate perfect copies, indistinguishable from the originals.⁴⁷

1. *Legal Foundations for the Electronic Alternative*

Federal law requires that the carrier provide "a bill of lading" or "shipping document,"⁴⁸ but the statutes do not require that the bill of lading be on paper. COGSA only requires that "[a]fter receiving the goods into his charge the carrier, or the master or agent of the carrier, shall, on demand of the shipper, issue to the shipper a bill of lading."⁴⁹ Statutes regarding bills of lading are silent as to whether the document may be electronic in form, and it does not appear that the Supreme Court has specifically addressed this question. Electronic bills of lading have been specifically recognized by the Ninth Circuit,⁵⁰ and by

45. Kulisch, *supra* note 33, at 12 (quoting Edward Zaninelli, Vice President of Westbound Trade for Orient Overseas Container Line).

46. Renee Eastburn, a customer service supervisor with CP Ships, told a horror story about a carrier that earlier this year was not able to provide critical shipment information through its automated system because its customer service center in Mumbai was flooded. Telephone interview with Renee Eastburn, Customer Service Supervisor, CP Ships (Aug. 16, 2005) [hereinafter Eastburn Interview].

47. Mattias Hallendorff, Control over Electronic Chattel Paper, Presentation at the ABA Annual Meeting (Fall 2005), in *THE WONDERFUL—AND NO LONGER EXOTIC—WORLD OF ELECTRONIC PAYMENT OBLIGATIONS*, 2005, at 3.

48. 46 U.S.C. app. § 193 (2004).

49. 46 U.S.C. app. § 1303(3) (2004).

50. *Sea-Land Servs., Inc.*, 285 F.3d at 815.

at least one district court in the Second Circuit.⁵¹ The Ninth Circuit has also expressly ruled that “documents” in general may be electronic.⁵² While there is nothing on point for bills of lading, many federal statutes specify that “documents” include electronic documents,⁵³ and many Supreme Court cases seem to assume, without arguing, that electronic documents are included in the definition of “documents.”⁵⁴ The ICC Incoterms are not legally binding, but they do form the foundation of a large percentage of international transactions. Beginning in 1990, Incoterms made specific accommodation for the use of electronic documentation. In the introductory material to Incoterms 2000, the ICC stated:

In spite of the particular legal nature of the bill of lading it is expected that it will be replaced by electronic means in the near future. The 1990 version of Incoterms had already taken this expected development into proper account. According to the A8 clauses, paper documents may be replaced by electronic messages provided the parties have agreed to communicate electronically. Such messages could be transmitted directly to the party concerned or through a third party providing added-value services. One such service that can be usefully provided by a third party is registration of successive holders of the bill of lading. Systems providing such services, such as the so-called BOLERO service, may require further support by appropriate legal norms and principles as evidenced by the CMI 1990 Rules for Electronic Bills of Lading and articles 16 and 17 of the 1996 UNCITRAL Model Law on Electronic Commerce.⁵⁵

Every indication is that an electronic instrument that accomplishes the functions of a bill of lading can qualify as a bill of lading, even if never reduced to paper.

2. Early Efforts—Third Parties

International bodies such as Comité Maritime International (CMI) have prepared model rules for EDI transactions,⁵⁶ and entities such as BOLERO have offered their services as third-party intermediaries for electronic transactions.⁵⁷ These well-intended efforts have not been warmly embraced, for reasons that are still debated.⁵⁸ At the same time, changes are slowly appearing in industry practices, and the industry seems to be groping for a solution of its own invention. Steamship lines have had profitable years from 2002 to the present,⁵⁹ and appear to be plowing a significant part of their profits into software and technology development.⁶⁰ Buyers and sellers are now frequently opting for alternative documents, such as cargo receipts and waybills.

CMI created rules for electronic transactions in 1990. These rules presumed that: (1) transactions would be conducted using the Electronic Data Interchange (EDI) technology,

51. *Delphi-Delco Elec. Sys.*, 324 F. Supp. 2d at 417.

52. *Kremen v. Cohen*, 337 F.3d 1024, 1031-35 (9th Cir. 2003).

53. See, e.g., 44 U.S.C. § 2201(1)-(2) (2006); 42 U.S.C. § 2000aa-7(a) (2006).

54. See, e.g., *Reno v. A.C.L.U.*, 521 U.S. 844, 854 (1997); see also *Arthur Andersen L.L.P. v. United States*, 544 U.S. 696 (2005).

