

The National Agricultural
Law Center



University of Arkansas
System Division of Agriculture

NatAgLaw@uark.edu | (479) 575-7646

An Agricultural Law Research Article

Electronic Data Interchange As Documents of Title for Fungible Agricultural Commodities

by

Donald B. Pedersen

Originally published in IDAHO LAW REVIEW
31 IDAHO L. REV. 719 (1995)

www.NationalAgLawCenter.org

ELECTRONIC DATA INTERCHANGE AS DOCUMENTS OF TITLE FOR FUNGIBLE AGRICULTURAL COMMODITIES

DONALD B. PEDERSEN*

TABLE OF CONTENTS

I. INTRODUCTION	720
II. THE PAPER MILIEU	721
A. Generally	721
B. Marketing Information	722
C. Grain Sale Transactions	722
D. Secured Transactions	723
E. Federal Farm Products Rule	724
F. Public Storage of Fungible Agricultural Commodities	724
G. The Challenge for EDI	726
III. THE ROLE OF THE WAREHOUSE RECEIPT FOR FUNGIBLE AGRICULTURAL COMMODITIES	726
A. The United States Warehouse Act and U.C.C. Article 7	726
B. Evidence of Bailment	728
C. Overissue Receipts	729
D. Secured Transactions	730
E. Due Negotiation and the Rights of Third Parties	731
IV. THE LEGAL ENVIRONMENT FOR ELECTRONIC WAREHOUSE RECEIPTS	732
A. Models	732
B. Need for Legislation	733
C. Electronic Warehouse Receipts As Evidence	735

* Professor of Law, University of Arkansas School of Law; B.A. St. Olaf College 1960; J.D. Northwestern University School of Law 1963; Past President, American Agricultural Law Association 1989-90. Appreciation is expressed to Pradeep Singla, LL.B. New Delhi, an LL.M. candidate in the University of Arkansas School of Law, who assisted with the research for this article.

D.	The Requirements of Writing and Signing	735
E.	Transferability and Holders	737
F.	Negotiable or Nonnegotiable	738
V.	DUE NEGOTIATION	739
A.	In a 100% Electronic World	739
B.	Role of Provider(s) in EDI Transfers	740
C.	EDI Control Vis-a-Vis Possession of Paper	742
D.	Defects on the Face of the Receipt	744
VI.	FINAL COMMENTS	744

I. INTRODUCTION

The focus of this article is on the potential for electronic data interchange (EDI) to replace negotiable paper documents of title in transactions involving fungible agricultural commodities.¹ Particular attention is given to how characteristics of paper warehouse receipts, particularly negotiability, might be replicated or replaced by functional equivalents in electronic transmissions.² Unless otherwise indicated, all transactions alluded to herein are domestic, and involve food and feed grains—the classic fungible farm products produced in the United States. Taking an admittedly cautious approach, this article comes down firmly on the side of requiring a carefully legislated foundation as a prelude to advising the use of electronic warehouse receipts for fungible agricultural commodities. The recommendation is that such legislation come at the federal level. It is only in this way that important issues as to rights of third parties and the interplay of existing federal and state warehouse receipts law can be effectively addressed.

First, however, this discussion must be put in a larger perspective. It might seem a bit odd to some readers to contemplate the introduction of electronic negotiable warehouse receipts for fungible agricultural commodities when electronic data interchanges are not being used in other, arguably more easily adaptable, transactions

1. EDI is computer-to-computer transmission of information in some structured form. Commingling in an identifiable mass is contemplated by U.C.C. § 7-207(1) on warehouses. All references to the Uniform Commercial Code herein are to the 1990 Official Version. *See also* 7 U.S.C.A. § 258 (West 1980), the section of the U.S. Warehouse Act authorizing commingling of fungible agricultural commodities of like grade.

2. Some of the issues discussed herein also have relevance to electronic bills of lading. For further reading on this subject see Roberts, *infra* note 9; Williams, *infra* note 65; Ritter & Glinieke, *infra* note 78.

involving such goods. The potential for the use of EDI exists in a variety of transactions.³ Examples include filings of financing statements to perfect security interests under Article 9 of the Uniform Commercial Code,⁴ filing of effective financing statements in states opting for central filing under the federalized farm products rule,⁵ filings of statutory liens against farm products where contemplated by state law,⁶ searches of all such filings, issuance of both negotiable and nonnegotiable warehouse receipts by public agricultural warehouses, and issuance of both negotiable and nonnegotiable bills of lading by carriers. Further examples of potential applications include forward contracts of sale and contracts to reserve grain storage space.

II. THE PAPER MILIEU

A. Generally

Paper is the *sine qua non* of contemporary transactions in fungible agricultural commodities. Indeed, it is not inappropriate to observe that in the production and marketing of grain, paper is a significant "input." One reporter has observed that "agriculture rides [a] covered wagon into a worldwide race for market information."⁷ Transactions with banks, warehouses and grain dealers have a "19th Century" quality to them. Commodity futures trading "still means human beings writing on bits of paper" as it did one hundred years ago.⁸ And, one authority has noted that as to bills of lading, we have been "reluctant to change century old traditions."⁹ The same can be

3. Grain, broadly defined, is the most relevant example. For purposes of the U.S. Warehouse Act, 7 C.F.R. § 736.2(j) (1994), defines grain to include wheat, corn, oats, barley, rye, flaxseed, rice, sunflower seed, triticale, field peas, soybeans, emmer, sorghum, safflower seed, millet "and other commodities ordinarily stored in a grain warehouse." Other storable commodities include cotton, but it is generally stored in identifiable bales in cotton warehouses and thus is not the subject to transactions peculiar to fungible goods.

4. U.C.C. §§ 9-302, 9-401 to 408.

5. Nineteen states have central filing systems certified by the USDA. USDA/PACKERS AND STOCKYARDS ADMIN. INFO. SHEET, June, 1994. *See also* 7 U.S.C.A. § 1631 (West 1988).

6. *See, e.g.*, MINN. STAT. ANN. §§ 336A.01, Subd. 8, 11, 336A.03, 336A.04, 336A.05 (West 1995).

7. Juan Miguel Pedraza, *Information the Old-Fashioned Way*, 10 AGWEEK Nov. 21, 1994, at 13.

8. *Id.* Of course, the internal records of exchanges are computerized as are those of brokerage houses.

9. James L. Roberts, *Electronic Bills of Lading*, in INTERNATIONAL TRANSACTIONS: TRADE AND INVESTMENT, LAW AND FINANCE 85 (K. C. D. M. Wilde, ed. 1993). Roberts notes the failed Seadocs (Seaborne Trade Documentation System)

said for warehouse receipts for agricultural commodities.¹⁰

B. Marketing Information

Some agricultural marketing information is now available from the United States Department of Agriculture (USDA) computer systems, but there is no single data base for farmers or others to access.¹¹ Much information is still available only in paper or microfiche. In the area of marketing information collection and dissemination, however, there is potential for rapid development of comprehensive domestic and global data bases.¹² Yet, relatively few farm computers are wired to access such data bases.¹³

C. Grain Sale Transactions

It is common for producers to store fungible agricultural commodities such as grain in public warehouses.¹⁴ Almost always, such a warehouse is part of an operation that includes a grain dealer engaged in buying and selling in the ordinary course of business the same commodities that are stored.¹⁵ It is common to speak of these

and CARDIS (Cargo Data Interchange System), but sees more positive reaction to the CMI (Comite International Maritime) Rules for Electronic Bills of Lading which are available for adoption by parties to a transaction. *Id.*

10. Recently, Congress twice amended the U.S. Warehouse Act in an effort to provide legal foundation for voluntary use of electronic cotton warehouse receipts in identified bales (not fungible commodities). 7 U.S.C.A. §§ 259, 270 (West Supp. 1994). Final regulations implementing the system are at 59 Fed. Reg. 15033 (1994) (to be codified at 7 C.F.R. § 735). Comments on this development appear *infra* at notes 42, 56, 75, 77, 80, 87, 91 & 92.

