

International Economic Effects of Halting the Voyage of CSAV RIO PUELO

by

Eric C. Jones

B.S., Marine Engineering
United States Coast Guard Academy, 1987

M.S., Applied Mathematics
Brown University, 1993

SUBMITTED TO THE ALFRED P. SLOAN SCHOOL OF MANAGEMENT IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF BUSINESS ADMINISTRATION

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June 2005

© 2005 Eric C. Jones
All rights reserved

The author hereby grants to MIT permission to reproduce and to distribute paper and
electronic copies of thesis document in whole or in part.

Signature of Author: _____
MIT Sloan School of Management
April 11, 2005

Certified by: _____
John Van Maanen
Erwin H. Schell Professor of Organization Studies
Thesis Advisor

Accepted by: _____
Stephen J. Sacca
Director, MIT Sloan Fellows Program
in Innovation and Global Leadership

International Economic Effects of Halting the Voyage of CSAV RIO PUELO

by

Eric C. Jones

Submitted to the Alfred P. Sloan School of Management on April 11, 2005, in Partial Fulfillment of the Requirements for the Degree of

ABSTRACT

On July 31, 2004, the United States Coast Guard stopped the container ship CSAV RIO PUELO off of the Port of New York and New Jersey. The intervention occurred after the United States Department of Agriculture received information that an on board container of Argentine lemons carried a "harmful biological substance." The ship was held at anchor for six days as officials tested containers and weighed options of how to best prevent the release of a hazardous substance. Although the information which triggered the government response later proved to be a hoax, the economic damage to particular businesses was quite real.

This thesis explores the broad range of costs - direct, indirect and intangible - incurred by businesses up and down supply chains within the shipping industry. Because the United States government may seek to recover its incident response costs, these intervention expenses have been included as well. The costs reported here were obtained by interviewing representatives of the businesses and government agencies involved in the incident. The case provides decision makers in both business and government a detailed example of the economic costs (real and potential) of Homeland Security interventions leading, presumably, to more informed policy and practice.

Thesis Supervisor: John Van Maanen
Erwin H. Schell Professor of Organization Studies

ACKNOWLEDGEMENTS

I am extremely grateful to Professor John Van Maanen, who helped guide my efforts throughout the preparation of this thesis; and to Rear Admiral David Pekoske, U.S. Coast Guard & 1997 MIT Sloan Fellow, for first suggesting the CSAV RIO PUELO as an area of study that would best leverage my Coast Guard experience with the Sloan School's business research resources.

I am deeply indebted to the numerous business and government officials who generously offered their time and assistance in providing information for this research. In particular, I would like to recognize the invaluable contributions of the North American offices of Compañía Sudamericana de Vapores, the Port Authority of New York and New Jersey, U.S. Coast Guard Activities New York, the U.S. Coast Guard National Pollution Funds Center and U.S. Coast Guard Headquarters.

My MIT Sloan Fellow classmates from Mexico, Brazil, Argentina and Venezuela were instrumental in translating letters and emails, and in conducting interviews with business officials in South America.

Finally, I thank Professor Lotte Bailyn her assistance in planning my research and her edits of early thesis drafts, and the research librarians at the MIT Dewey Library for being ever ready to assist me with numerous data and media searches.

DEDICATION

This work is dedicated to my wife, Dr. Myriam I. Jones, MD, FACP, and our children, Audrey, Alton and Spencer. As with my entire U.S. Coast Guard career, their unwavering love and support have been invaluable throughout this challenging, but very rewarding, year at the MIT Sloan School.

TABLE OF CONTENTS

ABSTRACT.....	3
ACKNOWLEDGEMENTS.....	4
DEDICATION.....	5
TABLE OF CONTENTS.....	6
CHAPTER 1 – INTRODUCTION.....	7
CHAPTER 2 – SYNOPSIS OF EVENTS.....	13
CHAPTER 3 – MARITIME COMMERCE AND CONTAINER SHIPPING.....	17
CHAPTER 4 – THE U.S. COAST GUARD AND HOMELAND SECURITY.....	23
CHAPTER 5 – SOURCES OF COSTS.....	33
CHAPTER 6 – COMPANIES AND COSTS.....	37
Compañía Sudamericana de Vapores (CSAV).....	37
Pampa Store.....	44
Real Frut, S.A.....	48
Container Shippers and Consignees.....	51
Companies Avoiding Incident-Related Costs.....	54
CHAPTER 7 – GOVERNMENT EXPENSES.....	57
CHAPTER 8 – CONCLUSIONS.....	62
Appendix A – Container Ship CSAV RIO PUELO.....	70
Appendix B – Typical Telephone/Email Cost Questionnaire.....	71
Appendix C – Sample of Letter Sent to Firms Dealing in Suspect Lemons.....	74
Appendix D – Excerpts from CSAV RIO PUELO Cargo Manifest for Containers to be Discharged in Port Elizabeth, New Jersey.....	75
Appendix E – Samples of Letter Sent to Container Shippers, Consignees & Shipping Agents.....	84
Appendix F – Samples of Information Emails CSAV Sent to Customers.....	87
BIBLIOGRAPHY.....	89