55. International Chamber of Commerce, *Incoterms 2000: Report of the Secretary-General*, ¶19, I.C.C. Doc. A/CN.9/479 (1999), in 31 YEARBOOK OF THE UNITED NATIONS COMMISSION ON INTERNATIONAL TRADE LAW, 2000, at 608, available at http://www.uncitral.org/pdf/english/texts-endorsed/INCOTERMS2000_e.pdf.

56. Richard Brett Kelly, *The CMI Charts A Course On The Sea Of Electronic Data Interchange: Rules For Electronic Bills Of Lading*, 16 TUL. MAR. L. J. 349 (1992).

57. RALPH H. FOLSOM, INTERNATIONAL BUSINESS TRANSACTIONS § 3.21 (2d ed. 2002).

58. *Id.*

59. See generally, Philip Damas, *Who's Making Money?*, AMERICAN SHIPPER, July 2005, at 83.

60. Interview with Paul Tsang, Vice General Manager, Shanghai City Union Logistics Co., Ltd. (June 28, 2005) [hereinafter Tsang Interview].

which was developed in the 1970's;⁶¹ (2) the carrier would act as the custodian of the electronic document; and (3) the parties involved would negotiate the document through the use of an electronic signature based on the use of cryptographic keys. This electronic key would be reissued to the new owner when the previous owner of title to the cargo was prepared to relinquish her property interest.⁶² This system depends upon access to and competence with the EDI technology. Many cargo owners and also many NVOCCs do not, however, have access to this capability.

BOLERO has presented itself as an alternative, a third-party intermediary, supported by a consortium of carriers, shippers, banks, insurers, and telecommunications companies. It began operations in 1995, but has not managed to gain a foothold.⁶³ GT Nexus, a representative example of the many commercial entities in the field, professes to offer a neutral platform "to unite suppliers [and] service providers [and to] create and manage digital documents . . ."⁶⁴ to enable users to create a "digital 'document pouch' that travels [on] its own electronic highway."⁶⁵ However, the service simply enables transmission of a digital image of the required paper documents. If the exporter wants a negotiable bill of lading, he must still rely on the paper document printed from the service. As Gary Frantz, Director of Corporate Communications for GT Nexus conceded, "[b]ills of lading are managed electronically until final, then a copy is printed out by the shipper to accompany the cargo. I do not anticipate that the bill of lading would be retired any time soon."⁶⁶

3. *Early Efforts: Carriers*

Steamship lines also are individually offering "electronic bills of lading," most of which are non-negotiable electronic waybills. Shippers provide shipment information through the carrier's website, from which the shipper or consignee prints out the non-negotiable document at either origin or destination. Because a waybill is used, no document need be surrendered for release of goods. A few carriers, however, offer negotiable electronic bills of lading. American President Lines, for example, offers a document that could more properly be called "U-Print" bills of lading. After the exporter completes the application and screening process, the carrier provides it with a supply of APL bill of lading stock; shippers then enter their cargo data at the APL website and print their bills in their own offices.⁶⁷ Australia New Zealand Direct Line offers negotiable electronic bills of lading printed from a web-based program on plain paper, rather than on bill of lading stock. The resulting "original" looks like a photocopy and, of course, has no manual signature.⁶⁸ The potential for fraud is stunning.

Courts have not had much opportunity to review these electronic waybills, but the Federal District Court for the Southern District of New York in *Delphi-Delco Elec. Sys. v. M/V*

61. Kelly, *supra* note 56, at 349-50.

62. *Id.* at 360-66.

63. See generally FOLSOM, *supra* note 56.

64. Press Release, GT Nexus, GT Nexus Expands into Electronic Global Trade Document Services (June 23, 2005), available at http://www.gtnexus.com/cgi-perl/press_releaseID=76&lang=en.

65. See *id.*

66. E-mail from Gary Frantz, Director of Corporate Communications, GT Nexus, to the author (July 26, 2005) (on file with author).

67. Telephone interview with Gier Sylte, Sales Manager for the Pacific Northwest, American President Lines (July 25, 2005).

68. Eastburn Interview, *supra* note 46.

Nedlloyd Europa found that, because the bill of lading terms were at the website and otherwise available to the shipper, these documents constituted evidence of a contract between the shipper and the carrier to transport the goods.⁶⁹ This ruling was based on an earlier Ninth Circuit ruling to the same effect.⁷⁰ Neither of these courts had opportunity to address the question of whether these electronic documents were evidence of affreightment. Finally, because most of the electronic bills offered are waybills and are therefore non-negotiable even in their paper form, title to the goods is not embodied in the document because the document cannot be used to enable the shipper to control when title will be released to the consignee, and it does not enable any interest to be passed to third parties. It is suitable only for shipments for which no change of ownership is contemplated. When the electronic bill of lading is negotiable, it must be printed before it can be used as a negotiable document. The new wine of the electronic bill keeps getting poured back into the old wine skin of paper transmission.