11. On the production side, site specific farming information is becoming available through Geographic Information System (GIS) with its computerized layer maps and Global Positioning System (GPS), a satellite network designed to pinpoint exact locations. THE KIPLINGER AGRICULTURE LETTER, Vol. 65, No. 25, Dec. 9, 1994, at 1-2.

12. Juan Miguel Pedraza, *Electronic Harvest*, 10 AGWEEK Nov. 21, 1994, at 12. The article's catch line states that "on the agricultural infobahn—for farmers, getting wired to the world is a race for profits." *Id.*

13. *Id.*

14. The warehouse will be licensed either under the U.S. Warehouse Act or under the pertinent state warehouse licensing statute. The warehouse makes the choice. The U.S. Supreme Court has held that if a warehouse is licensed under federal law, the warehouse operation is not subject to state regulation, even if more stringent, on any matter touched on in the federal law. *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218 (1947).

15. Grain dealers are not licensed at the federal level, but some states do require that they be licensed. Thus, as in Illinois, it is possible to have a country elevator that is licensed as a warehouse under federal law and licensed as a grain

operations as grain elevators, and to thus encompass in a single term the public warehouse and grain dealer functions.¹⁶

Grain producer transactions with grain dealers are still largely at the stage of development that came with the installation of rural telephones and rural free mail delivery.¹⁷ Sales by farmers to grain dealers often are by oral contract made over the telephone. To obviate the U.C.C. statute of frauds problem, such oral contracts can be confirmed by the buyer mailing to the farmer a written (paper) memorandum of confirmation.¹⁸ If the farmer is considered to be a merchant under the state law, and fails to object within the statutory deadline, the contract is binding. If the farmer is not considered to be a merchant, he or she does not even have to answer the mail from the grain dealer.¹⁹ The written confirmation is of no legal effect. Thus, even a paper message arriving in the mail can still be ignored by most farmers in some jurisdictions.²⁰ Such a rule harkens back to days when farmers were deemed likely to be either illiterate or unsophisticated.

D. Secured Transactions

Lenders who take security interests in crops, crops to be grown in the future, and harvested crops, perfect by properly filing a paper financing statement, in some cases in some states in more than one local filing office.²¹ Secured parties who wish to have access to government program payments due the debtor, or to potential crop in-

dealer under the state statute. See *Demeter, Inc. v. Werries*, 676 F. Supp. 882 (D. Ill. 1988).

16. The elevator may be formed as a cooperative or a regular business corporation. It makes no difference for purposes of this article. Depending on their position in the marketing infrastructure, these elevators may be country elevators, subterminal elevators, river elevators, terminal elevators, port elevators or export port elevators. Robert F. Guilfooy, Jr., *The Physical Distribution System for Grain*, USDA/OFFICE OF TRANSPORTATION AGRIC. INFO. BULL. NO. 457.

17. So as not to mislead the reader it should be noted that it is common for grain dealers and warehouses to use computer resources to maintain records of storage and buy and sell transactions.

18. U.C.C. §§ 2-201(1), (2).

19. *Id.* § 2-104.

20. *Nelson v. Union Equity Co-operative Exch.*, 548 S.W.2d 352 (Tex. 1977) (deciding 5 to 4 that a farmer is a merchant with a strong dissent); Philip Erickson, *Selling Grain in a Rising Commodity Market: Is the Farmer a Merchant?*, 1 MIDWEST J. AGRIC. L. 25 (1983-84); David B. Harrison, Annotation, *Farmers as Merchants Within the Provisions of UCC Article 2*, 95 A.L.R.3D 484 (1979 & Supp. 1994).

21. U.C.C. § 9-401.

insurance proceeds, also file paper assignment documents with the proper Consolidated Farm Service Agency (CFSA)²² and Federal Crop Insurance Corporation (FCIC) offices. Secured parties who take negotiable documents of title as collateral generally prefer to perfect by taking the paper document into physical possession.²³

E. Federal Farm Products Rule

Secured parties who wish maximum protection under federal law against buyers of farm products collateral from the debtor farmer generate a flurry of paper. In states that have opted for direct actual notice to potential buyers, the secured party, having gotten a list of potential buyers from the debtor, will mail separate paper notice at least once a year to all such buyers and sometimes to additional potential buyers not named on the list.²⁴ In the nineteen states that have opted for central filing under the federalized farm products rule, the lender will, in addition to the usual financing statement, prepare and file centrally with the Secretary of State an additional paper document, an effective financing statement (EFS). Data from such effective financing statements is compiled and made available by the Secretary of State to registered buyers of farm products in the form of "printed or written" master lists. Such lists are distributed as often as monthly in some central filing states. Other methods of dissemination, EDI included, can be used only if each impacted registered buyer consents. Even in central filing states secured parties will sometimes mail out to potential buyers paper direct actual notices in an effort to gain protection during the gap between the filing of their EFS and receipt by buyers of the next master list to include data from said EFS.²⁵

F. Public Storage of Fungible Agricultural Commodities

When commodities are physically delivered for storage into public grain warehouses the producer initially gets a paper scale or

22. 1994 legislation reorganizing the USDA puts the functions of the former Agricultural Stabilization and Conservation Service (ASCS) under the new CFSA. The FCIC, while not abolished, is now operated as a subagency of CFSA. Act of Oct. 13, 1994, Pub. L. No. 103-354, 1994 U.S.C.C.A.N. (108 Stat.) 2516.

23. U.C.C. § 9-305. This prevents potential mischief with the document as explained at *infra* note 50 and accompanying text.

24. This option is exercised by inaction by the state legislature.

25. 9 C.F.R. § 205.208(f) (1994). Such practice is actually contemplated by state statutes in Colorado and Oklahoma. COLO. REV. STAT. ANN. § 4-9-5-307(1)(b)(II) (West 1989); OKLA. STAT. ANN. tit. 12A, § 9-307.7 (West Supp. 1995).

weight ticket. Whether the storage facility is federally or state licensed, the producer is to be issued a paper warehouse receipt within a set period of time, the ultimate, though not the only possible, documentation of the bailment relationship.²⁶ If the warehouse receipt is negotiable there are potentially important ramifications for a party who takes a security interest in, or buys the receipt. The Commodity Credit Corporation insists upon a security interest in a negotiable warehouse receipt to secure price support loans for eligible commodities in public storage.

When the grain dealer side of an elevator operation buys fungible grain from a producer and does not proceed to market and ship it immediately, it might issue a warehouse receipt in its own name to document company owned grain. As in the case of the producer, if this paper warehouse receipt is negotiable, there are potentially important ramifications for a party who buys or takes a security interest in the receipt.

There are times when a warehouse/grain dealer will intentionally, or inadvertently in the case of inaccurate daily position records (physical inventory), issue negotiable warehouse receipts in excess of what the company owns of the commingled mass. Put plainly, these warehouse receipts are issued for company owned grain that does not exist. The holders of such overissue receipts typically are lenders to the elevator facility, who claim security interests in the receipts, and buyers of commodities who have paid, but have left their new purchases in storage in the seller's facility. The rights of such holders can be improved if they take their overissue receipts by due negotiation.²⁷

26. 7 C.F.R. § 736.30 (1994). In some states, state licensed warehouses issue warehouse receipts to bailors only upon request, rather than routinely.

27. A warehouse receipt is negotiable if by its terms the goods are to be delivered to bearer or to the order of a named person. U.C.C. § 7-104. A negotiable warehouse receipt is negotiated by delivery alone where by its original terms it runs to bearer or, if not, has been endorsed in blank or to bearer. *Id.* §§ 7-501(1), (2). Due negotiation is defined in U.C.C. section 7-501(4) as:

A negotiable document of title is "duly negotiated" when it is negotiated in the manner stated in this section to a holder who purchases it in good faith without notice of any defense against or claim to it on the part of any person and for value, unless it is established that the negotiation is not in the regular course of business or financing or involves receiving the document in settlement or payment of a money obligation.