4. *Innovation from the Legal Community*

The legal community has proposed solving the control problem through requirements that are outlined in section 16 of the Uniform Electronic Transactions Act. The E-SIGN (Electronic Signatures in Global and National Commerce) law⁷¹ adopted these solutions,⁷² and the Uniform Commercial Code (UCC) has applied them specifically to bills of lading in article 7.⁷³ The method of document control proposed in UETA provides exceptional security, but involves a level of technology that may place it beyond the reach of many carriers and cargo owners. In consideration of the vulnerability of the current bill of lading system, whether relying on paper or on carrier-specific electronic systems now in use, the international shipping community may be better served by a system that does not reach this gold standard, but which can be made quickly and cheaply available to most participants in the market.

5. *Alternate Approaches—What to Look For*

To meet the requirements of the law, the electronic bill of lading must address evidence of affreightment,⁷⁴ contract of carriage,⁷⁵ and control of title.⁷⁶ To meet the requirements of the marketplace, the digital bill of lading must be reasonably inexpensive and must be secure from tampering. What is more difficult, it must be easy for authorized users to access and must be understood, recognized and accepted widely, though not necessarily universally. To satisfy the banking industry and other more legally sophisticated participants, the electronic bill of lading should provide a level of security as nearly comparable to UCC section 7-106(b)(1-6) as possible.

69. *Delphi-Delco Elec. Sys.*, 324 F. Supp. 2d at 427.

70. *Sea-Land Servs., Inc.*, 285 F.3d at 815.

71. 15 U.S.C. §§ 7001-7031 (2000).

72. 15 U.S.C. § 7021 (2000).

73. U.C.C. § 7-106 (2003). Many states have not yet adopted the revised version of Article 7. In any case, with regard to international bills of lading, most courts hold that COGSA preempts state law. *See, e.g., Pasztor v. Croatia Line Malta Cross Shipping Co., Ltd.*, 918 F. Supp. 961, 968 (E.D. Va. 1996). *But see, e.g., Greenridge v. Mundo Shipping Corp.*, 41 F. Supp. 2d 354, 358 (E.D. N.Y. 1999).

74. 46 U.S.C. app. § 193 (2004).

75. 46 U.S.C. app. § 1302 (2004).

76. 49 U.S.C. § 80110(b) (2000).

Robert Charles Clark discussed documents of title in the context of Article 9 of the UCC. He observed that the "recording principle," the use of a central system where a class of property rights would be recorded and to which transferees could make reference, offered greater protection against fraud than paper embodiments of property rights.⁷⁷ Paper can be lost or counterfeited. A central registry could also serve the function of the bill of lading paper document system now in use.

It is important that carriers and cargo owners be willing to work with an electronic bill of lading that does not "look like" a paper bill of lading. This is not an apparent legal barrier but it may be a troublesome psychological one, and it has long been recognized as part of the baggage that must be dealt with in the move from paper to electronic documentation.⁷⁸ Kurt Grönfors has analogized this problem to the influence of calabash fruit on Egyptian society five thousand years ago. The Egyptians used the shell of the fruit to store oil, wine and other liquids. Because the bottom of the fruit shell was round, the container could not be placed on a flat surface but had to be placed in sand or otherwise braced. When Egyptians first began producing bottles from clay, they also produced them with rounded bottoms.⁷⁹ Bill of lading users must be helped to understand the benefits of allowing electronic bills of lading to have a shape all their own.

III. A Solution Prescribed

A. THE AUTOMATED COMMERCIAL ENVIRONMENT

CBP is establishing a system that could meet every requirement of the federal bill of lading law, commercial law, and the market. CBP has tested Automated Commercial Environment (ACE), a web-based program, with a limited number of carriers and importers,⁸⁰ and has expanded ACE to include all import brokers in the fall of 2005.⁸¹ When the system is fully in place (by 2010), use will be mandatory for all international carriers, including vessels, rail, truckers, and airlines.⁸² Unfortunately, the purpose behind the implementation of ACE has nothing to do with facilitating commercial transactions, its encouraging name notwithstanding. The rest of this article will introduce ACE and explore its origins. It will argue that ACE has the potential, with only minor changes, to become a secure and accessible solution to the paper problem that troubles the international ocean shipping industry. Finally, it will argue that CBP should implement the necessary changes and permit ACE to be used to accomplish these commercial goals, both as a matter of public policy and to further its own efforts.

77. Robert Charles Clark, *Abstract Rights versus Paper Rights under Article 9 of the Uniform Commercial Code*, 84 YALE L.J. 445, 473-79 (1974).

78. The problem is not limited to the transition of bills of lading either. See generally Jane K. Winn, *The Emperor's New Clothes: The Shocking Truth About Digital Signatures and Internet Commerce*, 37 IDAHO L. REV. 353 (2001) (discussing difficulties caused by the expectation that an electronic signature should function identically to a manually written one).

79. Grönfors, *supra* note 1, at 34.

80. U.S. Customs and Border Protection, *ACE Fact Sheet*, (June 30, 2005), available at http://www.cbp.gov/xp/cgov/toolbox/about/modernization/ace/ace_fact_sheets_lp.xml [hereinafter *ACE Fact Sheet*].

81. Derringer Interview, *supra* note 25.

82. Interview with Sharon DeLawyer, Designated Spokesperson for ACE Program, Customs and Border Protection (Aug. 9, 2005).

1. *ACE and the Automated Manifest, the Hidden Bill of Lading*

In 1984, U.S. Customs first began to offer paperless customs clearance through the use of an EDI interface on a dedicated modem that was connected with the agency, through the Automated Broker Interface system (ABI).⁸³ ABI is part of the Automated Commercial System (ACS).⁸⁴ Meanwhile, clearances with other agencies, such as the FDA or the USDA, are handled separately. In 1995, U.S. Customs announced plans to develop ACE as a way of allowing all government import formalities to be handled with a single computer interface.⁸⁵ This plan was originally introduced pursuant to the North American Free Trade Agreement Implementation Act.⁸⁶

Steamship lines have always prepared vessel manifests showing cargo details,⁸⁷ and with the advent of the electronic AMS system discussed below, NVOCCs now do so as well.⁸⁸ Customs used these documents to prepare for the clearances that would soon follow, and to decide what cargo might warrant closer inspection for possible violations.⁸⁹ The manifests are lists of all cargo on a given vessel, with each bill of lading comprising a discrete segment of information on the document, and all information shown on the bill of lading also displayed there.⁹⁰ All shipments without exception must appear,⁹¹ and CBP now requires that all manifests be filed electronically.⁹²

The Automated Manifest System (AMS) was first introduced in 1987⁹³ as part of the ACS. ACS, in turn, was initiated by U.S. Customs in an attempt to automate collection of the vessel manifests.⁹⁴ AMS was based on EDI technology and was initially voluntary.⁹⁵ The Trade Act of 2002,⁹⁶ one of the many statutes enacted in the wake of the September 11th attacks, as amended by the Maritime Transportation Security Act of 2002,⁹⁷ required that U.S. Customs promulgate the necessary regulations to begin collecting all manifests electronically.⁹⁸ The new, mandatory AMS system, announced on October 31, 2002,⁹⁹ was

83. ABI Benefits for the Trade and Participants, http://www.cbp.gov/xp/cgov/import/operations_support/automated_systems/abi/benefits.xml (last visited Aug. 15, 2005).

84. *Id.*

85. Announcement of National Customs Automation Program Testing Regarding Remote Location Filing, 50 Fed. Reg. 17,605-2 (Apr. 6, 1995).

86. 19 U.S.C. §§ 1413-14 (1993).

87. 19 U.S.C. § 1431 (1996).

88. 19 C.F.R. § 4.7(b)(3)(i) (2003).

89. *Id.*

90. *See generally* 19 C.F.R. § 4.7a (2003).

91. 19 U.S.C. § 1431 (1996).

92. 19 C.F.R. § 4.7 (b)(2) (2003).

93. Unique Bill of Lading Identifier, 52 Fed. Reg. 46,602 (Dec. 9, 1987) (to be codified at 19 C.F.R. § 4.7(c)(2)(iii)).

94. Carried out under the authority of 19 U.S.C. § 1431.

95. *Id.*

96. Trade Act of 2002, Pub. L. No. 107-210, 116 Stat. 933 (2002), (codified in scattered sections of 19, 26 and 42 U.S.C.).

97. Maritime Transportation Security Act of 2002, Pub. L. No. 107-295, 116 Stat. 2064 (2002), (codified in scattered sections of 14, 16, 33 and 46 U.S.C.).

98. 19 U.S.C. § 1431(a), (d) (2002).