Id. § 7-501(4).

G. The Challenge for EDI

Clearly, the potential for EDI is multifaceted. The balance of this article focuses on but one narrow aspect of that potential. In a transaction involving due negotiation of a paper negotiable warehouse receipt, the holder takes physical possession of the paper document of title—the warehouse receipt—with its original signature(s) and other authenticating characteristics.²⁸ One challenge in developing law to accommodate electronically transmitted warehouse receipts is to generate them in such a way that holders who claim due negotiation will feel assured that there is a document of title in existence, that it has no defects upon its face, that the signature, or some substitute therefore is genuine, that it is negotiable, and that there is a means to take control of the electronic document equivalent in law to physical possession. These concerns can be addressed, as can the rights of third parties that are impacted by due negotiation of negotiable warehouse receipts.

III. THE ROLE OF THE WAREHOUSE RECEIPT FOR FUNGIBLE AGRICULTURAL COMMODITIES

A. The United States Warehouse Act and U.C.C. Article 7

Because agricultural warehouses can choose either to be federally or state licensed, neighboring warehouses in a particular town could make different choices and be looking at different law on certain aspects of the warehouse receipts they issue.²⁹ The federally licensed warehouse is regulated under the United States Warehouse Act (USWA) and the state licensed warehouse under the state warehouse statute. Article 7 of the Uniform Commercial Code, except to the extent that it might be preempted by USWA, has general application.

Since its amendment in 1931, USWA has, according to the United States Supreme Court, preempted state regulatory law to the extent that the particular activity of a federally licensed facility is at least touched on in the regulatory scheme of the federal statute.³⁰ A state, in other words, cannot regulate such an activity even if it wish-

28. Why physical possession rather than filing? See *infra* note 48 and accompanying text.

29. An excellent historical look at state and federal licensing is J. R. Blomquist, *Warehouse Regulation Since Munn v. Illinois*, 29 CHI.-KENT L. REV. 120 (1950-51). See also 10 NEIL E. HARL, *AGRICULTURAL LAW* § 74.03[1] (1994).

30. *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218 (1947).

es to do so more stringently than does the USWA. Because the USWA regulates the form and issuance of warehouse receipts and the regulations mention the terms "negotiable" and "not negotiable," questions arise as to the scope of the preemption of Article 7.³¹ The focus of the USWA, it should be noted again, is on the form and the issuance of receipts issued by federally licensed warehouses—originally in 1916 to bring order out of a chaos of receipt formats.³² Not surprisingly the federal statute also requires that warehouse receipts be "signed" and "written or printed."³³ The USWA also regulates storage practices of federally licensed facilities including sanctioning commingling of like grade agricultural commodities "if authorized by agreement or custom."³⁴ There also is a requirement in the federal regulations that warehouse receipts be marked "Negotiable" or "Not Negotiable," as the case may be.³⁵ In addition, there are provisions in the USWA governing lost or destroyed receipts, the obligation of delivery of goods to the "holder," and limiting issuance "except for agricultural products actually stored in the warehouse at the time of issuance thereof."³⁶

The question, of course, is whether this content of the USWA works a preemption of Article 7 as to warehouse receipts issued by federally licensed agricultural warehouses.³⁷ It may be that different answers to the question make little practical difference. An argument can be made that while the USWA regulates certain of the mechanics of the issuance of warehouse receipts,³⁸ their replacement,³⁹ and their surrender,⁴⁰ it does not touch on the subject of property interests of bailors and holders of documents of title which are the subject of Article 7. While the regulations under USWA use the term nego-

31. 7 U.S.C.A. §§ 242, 259, 260-62, 264 (West 1980 & Supp. 1994); 7 C.F.R. §§ 736.18, 736.20, 736.24-25 (1994).

32. See Blomquist, *supra* note 29, at 124-25; Farmers Elevator Mut. Ins. Co. v. Jewett, 394 F.2d 896, 899 (10th Cir. 1968).

33. 7 U.S.C.A. § 260 (West 1980).

34. *Id.* § 258.

35. 7 C.F.R. § 736.18(a)(7) (1994); see also 7 C.F.R. §736.18(c) (stating that negotiable receipts must have a written or printed form of endorsement).

36. 7 U.S.C.A. § 259 (West Supp. 1994).

37. Professor Braucher wrote that "important statutes closely related to the subject matter of Article 7 are unaffected. First, state enactment of the Code cannot change overriding federal statutes. The United States Warehouse Act . . . regulate[s] important aspects of warehousing." Robert Braucher, *Article 7 The Uniform Commercial Code — Documents of Title*, 102 U. PA. L. REV. 831, 833 (1954) (emphasis added).

38. 127 U.S.C.A. § 260 (West 1980).

39. *Id.* § 261.

40. *Id.* § 262.

tiable and not negotiable several times, the terms are nowhere defined in the statute. Under this approach, the preemption of Article 7 is limited to a very few provisions.⁴¹ As to the mechanics governed by USWA, the observation can be made that the mesh with Article 7 is good as the preempted technical requirements of the UCC are much the same as those in USWA.

For those—this writer not included—who might see a more extensive federal preemption of Article 7, the issue becomes where to go to fill in the enormous gaps in the USWA as to matters such as a definition of negotiability, the elements of due negotiation, the impact of due negotiation of a warehouse receipt, and the legal status of scale and weight tickets. The answer, as it has been in other cases, may be to incorporate the provisions of state law—here Article 7 as the particular state has adopted it—to the extent that such provisions do not conflict with the language and purpose of USWA.⁴²

Whichever route is taken on the preemption issue, the end result is virtually the same package of legal rules for federally licensed warehouses. This does leave, however, some differences between the form, content and rule for issuance of receipts depending on whether the facility is state or federally licensed. Discussion of these differences will not be pursued except at a general level.

B. Evidence of Bailment

Warehouse receipts issued by a public agricultural warehouse to a producer/bailor or other depositor traditionally are the strongest evidence of the existence of the bailment relationship. However, if the

41. 7 WILLIAM D. HAWKLAND, UNIFORM COMMERCIAL CODE SERIES § 7-103:01 (1986 and Supp. 1993). Professor Hawkland writes:

The United States Warehouse Act has *some impact* on the provisions of Article 7 covering warehouse receipts. This Act provides for the licensing and regulation of warehouses for the storage of agricultural products for interstate or foreign commerce. This Act also provides for the issuance of warehouse receipts, prescribes the contents of the receipts and specifies delivery obligations under the receipt.

Id. (emphasis added).

42. *United States v. Kimbell Foods, Inc.*, 440 U.S. 715, 728 (1979). The final rule for electronic cotton warehouse receipts states that the "same rights and obligations with respect of a bale of cotton" exist for electronic cotton warehouse receipts as for paper receipts. 59 Fed. Reg. 15033, 15038 (1994) (to be codified at 7 C.F.R. § 735.101(a)). While 7 U.S.C.A. § 259(c) (West Supp. 1994) purports to deal specifically with security interests in such electronic receipts, it does not speak directly to how such a receipt is made negotiable and duly negotiated. See *infra* note 75, for a discussion of the treatment of the concept of possession in this statute.

issue in a case is solely whether or not there is a bailment, nonnegotiable receipts can be as significant as negotiable receipts. And, in some cases other types of documents have been equated with nonnegotiable warehouse receipts for the purpose of establishing the bailment—scale and weight tickets as examples.⁴³ But the rights of such bailors to the commingled mass—even those holding negotiable warehouse receipts—can be impacted by due negotiation of negotiable warehouse receipts to certain third parties. Such circumstances are now explored.

C. Overissue Receipts

The general rule of Article 7 of the Uniform Commercial Code is that holders who take overissue receipts by due negotiation have the right to share in the commingled mass⁴⁴—in practice when the facility fails and farmer bailors and others are seeking to claim against a depleted commingled mass inadequate to satisfy all bailment claims.⁴⁵ Overissue receipts result when the warehouse continues to issue receipts after the receipts already outstanding total the entire commingled mass on hand. Typically, it is the grain dealer side of the operation that has warehouse receipts issued to itself or that seeks to transfer warehouse receipts for nonexistent company owned grain. It is not the purpose of this article to deal with the underlying policy considerations pro and con on the law of overissue receipts. The point is that farmers who deposit grain in storage can be impacted unfavorably by U.C.C. section 7-207(2) if transactions in the particular commingled mass involving overissue receipts are by due negotiation.⁴⁶ This results if holders of duly negotiated overissue receipts

43. *In re Durand Milling Co., Inc.*, 9 B.R. 669 (Bankr. E.D. Mich. 1981). *But see In re Mayville Feed & Grain, Inc.*, 96 B.R. 755 (Bankr. E.D. Mich. 1989); MO. REV. STAT. § 411.518 (1984); Bankruptcy Rule 3001 (1984); *Midland Bean Co. v. Farmers State Bank of Brush*, 552 P.2d 317 (Colo. Ct. App. 1976) (involving canceled bank drafts as nonnegotiable documents of title). In a different context, scale tickets were held to be adequate evidence to make a surety liable to shorted depositors in a federally licensed warehouse. *Farmers Elevator Mut. Ins. Co. v. Jewett*, 394 F.2d 896 (10th Cir. 1968) (holding that because amount of bond was adequate for all claims, this opinion includes no discussion as to status when bond inadequate to pay 100% of all claims).

44. U.C.C. § 7-207(2).

45. As to what is and is not part of a commingled mass see *State ex rel. Crawford v. Centerville Grain Co. Inc.*, 618 P.2d 1206 (Kan. Ct. App. 1980); *United States v. Luther*, 225 F.2d 499 (10th Cir. 1955); *Preston v. United States*, 776 F.2d 754 (7th Cir. 1985).

46. Among the most complex issues regarding negotiable warehouse receipts are those that involve possible exceptions to the general rule at U.C.C. § 7-207(2).

are allowed to share in an inadequate commingled mass. Even if a farmer bailor claims against the commingled mass on the basis of a duly negotiated warehouse receipt—not just a scale or weight ticket—the language of Article 7 allows the holder of a duly negotiated overissue receipt to claim a pro rata share.⁴⁷ Others who have legitimate claims against the commingled mass, such as buyers of existing company owned grain who elect to leave their purchase in storage, can also be adversely impacted by duly negotiated overissue receipts—even if their bailment claims are backed by duly negotiated warehouse receipts.

D. Secured Transactions

Secured parties who take as collateral the actual grain in storage in a public warehouse—rather than warehouse receipts—can be the subject of various claims of superior status by parties holding duly negotiated warehouse receipts from the same facility. In both of the following examples, third parties not involved in negotiable warehouse receipt transactions with the warehouse can be impacted by determinations of whether other parties have transferred negotiable warehouse receipts by due negotiation.

The status of a secured party (SP) who took and perfected a security interest in the grain of Farmer (F) may be at risk if F stores the grain at harvest in a public warehouse, is issued a negotiable warehouse receipt and duly negotiates the same to Third Bank as collateral for a new loan. While U.C.C. section 7-503(1) initially suggests that the preexisting interest of SP will not be impaired, it does go on to say that this is true only if SP has not entrusted the goods to the bailor with actual or apparent authority to sell, and SP has

Arguments that particular receipts are no good arise when there is no company owned grain at the time overissue receipts are issued. Might a state warehouse law which provides that no receipts can be issued under such circumstances or some rule of equity override U.C.C. § 7-207(2)? See, e.g., *United States v. Haddix & Sons, Inc.*, 415 F.2d 584 (6th Cir. 1969). What is the impact of 7 U.S.C.A. § 259(a) (West Supp. 1994) providing that no warehouse "receipts shall be issued except for agricultural products actually in the warehouse at the time of the issuance thereof?" See Drew L. Kershen, *Article 7: Documents of Title*, 48 BUS. LAW. 1645, 1648-55 (1993).

47. Today, depositors who hold only scale or weight tickets are generally allowed to share in the commingled mass as tenants in common along with depositors who hold negotiable warehouse receipts. See *supra* note 43 and accompanying text. The same is true for depositors who hold nonnegotiable warehouse receipts. Thus, the legal treatment of overissue receipts also impacts on the size of their pro rata share in a warehouse failure. Note further that the holder of an overissue receipt could be a secured party, thus complicating an already messy situation.

not acquiesced in the procurement by the bailor or his nominee of any document of title. Put plainly, there is the chance that the security interest of SP will become subordinate to the interest of Third Bank if SP has knowledge of the likelihood of storage and makes no objection or effort to control and the result is the issuance of a negotiable document of title to F which ends up being duly negotiated, here to Third Bank.⁴⁸

A security interest in farm products, taken by a lender to Farmer F after F's grain is in public storage and a negotiable warehouse receipt has issued, arguably does not attach as the only available collateral is the warehouse receipt in which title to the farm products is locked up.⁴⁹ During the time that goods are in the possession of the issuer of a negotiable warehouse receipt, a security interest must be perfected in the document, not in the goods.⁵⁰

E. Due Negotiation and the Rights of Third Parties

A holder to whom a negotiable document of title has been duly negotiated acquires certain rights under U.C.C. section 7-502 including title to the document and title to the goods. In addition, such holder takes free of any defense or claim not revealed on the face of the receipt. This includes instances where the transferor acquired the negotiable warehouse receipt by paying a third party with a bad check and then duly negotiates to the holder in question.⁵¹

It is clear that parties other than issuers, transferors and holders of warehouse receipts can raise the issue as to whether a particular warehouse receipt is a negotiable document of title and whether or not its transfer has been by due negotiation. Included in this group of third parties who must prevail on an argument of no due negotiation are those who stand to sustain losses because of adverse claims under overissue receipts, loss of priority secured status, or loss of rights as an unpaid seller. Accordingly, voluntary agreements as to the rules of electronic warehouse receipts among issuers, transferors and holders ought not, and very probably would not, be binding on third parties.⁵² Nor would stipulations in the text of electronic nego-

48. See U.C.C. § 7-503 cmt. 1; *United States v. Hext*, 444 F.2d 804, 814 n.34 (5th Cir. 1971).

49. U.C.C. § 7-502(1)(b).

50. *Id.* § 9-304(2).

51. *R.E. Huntley Cotton Co. v. Fields*, 551 S.W.2d 472 (Tex. Ct. App. 1977).

52. This same point is made as to Model Law on International Credit Transfers adopted in 1992 by UNCITRAL. See PEB COMMENTARY NO. 13, *The Place of Article 4A in a World of Electronic Fund Transfers*, Discussion B.3. (1994).

tiable warehouse receipts. This leads to the inevitable conclusion that there is a need for the law to articulate generally applicable rules for EDI in this context. This could be left to the evolution of the caselaw, but given the legal complexities and the rapid development of technology, a legislative approach seems much to be preferred.

IV. THE LEGAL ENVIRONMENT FOR ELECTRONIC WAREHOUSE RECEIPTS

A. Models

In his work on electronic data interchange and bills of lading, James L. Roberts has suggested three models for adapting electronic documents of title to the law, or vice-versa.⁵³ These models adapt quite nicely to use in this analysis. First, law and practice could be structured to make electronic documents of title fit into existing law and into the conceptualizations that we have developed for paper documents. Second, a new conceptual framework could be created in the law, but one that preserves some if not all of the functions of the paper documents. Third, there could be experimentation with a mixed system which preserves the old pretty much intact, but allows the use of electronic data transmissions to develop in limited contexts. The latter is not unlike the recent development in the United States allowing voluntary use of electronic warehouse receipts for a particular nonfungible agricultural product—identified (tagged and numbered) bales of cotton.⁵⁴ If the objective is simply to allow electronic transmissions to facilitate string sales by dealers, brokers and others, it might be argued that electronic warehouse receipts for grain ought not be too difficult to structure.⁵⁵ But the world of grain trade is not so simple. When dealing with fungible goods, electronic warehouse receipts for grain will in some cases turn out to be over-issue receipts—inevitably. This presents tough issues as already noted.