99. Presentation of Vessel Cargo Declaration to Customs Before Cargo is Laden Aboard Vessel at Foreign Port For Transport to the United States, 67 Fed. Reg. 66,318 (Oct. 31, 2002) (to be codified at 19 C.F.R. pt. 4.7) [hereinafter Presentation].

intended to serve U.S. Customs established enforcement goals, but also to allow Customs to watch for potential terrorist threats.¹⁰⁰

Under the new system, CBP (as it was renamed) still required the same information it had previously sought, but with some key differences. For the first time, CBP began to allow NVOCCs to create manifests for their own cargo. The federal government wanted to know who the actual importers and consignees were.¹⁰¹ It was no longer acceptable for the steamship line to show on the manifest only the name of the NVOCC that had tendered the cargo to them, but NVOCCs were reluctant to reveal to the steamship line the names of the actual shipper and consignee as the VOCC carriers were also their competitors. CBP granted NVOCCs the option to become qualified AMS filers and submit their own manifests. The result was that any entity that could issue a bill of lading could also apply for the right to file an AMS manifest.

Second, by becoming more intolerant of sloppy documentation, CBP took vessel manifest preparation out of the hands of low-level clerks and made carrier management responsible. Prior to the implementation of AMS, steamship lines routinely filed manifest corrections to amend clerical errors, sometimes well after vessel arrival. With AMS, CBP strongly discouraged manifest corrections,¹⁰² and it assessed penalties against steamship lines that gave inaccurate information, even through negligent error.¹⁰³ The gravity with which carriers now approach the requirement to provide accurate information cannot be understated. The task of entering manifest information, once left to clerical staff, now draws close scrutiny from management. For example, one carrier requires all manifest entries to be reviewed by a senior manager before being sent. Another requires all entries to be emailed to the head office in the United States to be entered there.¹⁰⁴

An additional change was the added burden of purchasing the necessary technology, especially software, to interface with the AMS. Small NVOCCs who could not take advantage of economies of scale were particularly burdened.¹⁰⁵

The most significant change, however, was that CBP began to require the manifest information to be electronically submitted twenty-four hours before vessel departure from the foreign load port.¹⁰⁶ During that twenty-four-hour period, CBP could notify the carrier of a "do-not-load" finding for any shipment, which would require the carrier to leave the cargo on the foreign pier either permanently or until CBP could be satisfied that the shipment was innocuous.¹⁰⁷ With this step, CBP took control of vessel loading, and carriers were no longer "informing" CBP of what they were importing, but instead asking permission.

2. *The Export Manifest*

On the export side, the U.S. government currently collects analogous data through the Automated Export System (AES). This system has now been in place for ten years, and was originally launched under the control of the Census Bureau to provide an electronic alter-

100. *Id.*

101. 19 C.F.R. § 4.7(b)(3).

102. 19 C.F.R. § 4.12(a)(5)(a).

103. 19 U.S.C. § 1436.

104. Tsang Interview, *supra* note 60.

105. The author, faced with the Automated Manifest requirements, sold her small NVOCC to a larger competitor and enrolled in law school.

106. 19 C.F.R. § 4.7(b)(2).

107. Presentation, *supra* note 99, at 66,319.

native to the printed, canary-colored Shipper's Export Declarations (SEDs).¹⁰⁸ In October of 1999, the Census Bureau offered a free, web-based application called AES Direct, and began strongly encouraging the export community to use it instead of the paper SEDs.¹⁰⁹ AES has now become mandatory, and the SEDs are being phased out.¹¹⁰ Information may be entered by the shipper, by his licensed freight forwarder, or by the carrier, and must be entered at least twenty-four hours prior to departure.¹¹¹ Carriers also must file their export manifests on the AES system,¹¹² under requirements that mirror those of AMS. The information was originally used for statistical purposes, but is now also closely scrutinized by CBP for security and export licensing violations.¹¹³

3. *Expectations of ACE*

When ACE is implemented, it will replace AMS, AES, ABI, and most other computer applications for interacting with CBP.¹¹⁴ It will also bring about several changes to the way cargo is cleared that are not relevant here. Unlike AMS, it will be available through a web-based application, in addition to the EDI format,¹¹⁵ and those needing to have access will be able to do so inexpensively. Like AMS, ACE will be mandatory for all carriers, but will also be required for all customs brokers.¹¹⁶ Like AMS, ACE manifest filing has a national security purpose; CBP will exercise ultimate control of the program and can be expected to have in place security measures to protect the data accordingly. As with AMS, carriers will be strongly motivated to provide accurate information, as a change in the method of collecting the data does not signal a change in the underlying law concerning CBP expectations of that data. As is the case with AMS, all shipments without exception will be represented by complete bill of lading information entered in the ACE system. Once ACE is in place, other government agencies, such as the FDA and Fish and Wildlife, will also use it as the mechanism by which their clearances are filed, and they will also channel their cargo holds and cargo releases through it.¹¹⁷

B. PROPOSAL—ACE AS A PLATFORM

As the bill of lading will exist in manifest form in the ACE system, and as all carriers will necessarily be participating for all shipments imported to the United States, a few technologically feasible adjustments would enable the ACE to automate the commercial environment.

Under step one, current ACE plans call for access to the record for any given shipment to be available to the carrier, importer, the customs broker,¹¹⁸ and the insurance company.¹¹⁹

108. 19 C.F.R. § 192.11 (2003).

109. Chris Gillis, *AES Turns 10*, AMERICAN SHIPPER, July 2005, at 26, 28.

110. 19 C.F.R. § 192.14 (2003).

111. 19 C.F.R. § 192.14(b)(i) (2003).

112. 15 C.F.R. § 30.60 (2003).

113. 19 U.S.C. § 1431a (2002).

114. *ACE Fact Sheet*, *supra* note 80.

115. Telephone interview with William F. Inch, Director, I.T.D.S., CBP (Nov. 28, 2005) [hereinafter Inch Interview].

116. Derringer Interview, *supra* note 25.

117. *ACE Fact Sheet*, *supra* note 80.

118. U.S. Customs and Border Protection, *ACE Application Information* (July 2005), http://www.cbp.gov/xp/cgov/toolbox/about/modernization/ace_app_info/.

119. Inch Interview, *supra* note 115.

Authorized users are prescreened. With suitable prescreening, access could also be allowed to banks, and to any other party whose name is shown in the manifest information. Any party that either did not or could not complete the screening and authorization process could provide hold and release information through the carrier, VOCC or NVOCC, who would have access to all shipments on its manifests.

Under step two, the current ACE plan allows various government agencies to place holds on shipments (e.g., APHIS).¹²⁰ The proposed plan would expand the current plan to allow each interested party to the bill of lading (customs brokers excepted) to place a hold on each shipment. For purposes of this article, these will be referred to as "cargo interest holds" to distinguish them from the holds now placed by government agencies for regulatory purposes. Each party would have the ability to lift its hold on the shipment, but could not replace the hold once lifted. This would mimic negotiation of the paper bill of lading. Each party could also determine whether holds are still in place upstream. The shipment would not be released until each hold is lifted. If the shipper has consigned the goods directly to the consignee, analogous to the straight bill of lading when paper is used, the shipper's hold would be automatically released.

Under step three, a function is introduced that would allow each party in the ownership chain to shield the names of parties upstream from parties downstream, and vice versa. Defenders of the need for negotiability in bills of lading often envision a scenario in which a manufacturer will sell to a trader, who will in turn resell to another buyer while cargo is en route. For the reasons discussed above, this seldom happens. CBP requires the name of the importer of record prior to vessel departure at origin, and intermediate traders prefer to be able to give their customers bills of lading that do not show the original shipper. If the intermediate party had the capacity to shield parties on either side from each other through exercising an option on an electronic manifest, this would restore a capability now no longer available with paper bills of lading, and also render the "triangle trade" process less cumbersome.

1. *Benefits of the ACE Proposal*

The introduction of these changes would benefit all parties. Shippers and consignees would enjoy expedited movement of the electronic shipping documents, thus helping to avoid demurrage costs and late orders. Their ownership interests in the cargo would also be more secure, as each would have to take the initiative to "present the bill of lading" by releasing the ACE cargo interest hold, and cargo could not be inadvertently released against an unendorsed original, or against a photocopy or counterfeit bill of lading. Cargo owners would also save the expenses involved in pouching documents. Banks would benefit from the ability to check bills of lading for discrepancies more quickly and accurately, as the digital manifest could be compared by computer with a digital letter of credit. Carriers would experience reduced risk of inadvertent release of cargo without a properly endorsed original bill of lading, and by the expedited release of cargo and return of their equipment.

Even CBP could benefit if it elected to charge a nominal fee for each shipment that the shipper elects to document through the ACE electronic bill of lading system. As the steamship lines and NVOCCs currently charge up to one hundred dollars per paper bill of lading

120. *Id.*

to cover handling and courier costs, a fee of \$25 or so for an electronic equivalent would probably be acceptable to most market participants.