Among the principal legal characteristics of paper documents of title is their capacity to serve as objects capable of being taken into physical possession, their use as evidence in legal proceedings, their transferability to holders, their status as nonnegotiable or negotiable, and if the latter their capacity to be duly negotiated. There are a number of reasons why Roberts' second model is the most attractive as we deal with electronic warehouse receipts for fungible agricultur-

53. Roberts, *supra* note 9, at 85-86.

54. See *supra* note 10.

55. See *infra* note 72.

al commodities and their due negotiation.

B. Need for Legislation

Whatever the model pursued, it seems clear that legislation will be required up front.⁵⁶ Experience with private efforts at the international level to create regimes for electronic bills of lading have not meet with real success thus far.⁵⁷ The work of the American Bar Association in generating a model agreement for trading partners is a significant effort, but does not resolve the types of third party issues discussed in section III of this article.⁵⁸ Also, the realities of the situation do not seem to lend themselves to a development such as the Uniform Customs and Practices (UCP) and its incorporation by reference on a global scale into international letters of credit.⁵⁹ Warehouse receipts for fungible goods, as has been noted, can have an impact on the rights of third parties in such goods who have no occasion to look at or deal with any warehouse receipts until trouble arises in the form of a failed warehouse and overissue warehouse receipts. Thus, merely incorporating by reference in negotiable warehouse receipts some set of rules agreed upon by trading partners, a trade association or national or international chamber of commerce raises the specter of third parties and the courts before which they argue rejecting their application. Voluntary agreements cannot alter the general legal framework, a reality that is of real importance—not just an abstraction—when examining the transactions of public agricultural warehouses.⁶⁰

As to the three models offered by Roberts, the first is probably the most difficult to achieve. The legal contortions that would be

56. Development of electronic cotton warehouse receipts (not fungible goods) required federal legislation, regulations and ASCS provider agreements. *See supra* note 10; Notice of Provider Agreements, 59 Fed. Reg. 40338 (1994).

57. Roberts, *supra* note 9, at 85, 87.

58. The original document, ABA ELECTRONIC MESSAGING TASK FORCE, THE COMMERCIAL USE OF ELECTRONIC DATA INTERCHANGE—A REPORT (1990), was issued in monograph form. It is published in 45 BUS. LAW. 1645 (1990). The Report includes a Model Electronic Data Interchange Trading Partner Agreement and Commentary.

59. Published by the International Chamber of Commerce, these customs and practices represent the consensus of the international banking community and, while rarely made part of the law of a country, govern because of their almost universal incorporation into international letters of credit.

60. *See* Amelia H. Boss, *The International Commercial Use of Electronic Data Interchange and Electronic Communications Technologies*, 46 BUS. LAW. 1787, 1802 (1991) (stating the same point, but in a larger context). *See also* PEB #13, *supra* note 52.

required are probably unnecessary anyway, if consensus can be achieved as to use of electronic data interchange. It is true that commercial practices in the past have often developed ahead of the law and that the law has eventually caught up. However, faced with new technology of the magnitude and potential of EDI a case can be made that the law needs to take the lead in rapidly shedding archaic barriers to new forms of commercial transactions.

Perhaps there will need to be a transitional period when paper and electronic transactions exist side-by-side or where paper remains exclusive for some purposes as in Roberts' third model. However, there is a danger with this model in that lack of confidence in EDI might render it infeasible economically because of low level of use. Then, there is a danger of elitism with the advantages of EDI being reaped only by the largest and most wealthy of enterprises.⁶¹ Also, the availability of the paper alternative can have the effect of putting off finding solutions essential to achieving full potential use of EDI. Still, the practical answer probably is not a complete and rapid conversion to EDI because the odds of convincing the Congress or other legislative bodies to make swift and radically comprehensive changes in existing laws is remote.⁶²

Simply changing a few definitions in the Uniform Commercial Code to make Article 7 appear to accommodate negotiable electronic warehouse receipts is probably not a wise step—the legal issues are not so simply resolved. Any use of electronic warehouse receipts for grain, even if only in marketing transactions beyond the country elevator, raises complex legal issues implicating producers, lenders to producers, lenders to country elevators, and others. So long as the electronic warehouse receipt is issued by a facility that commingles grain and has both warehouse and grain dealer functions, issues can arise that go far beyond those that might arise with bale specific cotton electronic warehouse receipts.⁶³

Legislation focusing on electronic warehouse receipts for fungible agricultural commodities should clearly establish what is required in terms of computer data to create an electronic document of title. There should be a clear indication as to what is required to make such documents negotiable and whether both bearer and order receipts are contemplated, or just order receipts. The legislation should

61. It is still much too early to ascertain whether an element of elitism will emerge in the use of electronic warehouse receipt for cotton in the U.S. See *supra* note 10.

62. This reality is recognized with regard to the new electronic cotton warehouse receipts discussed at *supra* note 10.

63. See *supra* notes 3, 10.

spell out the process and elements of due negotiation via EDI. Consider the following suggestions.

C. Electronic Warehouse Receipts As Evidence

The issue is whether a court will accept a printout of an electronic data transmission as evidence and if so under what circumstances.⁶⁴ The alternative, presumably, is to preserve the right of the holder to have a paper warehouse receipt issued in place of the electronic transmission. But this represents an unwillingness to come to grips with the future and a propensity to cling to past ideas about authenticity of evidence. Perhaps some courts would be willing to admit as evidence a computer disk and a printout therefrom, or just the printout, citing the business records exception to the hearsay rule or the best evidence rule.⁶⁵ Better that the evolution of the law of evidence in this area not be left just to the cases, but be dealt with in changes in statutes and rules that specifically recognize the need for businesses to use and rely upon those electronic interchanges that will be the "writings" and manifestations of intent of the modern age.

D. The Requirements of Writing and Signing

If a warehouse receipt is to exist only in the electronic impulses of the computer, it is virtually impossible to argue that it is a written and signed document in the traditional sense. Currently, U.C.C. section 7-202(2) lists as one of the requirements for a warehouse receipt that it be "written or printed." The section goes on to require the "signature of the warehouseman" or his authorized agent.⁶⁶ The law will need to be changed to require that the electronic documents of title, while not "written" or "printed" in the traditional way, are

64. Full development of issues of evidence is beyond the scope of this study. For further discussion see BERNARD D. REANS, JR., ET AL, *ELECTRONIC CONTRACTING LAW: EDI AND BUSINESS TRANSACTIONS* 121-154 (1993-94 ed.). Both the Administrative Office of the U.S. Supreme Court and the National Conference of Commissioners on Uniform State Laws have formed groups to examine and make recommendations regarding evidence rules in light of technological changes. While the projects are extensive, consideration is being given to hearsay and business records issues. The NCCUSL Study Committee on the Uniform Rules of Evidence is chaired by C. Arlen Beam, U.S. Court of Appeals, 435 Federal Building, Lincoln, NE 68508.

65. This position is advanced by Stasia M. Williams, *Note: Something Old, Something New: The Bill of Lading in the Days of EDI*, 1 *TRANSNAT'L L. & CONTEMP. PROBS.* 555, 570 (1991).