Of greater probable interest to CBP, an enhanced ACE system would provide additional information that might be helpful to enforcement. Customs duties are more often than not based on a percentage of cargo value, which is established for customs purposes by the commercial invoice.¹²¹ Importers sometimes attempt to reduce duty expenses by arranging for the shipper to provide a commercial invoice below actual selling cost. Currently, the discrepancy only becomes apparent if the amount is so low that it attracts attention, or if CBP happens to audit the importer. If banks participating in ACE were required to post the dollar amount of the transaction (visible only to CBP) related to the shipment, this would provide one additional check against under-declared cargo values.

2. *Handling Costs*

Costs for CBP and for the industry to implement the ACE option should not be extravagant as the framework for the system is already in place. CBP would have some additional software development costs, and the expense of screening potential users seeking authorization. Commercial participants, particularly banks, may also have modest development costs. CBP could recover costs through one-time screening fees, and through "per B/L" fees. Commercial users would recover their costs through reduced labor costs, elimination of courier fees, reduced incidence of demurrage fees, and faster turnaround of product.

3. *Persuading CBP to Take Part*

CBP has publicly stated that the purpose of ACE, in addition to combating terrorism, is to "aid U.S. economic recovery," to "expedite legitimate trade," and "to provide unprecedented integration of data and communication abilities among CBP, the trade community, and other governmental agencies."¹²² Although national security is now an additional priority, these goals are still central to the ACE programs.¹²³ A plan to use the ACE manifests as a vehicle for electronic bills of lading would be in keeping with these goals. In addition, CBP regulations treat parts of export manifests and all of import manifests as presumptively available to the press.¹²⁴ Importers and their duly authorized customs brokers, attorneys, or agents also have a right to examine manifests with respect to any consignment of goods in which they have a proper and legal interest.¹²⁵ The only part of the plan not strictly consistent with already existing rules is the right to use the ACE manifest to block release of goods. The carriers especially, but also the importers, have seen their costs rise and their workload increase because of the requirements of AMS, ACE's predecessor. The ACE proposal presented here would give them the opportunity to drive on the road they have had to pay for.

121. See generally 19 U.S.C. § 1401a (1980).

122. U.S. Customs and Border Protection Press Release, U.S. Customs And Border Protection Launches Pilot Test Of New Ace Technology Features (June 14, 2004), available at http://www.cbp.gov/xp/cgov/toolbox/about/modernization/ace_press_releases/2004/pilot_test_launches.xml.

123. Inch Interview, *supra* note 115.

124. 19 C.F.R. § 103.31(a) (2001). The Secretary must make an affirmative finding on a shipment-by-shipment basis that disclosure of the information contained on the cargo declaration is likely to pose a threat of personal injury or property damage to withhold disclosure. *Id.*

125. 19 C.F.R. § 103.31(c) (2001).

Beyond meeting mandated CBP enforcement and national security goals, a primary concern of the International Trade Data System (ITDS), the agency within CBP responsible for implementation of ACE,¹²⁶ is to do nothing to delay release of goods from the piers.¹²⁷ ITDS officials would need to be helped to fully understand the bill of lading transaction, and how the ACE plan proposed here would expedite rather than delay freight movement, before they would be prepared to embrace it.¹²⁸

4. *What if Everybody Did—Exporting the ACE Bill of Lading Idea*

If the ACE program runs smoothly for cargo moving to the United States, the foundation may soon be in place for this new system to be used over much of the world. On June 23rd, more than 100 countries attending the World Customs Organization in Brussels, Belgium, agreed to the "Framework of Standards to Secure and Facilitate Global Trade,"¹²⁹ calling for signatories to put in place pre-shipment manifest requirements similar to those of the United States' AMS system. While the agreement is voluntary and not enforceable, the actions of many governments would seem to indicate an intent to go forward. Canada already has in place a twenty-four hour rule and data collection technology similar to AMS, called ACI, or Advance Commercial Information.¹³⁰ Australia, the United Kingdom, Sweden and other countries also are in the process of setting up analogous programs.¹³¹ Should the United States' ACE bill of lading program be found to be an effective commercial solution, it seems likely that some of the other countries would make their versions of ACE available for the same purpose.