66. U.C.C. § 7-202(2)(g).

specifically recognized if technical standards associated with current computer technology are satisfied. Such standards might best be left to regulation so that they may be updated as the technology evolves.⁶⁷

If signatures as we have known them are not used, their function can be taken over by assurances of authority and authenticity that only computers can provide. To the extent that U.C.C. section 1-201(39) governs, it already provides that "signed" includes any symbol adopted by a party and intended to authenticate a writing. One of the emerging developments in electronic technology is the ability to capture and verify signatures (autographs) with pen-computers.⁶⁸ Even then, however, new legislation may be required if current statutes and regulations might be interpreted to require a traditional signature.⁶⁹

Questions as to the authority of the individual initially authorizing the issuance of a warehouse receipt, the authority of the individual authorizing transmissions by the provider,⁷⁰ and the authority of the individual authorizing transmissions on behalf of a holder can be resolved. The statutory rule could be that businesses, be they warehouse issuers, providers, or holders, who enjoy the use of private codes, encrypted symbols, or pen-computers have a duty to maintain control over access on the part of employees. Thus, any employee, authorized or unauthorized, who uses the private key, encrypted symbol, or pen-computer would bind the employer. The misuse of a private key, encrypted symbol, or pen-computer by someone other than an employee is a distinct issue.

67. It has been suggested that Article 7 can be made "EDI-friendly" by substituting in the statute the word "record" for the words "writing" or "written." Drew L. Kershen, *Final Report on U.C.C. Article 7 to the PEB*, 11 AGRIC. L. UPDATE 4 (Nov./Dec. 1993) (making reference to one aspect of a report of Feb. 1993 to Article 7 Task Force by Christina L. Kunz). Problems associated with attempts to revise the definition of "written" or "writing" at U.C.C. § 1-201(46) are explored in detail in Patricia Brumfield Fry, *X Marks the Spot: New Technologies Compel New Concepts for Commercial Law*, 26 LOY. L.A. L. REV. 607 (1993).

68. Benjamin Wright, *Emerging Topic—Pen-Computer Signatures: The Legality of the PenOp Signature*, THE LAW OF ELECTRONIC COMMERCE SPECIAL RELEASE, Nov. 1994, at 17.

69. *Id.*

70. A provider is an intermediary who serves as a clearinghouse, record keeper and control for EDI transmissions such as those involving documents of title. See *infra* notes 87-88 and accompanying text.

E. Transferability and Holders

The interest that is subsumed in the electronic warehouse receipt can be made transferable to a new holder with ample safeguards.⁷¹ Here the elimination of paper can speed single or string⁷² transactions and supply the ultimate holder with the electronic warehouse receipt within minutes rather than overnight or two days later by expensive courier. A "holder" under U.C.C. section 1-201(20) is defined to be a "person in possession" of a document of title. Physical possession appears to be contemplated.⁷³ Transfer or negotiation involves "delivery."⁷⁴ And "delivery" means voluntary transfer of possession. Legislation that simply provides that one who receives an EDI message transmitting all interest in a warehouse receipt is a "holder," with an assumption by legislators that the rest of the "pieces" should fall into place under existing law, seems a bit chancy. Inherent in becoming a holder is the achievement of a level of control over the document that can be accepted as legally equivalent to physical possession. Thus, elements appropriate in EDI for an equivalent level of "control" must be isolated and identified.⁷⁵

71. The term "transferability" appears at U.C.C. §§ 7-501(5), 7-502(2), 7-503(2), 7-504.

72. String transactions involve successive sales of a warehouse receipt before it is sold to the final holder who claims the goods. Such transactions are common in the grain trade. Circle transactions also occur when a string of transactions culminates in the ultimate holder being the same person as the initial holder.

73. In the context of documents "possession" has caused little trouble—physical possession being contemplated with rare exceptions. JAMES J. WHITE & ROBERT S. SUMMERS, *UNIFORM COMMERCIAL CODE*, § 14-3, at 552 (2d ed. 1980). Questions as to documents in escrow are not covered herein.

74. U.C.C. § 1-201(14). "Holder" includes a lender who has taken possession of a warehouse receipt as collateral.

75. The statute for electronic cotton warehouse receipts speaks of "possession" on one hand with respect of the cotton as such, but then of "possession of the warehouse receipt" in the context of a secured party in a secured transaction in "cotton covered by the warehouse receipt." 7 U.S.C.A. § 259(c)(2)(B) (West Supp. 1994). This statute purports to provide the legal foundation for electronic cotton warehouse receipts in express as to the right to possession of cotton and as to security interests in cotton, but appears to be silent as to the taking of a security interest in a negotiable electronic warehouse receipt. Cotton (goods) and warehouse receipts (documents of title) are two distinct categories of collateral. Note, however, the provision that a holder of an electronic warehouse receipt authorized under this statute is "for the purpose of perfecting the security interest . . . with respect to the cotton covered by the warehouse receipt, be considered to be in possession of the warehouse receipt." Perhaps we are to infer that a holder who claims a security interest in a negotiable electronic warehouse receipt also is deemed to be in possession of the warehouse receipt. But the plain language of

Under current law governing paper negotiable warehouse receipts, physical possession plays a vital role. Thus, we are accustomed to thinking of documents of title as objects and using them as such. The bank that lends against a negotiable warehouse receipt will want to take physical control of the document of title as the best means of perfection and guarding against its misuse. The Commodity Credit Corporation (CCC) when acting as a lender takes the same view, demanding physical possession of negotiable warehouse receipts to secure price support loans related to a crop that is in public storage.⁷⁶ Also, a bank or other lender that has loaned money to a producer and has taken a secured interest in growing and harvested crops will be vitally concerned about taking into physical possession any negotiable warehouse receipts that might be issued if such crops, upon harvest, are placed in public storage.

Without a physical document there will be no object to take into possession. Thinking needs to turn to methods whereby those who once relied upon physical possession of paper documents to protect rights, will accomplish the same thing by attaining control over electronic transmissions—here of electronic warehouse receipt(s). This is not an insurmountable problem, as discussed hereinafter.

F. Negotiable or Nonnegotiable

Because the concept of negotiability is so important to commercial transactions in documents of title, there is no real reason to abandon it in a new world of EDI. It should be relatively easy to require that negotiable electronic warehouse receipts use the known language of negotiability—to order of a named person or to bearer. To achieve greater security, a decision could be made legislatively not to have bearer electronic warehouse receipts. This would still leave negotiable (to named person or order) and nonnegotiable (to named person) receipts. Legislation that simply allows electronic warehouse receipts to be marked **NEGOTIABLE** or **NOT NEGOTIABLE** would leave uncertainties as to whether bearer documents are possible at all or whether all negotiable receipts are to be order documents re-

the statute on the subject of possession appears to focus solely on security interests in bales of cotton (goods). While the federal statute contemplates negotiable electronic warehouse receipts, 7 U.S.C.A. § 259(c)(1)(B), it does not discuss the process of due negotiation to a secured party or other holder.

76. While the 104th Congress in writing the 1995 Farm Bill may consider elimination or phasing out of deficiency payments to eligible producers of food and feed gains, there appears to be no move to eliminate the long standing price support loan program for such commodities. Thus, secured transactions with CCC involving negotiable warehouse receipts as collateral will remain commonplace.

quiring endorsement.⁷⁷ Nonnegotiable electronic warehouse receipts would simply be made out to a specific person.

Some may inquire why there would be any need to issue nonnegotiable electronic warehouse receipts. Arguably, they would be of virtually no value in commercial transactions as grain dealers, brokers, processors and exporters deal with one another.⁷⁸ However, it should be anticipated that producers who store grain in public warehouses will eventually be tied into computer networks and will have the capacity to receive transmissions of electronic warehouse receipts, nonnegotiable in some cases, perhaps at the insistence of lenders to such bailor producers. Planning for the future ought not exclude producers on the basis of ill advised assumptions about their lack of interest in, or capacity to participate at, the transactional level in the electronic revolution.⁷⁹

V. DUE NEGOTIATION

A. In a 100% Electronic World

The legal ramifications of due negotiation of negotiable warehouse receipts has been established. If issues associated with due negotiation of electronic warehouse receipts are to be addressed head on, it is best to assume—at least for purposes of argument—that the use of paper warehouse receipts is to be phased out quickly. This means that the tough questions cannot be ducked by implying that those with doubts about the state of the law can insist upon cancellation of the electronic warehouse receipt and the issuance of a paper replacement.⁸⁰ The goal must be not only to make provision for elec-

77. For cotton negotiable warehouse receipts, it is required that the receipt refer either "to a specified person or to the order of the person." 7 U.S.C.A. § 259(c)(1)(B) (West Supp. 1994). This leaves room for both negotiable and nonnegotiable documents of title, but no bearer negotiable documents.

78. Examples include bills of lading and bulk commodity ocean shipments where there may be several title transfers during transit. See, e.g., *Tradax Export S.A. v. Andre & Cie. S.A.*, 1 Lloyd's Rep. 378 (1976 C.A.); Jeffrey B. Ritter & Judith Y. Gliniecki, *International Electronic Commerce and Administrative Law: The Need for Harmonized National Reforms*, 6 HARV. J.L. & TECH. 263, 280 (1993). While perhaps not as common, the same can be true for domestic bills of lading and warehouse receipts.

79. See *infra* Part VI. for final comments regarding widening the availability of EDI software and hardware.

80. This paragraph seeks to set the focus and should not be read to suggest unrealistically that there will be some sudden and total transition from paper to EDI with respect to negotiable warehouse receipts or bills of lading. Note that under the cotton warehouse statute and regulations a warehouse that opts to issue electronic receipts and contracts with a provider must issue all receipts electroni-

tronic warehouse receipts, but to legislate in such a way that rights of third parties are clearly addressed and the confidence of the agricultural lending community is won.

Negotiation of a warehouse receipt made to the order of a named person has traditionally involved indorsement and delivery by such holder.⁸¹ Endorsement involves a signature⁸² and delivery a transfer of physical possession.⁸³ Under Article 7, due negotiation involves a holder who "purchases" the negotiable warehouse receipt in the regular course of business, for value, and in good faith without notice of any defense against or claim to the receipt.⁸⁴ Matters such as regular course of business, value, and without notice can probably be resolved under existing law.⁸⁵ Matters having to do with the recognition of the electronic transmission as equivalent to a paper document and the "signatures" thereon have been considered already.⁸⁶ What remains for examination are elements critical to negotiation—"transfer" and "possession."

B. Role of Provider(s) in EDI Transfers

A regime of due negotiation of electronic warehouse receipts seems destined, for a variety of reasons, to require an independent third party, a provider who is not a player in the market and who serves as a central clearinghouse and control for all warehouse receipt transactions.⁸⁷ Such a system offers greater assurance of priva-

cally, although thereafter it is possible to require the provider to substitute a paper warehouse receipt with the same number. 59 Fed. Reg. 15033, 15039 (1994) (to be codified at 7 C.F.R. § 735.101(l)).

81. U.C.C. § 7-501(1).

82. Compare U.C.C. § 3-204 with *supra* notes 72-76 and accompanying text.

83. See *supra* notes 73-74 and accompanying text.

84. U.C.C. § 7-501(4). "Purchase" includes taking by sale, discount, negotiation, mortgage, pledge, lien, issue or reissue, gift or any other voluntary transaction creating an interest in property.

85. The new issue might be the extent to which persons who claim the full benefits of due negotiation will be charged with notice of information that they might have pulled out of computer searches into legally available data bases. As to "good faith", see the honesty in fact standard of U.C.C. § 1-201(19).

86. See *supra* notes 64-71 and accompanying text.

87. The question as to whether there should be one provider for all public warehouse receipts issued in the United States, one provider for each commodity, or multiple providers is beyond the scope of this article. It is to be noted that the electronic warehouse receipt system in the United States for identified bales of cotton contemplates the use of multiple providers. It would be best to avoid calling the service rendered by the provider a central filing system as that term has been coopted by those states that have a central filing system for U.C.C. financing statements and by states that have elected to establish a USDA certified central

cy when warehouse receipts are used in string or circle transactions than if all of the transfer information is routed through the issuing warehouse—a player in the market. Few transferors will want their trading strategy revealed at any given time to a warehouse/grain dealer, even if that entity is under a requirement of confidentiality.⁸⁸

Data transmissions from the warehouse to the provider at initial issuance of an electronic warehouse receipt can be authenticated by the use of a private key, perhaps encrypted for maximum security.⁸⁹ Indeed, encryption of entire messages at this initial level is probably feasible and could eliminate the need frequently to change the private key. Encryption should render unauthorized decoding unreasonably expensive.⁹⁰ The initial holder will contract directly with the warehouse for the issuance of the receipt—perhaps by EDI—and thus will expect communication from the provider. The identity of the provider will be public knowledge and any questions about the authenticity of transmission from same could be verified by telephone or FAX transmissions. However, the need for such checking should be made rare by appropriate safeguards mandated by law.⁹¹ If an independent provider is used, there can be considerable assurance of the identity of the current holder, should one choose to transact business with such person.

The transmission from the provider to the new holder will include the warehouse receipt number, the symbol or key assigned to the provider, the name of the provider and the contents of the elec-

filing system for effective financing statements. For comments reflecting concern about this issue see Supplementary Information, 59 Fed. Reg. 15033, 15036 (1994), in the context of cotton electronic warehouse receipts. Government regulation of providers seems essential.

88. Contrast the CMI rules for bills of lading which uses a carrier based system, akin to a warehouse based system. Roberts, *supra* note 10, at 88. The CMI rules appear as Appendix I to Richard Brett Kelly, *Comment: 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). It will be interesting to see if international grain traders will be willing to engage in string transactions in such an environment.

89. Encryption involves encoding by a sending terminal capable of using algorithms to a receiving terminal capable of decoding. Kelly, *supra* note 89. A private key is a unique series of number or characters, or combination thereof, hopefully known only to the provider who supplies it and the particular party, a holder for example, who will need to communicate future instruction to the provider by EDI authenticated with the key.

90. Kelly, *supra* note 88.

91. This subject gets rather light treatment in the scheme for electronic cotton warehouse receipts. See *supra* note 10.

tronic document.⁹² A subsequent transmission from the provider will give the new holder a "one-time" private key to be used in future communications with the provider. This private key will not be shared with third parties and, if the capacity exists at both ends, could be transmitted encrypted. The odds of an undetected false transmission are probably no greater than the odds of a transaction involving an undetected forged paper warehouse receipt.

Any party desiring to take an electronic warehouse receipt by due negotiation will want to be assured that it is dealing with the issuer or the current holder if one exists, that the electronic document of title does not have defects on its "face," and that the transfer transaction is authorized. Further, there should be insistence upon vesting a measure of control in the transferee of the electronic warehouse receipt equivalent in legal effect to physical possession. All of these requirements can be met, and there is no need to abandon them and to create some other set of criteria for the electronic world.

C. EDI Control Vis-a-Vis Possession of Paper

A good argument can be made that suitable methods of control over an electronic warehouse receipt can substitute for possession of a paper document of title. However, a new statute would seem inadequate if it provided simply that one becomes a holder of a receipt by virtue of an EDI transmission and a change in the name in the computer records of the provider. This approach begs the question of control and it is control that should be the ultimate test of whether or not one is a holder. And, it should be added, the perception of control is as important in the commercial setting as is the legal fact of control.