5. *The U.S. Export Market*

Until or unless other countries adopt a similar approach, this plan, regrettably, does not offer relief for export cargo. AES, the current system allowing the U.S. government to scrutinize export shipments, provides no mechanism for different entities to routinely place a hold on the cargo once it has left port. Use of the ACE née AES system to replace bills of lading on the export side would rely on governments of the destination country linking into the ACE system and enforcing cargo interest holds on the shipment. The technological, legal, and political implications of such an enterprise make this an option of improbable practicality. CBP cannot enforce cargo interest holds at overseas destinations. Therefore, this article does not undertake a discussion of converting the AES program to an electronic bill of lading mechanism upon its absorption into the ACE program. A longer list of changes would be needed, within the law, within international diplomacy and within the existing software.

Still, the same litany of problems that plague cargo owners for import cargo also trouble U.S. exporters and their overseas customers. One can hope that if the experiment with ACE bills of lading for cargo coming into the United States is successful, then the steamship

126. Press Release, U.S. Customs and Border Protection, What is the ITDS Program? (Nov. 8, 2005), available at <http://www.cbp.gov/xp/cgov/toolbox/about/modernization>.

127. Inch Interview, *supra* note 115.

128. *Id.*

129. Philip Damas and Eric Kulisch, *Nations Back WCO Security Rules*, AMERICAN SHIPPER, Aug. 2005, at 24-25.

130. Canadian Border Services Agency, *Advance Commercial Information*, (June 2005), <http://www.cbsa-asfc.gc.ca/newsroom/factsheets/2005/0125aci-e.html>.

131. See, e.g., Australia's Integrated Cargo System, <http://www.customs.gov.au>.

industry and the government would examine the export ACE program for an opportunity to provide a similar program in cooperation with destination countries.

6. *Is it a Bill of Lading?*

The remaining question is whether this proposed ACE program would meet the statutory requirements and expectations of the legal community and for bills of lading. The first requirement is that the document provide evidence of affreightment.¹³² Shipments would only be listed in the ACE manifest if actually loaded on the vessel, and carriers have the added incentive of avoiding customs penalties to ensure that the information is accurate. The bill of lading must evidence title to the cargo.¹³³ As each participant must lift a gate in the ACE system by releasing the cargo interest holds for the shipment to go forward, the proposed ACE plan would enable shippers, consignees and intermediaries to control title. A bill of lading must include a contract of affreightment.¹³⁴ While this is still an issue that has not been addressed in many jurisdictions, some courts have already held that the contract published in the carrier's tariff and on its website may be inferred to apply to a shipment for which an electronic bill of lading has been issued.¹³⁵

The manifest that remains in the control of CBP would mimic the central recording system that provides additional security from fraud. As it would be accessed through the ACE web page, it would be identifiable as the original and would be unalterable except by those who have authority to do alter it. CBP, a regulated and trusted third party intermediary, would retain actual control of the document at all times. Amendments could not be made without authorization from CBP. Copies would be identifiable and irrelevant, and the only relevant document would be the one in possession of CBP at its website. Because of protections that would exist to meet national security goals, unauthorized alterations would be difficult to accomplish.

C. PAPER BILLS OF LADING WILL NOT DISAPPEAR

Even if the ACE proposal is adopted, paper bills of lading will remain with us for the foreseeable future. Many cargo owners (and many banks) are reluctant to abandon the paper bill of lading, and carriers will need to continue to make these available to those who prefer them. Any international shipment must necessarily comply with the laws of at least two countries, and some governments have laws in place that indirectly require paper documentation, such as a requirement for a hand-written signature on the bill of lading or a requirement that a tax stamp be affixed to the document.¹³⁶ For these reasons, paper bills of lading must remain available as an option for the foreseeable future.

IV. Conclusion

Putting the ACE program to work for the international trade community does not provide a complete solution to the paper bill of lading problem. The purpose of this article,

132. 46 U.S.C. app. § 1303(4) (1936).

133. 49 U.S.C. § 80110(b) (1994).

134. 46 U.S.C. app. § 1302 (1936).

135. *Sea-Land Servs., Inc.*, 285 F.3d at 815.

136. A.N. Yiannopoulos, *XIVth International Congress of Comparative Law: Current Developments Concerning the Form of Bills of Lading*, OCEAN BILLS OF LADING: TRADITIONAL FORMS, SUBSTITUTES, AND EDI SYSTEMS 13 (1995).

however, is to advocate for the experimental use of the ACE system as a foundation for the electronic bill of lading within the limited but adequate laboratory of the U.S. import market. If successful, it could provide a template for similar programs on other trade lanes, whether based on government electronic data collection, commercially financed systems, or cooperatively developed hybrids. The cost is low, and the market seems ready to set aside the paper bill of lading at least to some degree.