By statute the presence of some or all of the following elements could be defined to constitute control by a holder and such control could be given the same status as delivery and physical possession of a paper document of title. First, the required use of an independent provider would mean that critical aspects of EDI transmissions will be in the hands of a person who would have no motive to cheat or falsify data and who is highly unlikely to transfer without proper authorization from the current holder. Second, the holder could be given a "one-time" private key that would have to be used with

92. Consider the cotton provider agreement. Agricultural Stabilization and Conservation Service Provider Agreement to Electronically File and Maintain Cotton Warehouse Receipts, July 26, 1994/ASCS/LAD including attached ASCS Transmission Specifications (on file with author).

transfer instructions before the provider would transfer the negotiable warehouse receipt to another. Pen-computer signatures could accomplish the same thing if the computer check against a mandatory signature register system is sophisticated enough to detect virtually all forgeries. Third, security, and thus control, could be enhanced by mandatory encryption of EDI transmissions. Fourth, there could be a requirement of verification, or at least acknowledgement, of all EDI transmissions. Thus, a transfer from a current holder would not occur simply because the provider has received an encrypted EDI message with private key and even pen-computer signature ostensibly from the current holder. The provider could be required first to make EDI contact with the current holder to verify the message or to at least acknowledge its receipt. This would allow the current holder to react if unauthorized instructions have reached the provider. Fifth, access to the provider's computer to alter data would need to be effectively restricted in actual practice to authorized parties. This requirement is consistent with the need generally to limit access to the provider's data-base for reasons of business confidentiality. Finally, the fact that each electronic warehouse receipt would have a distinct number thus adds another element of control.⁹³ The provider, at risk of its own liability, will use care not to issue another warehouse receipt bearing the same number and will confirm any transfer with the most recent holder. Absent proper authorization, the warehouse, at risk of its own liability, will not authorize a replacement warehouse receipt bearing a receipt number already in use.⁹⁴ Other control elements may exist now to be pointed out by others, or may emerge as the technology evolves.

With the basic elements of control set forth in statute, with room for further articulation in administrative regulations, standards would be set for methods of operation by providers and for all who deal with them. Providers, in the process of being licensed or otherwise authorized to operate, would agree to implement and use required methods of control and would be subject to ongoing regulatory supervision. Electronic negotiable warehouse receipts could then include a statement to this effect: "The transfer of this electronic document to the named holder took place pursuant to 7 U.S.C. § _____. The

93. Such numbering systems are now in place for paper warehouse receipts issued under USWA and some state warehouse statutes. The governmental agency supplies numbers or numbered receipts to each licensed warehouse.

94. Williams, *supra* note 65, at 574 (suggesting four methods to transmit a reasonably secure EDI signature; use of a trusted intermediary, use of a password or secret code, recognition of physical characteristic such as a fingerprint, and cryptography).

named holder controls the next transfer of this document." Better language can no doubt be devised, but the point is that something real is being substituted for the familiar phenomena of physical possession of paper documents of title, something that banks and other lenders hopefully would treat as assurance that their interest as "holder" in a secured transaction in the negotiable document of title is not an electrical chimera that might vanish or be readily transferred surreptitiously to another in a legally effective manner.⁹⁵ Other purchasers of receipts also should feel assured that they have "possession" of warehouse receipts duly negotiated to them. This approach also gives clear rules of the game, established by statute, administered by a disinterested provider, thus providing a foundation for preserving the impact of due negotiation—particularly of negotiable documents of title in fungible agricultural commodities—on third parties.

Of course, it must be assumed that overissue receipts will remain a problem, as they are now with paper warehouse receipts. This is a matter that will remain outside the control of the provider who will not be dealing with the daily position records and other internal records of the public agricultural warehouse. Risks to the ultimate holder even in the face of due negotiation should be made manifest—ideally with greater clarity than under the existing law governing paper transactions in overissue receipts.

D. Defects on the Face of the Receipt

The matter of the contents of the electronic warehouse receipt and defects on its face can be disposed of readily. The document will be reviewable on screen or in a printout and will use human language. Thus, questions as to whether the electronic warehouse receipt is negotiable or nonnegotiable and about defects on its "face" could be resolved as with paper documents. The critical issue in this context will be with the rules of evidence in the event of litigation.⁹⁶

VI. FINAL COMMENTS

It seems unlikely that what has been recommended above will come into effect by development of commercial custom, by private

95. One critical test of the workability of security interests so manifested would be whether bank examiners will treat a bank claiming such an interest as a secured party.

96. England, in § 5 of the 1968 Civil Evidence Act, allows admission of computer print-outs as evidence. See Kelly, *supra* note 88, at n.38.

agreements, or by piecemeal legislation. Legislation seems essential and the Congress seems best positioned to introduce electronic warehouse receipts for fungible agricultural commodities into general usage. Among other things, federal legislation could remove any doubts about the interplay of the USWA and Article 7.⁹⁷ And, Congress has already demonstrated its willingness to intervene in matters of commercial law as evidenced by the federal preemption of U.C.C. section 9-307 and by federal legislation laying some legal foundation for the use of electronic cotton warehouse receipts.⁹⁸ Since what is suggested here involves the reverse of the historical evolution of many commercial laws—development of accepted business practice followed by legislation catching up—supporters of electronic documents of title will need to promote their ideas in the commercial community and gain strong support.

Arguably, it would be a mistake to authorize or mandate the use of electronic warehouse receipts only in the context of warehouses regulated under the U.S. Warehouse Act. There is no legal need for such an approach as the Commerce Clause power of the Congress provides ample foundation for legislation independent of the U.S. Warehouse Act to govern warehouse receipt transactions by both federal and state licensed public agricultural warehouses.⁹⁹

In addition to federal legislation to provide the legal underpinnings for negotiable electronic warehouse receipts for fungible agricultural commodities, there are other steps that the federal government might take to speed the transition and to shorten any period during which both electronic and paper warehouse receipts would be in use. One possibility is for the federal government to require that significant amounts of information that by law must be filed with it be transmitted by EDI.¹⁰⁰ Such an approach for agriculture general-

97. As an alternative, repeal of the USWA as part of the downsizing of the USDA and its budget would leave the matter more clearly in the province of the states. Blomquist advocated repeal in 1950. Blomquist, *supra* note 29, at 131. The Article 7 Task Force has recommended no revision of Article 7 at this time. Kershen, *supra* note 67, at 4. Kershen notes the dissent of Task Force member Rodham Kober, who favored early revision of Article 7 to deal with EDI and other matters. *Id.*

98. See *supra* note 10.

99. U.S. CONST., art. I, cl. 8.; 7 U.S.C.A. § 1631 (West 1988) (stating the federal farm products rule); *Wickard v. Filburn*, 317 U.S. 111 (1942); *United States v. Darby*, 312 U.S. 100 (1941); *Girard v. Kimbell Milling Co.*, 116 F.2d 999 (5th Cir. 1941).

100. The U.S. Customs Service, for example, is proceeding with increasing use of EDI although support is coming but gradually. See Erik Godchaux, *Pushing EDI in Face of Lethargy*, 71 JOURNAL OF COM., Special Edition, Oct. 31, 1991 at 6B.

ly, both as to domestic and international transactions, could lead to the rapid development of the computer networks required to support exclusive use of electronic warehouse receipts. Recall also the several additional opportunities for use of EDI at the domestic level as explored in part II of this article. Opposition to such changes might be offset in part by a program of tax credits to ease the financial burden on the private sector, including individual farmers, as computer hardware and software is acquired. Lending programs to support rural electrification and rural telephone systems are much a part of our rural heritage and could be assigned new roles if we seek to move comprehensively into the electronic age in agriculture. Education, particularly at the local level, could be at least in part a mission of the Cooperative Extension Service.¹⁰¹ These suggestions also respond to concerns that EDI could become an elitist phenomena leaving outside its networks the small independent elevators and average and small farms.

The same idea is suggested in a discussion of developments in the Republic of Korea where "virtually all necessary reports and returns filed with the Korean government relating to international trade must be delivered to it solely by electronic means." Ritter & Gliniecki, *supra* note 78, at 270-71.

101. The Cooperative Extensive Service, a partnership of federal, state and local governments, provides practical education to the public on a variety of subjects.