CHAPTER

1

Introduction

The Coast Guard escorted the container ship *CSAV Rio Puelo* to the Maher Terminal at the Port of Newark, N.J., today after holding the ship at Ambrose Anchorage since Saturday due to an unconfirmed anonymous report involving containers of contaminated lemons on board. In coordination with federal state and local authorities the containers' contents will be examined, fumigated, and destroyed using a carefully developed process that puts public safety and port security first. The Coast Guard was alerted by the U.S. Department of Agriculture on July 29 that they received a report that one of five containers carrying lemons aboard the *CSAV Rio Puelo* contained an unknown "harmful biological substance."¹

On July 30, 2004, less than one month before New York City hosted the Republican Party National Convention, the U.S. Coast Guard intervened in the voyage of the container ship *CSAV RIO PUELO* (see Appendix 1). Flagged in the Marshall Islands and operated by the German company Oskar Wehr, the *RIO PUELO* was chartered by the Chilean commercial shipping firm *Compania Sudamericana de Vapores*, also known as *CSAV*. Among its other cargo, the *RIO PUELO* was carrying five shipping containers of Argentine lemons being shipped to a produce distributor in Montreal, Canada. Based upon information provided by an anonymous source to the U.S. Department of Agriculture, the lemons were suspected of containing a hazardous biological agent. Although all tests conducted upon the containers of lemons showed no evidence of any known biological agent, the *RIO PUELO* was kept at sea off of the Port of New York/New Jersey for one week. Eventually the lemons were destroyed and the *RIO PUELO* was able to continue with its voyage.

¹ U.S. Coast Guard First District Press Release, August 6, 2004.

The *Washington Post* estimated the value of the destroyed lemons at \$70,000 (\$US) (Blustein and Byrnes, 2004). The direct loss of the lemons is just the “tip of the iceberg” in the business disruption that this U.S. government intervention caused to at least three other nations. At the time the RIO PUELO was interdicted by the U.S. Coast Guard, the ship was carrying a total of 1,084 shipping containers. The fate of all of these containers, coming from and bound for ports in numerous countries, was unavoidably tied to the five containers carrying the Argentine lemons.

All indications are that homeland security concerns in a post-9/11 world will continue to require the U.S. government to stop commercial shipping from time to time. Prior to the halting of the RIO PUELO, in September 2002 the container ship PALERMO-SENATOR was prevented from mooring in New Jersey and was held six miles offshore for more than two days when low levels of radiation were detected by a U.S. Coast Guard boarding team; ceramic tiles among the cargo turned out to be a harmless and naturally occurring source of the radiation (Smothers, 2002). More recently, the cruise ship ZANDAAM was delayed for six hours off of Port Canaveral prior to Superbowl XXXIX in February 2005 when it was discovered that a passenger had brought a gun aboard the ship (Local6.com, 2004).

Through this research I will estimate the business expenses (direct and indirect as well as monetary and non-monetary) incurred by the numerous affected parties in the case of the RIO PUELO incident. Through compiling and detailing these real costs I hope to provide a reference that will benefit both government policymakers and business executives in their decision making. For government policymakers, this detailing of costs can help to inform risk-based decision making by providing a representative case for the

impact of interferences in commercial shipping; acute risks to homeland security must be balanced with the potential for chronic erosion to U.S. business competitiveness. For business executives, the case of the RIO PUELO provides an example of the costs, both short and long term, that must be borne by a business if a government intervenes in a shipment of goods due to security concerns. Armed with information on the magnitude of these potential expenses, executives can conduct a cost-benefit analysis to determine if cost mitigation programs (compliance with international security practices, purchases of additional insurance, etc.) should be undertaken.

My personal interest in this research lies in the fact that the U.S. Coast Guard serves (among its many missions) as both a protector of U.S. territorial waters and ports and a facilitator of safe and efficient commercial shipping. Although I have served nearly ten years of seagoing duty during my seventeen years as a U.S. Coast Guard officer, my knowledge of the intricacies and networks within international commercial shipping has been quite limited. The information I have sought out for this thesis has broadened my perspective on the challenges facing commercial shippers today, and should assist me and the U.S. Coast Guard as policies are developed to balance the needs of homeland security and commercial efficiency.

Methodology

I began the research by reviewing all newspaper accounts and U.S. Coast Guard press releases that appeared while the RIO PUELO event was ongoing. I then searched for and reviewed after-the-fact articles and analyses from newspapers, journals and Internet sources. With these two data sources, I gathered and corroborated information

on the basic timeline for the RIO PUELO incident, and compiled a preliminary list of the businesses involved. I also used my personal contacts from my U.S. Coast Guard career to corroborate facts and to gain initial points of contact into such businesses as the Port Authority of New York & New Jersey (PANYNJ) and Compañía Sudamericana de Vapores (CSAV).

I then undertook the task of contacting each of the businesses involved, as well as the PANYNJ and the U.S. Coast Guard offices that handled the response to the RIO PUELO case. In most cases, one to three weeks was required to allow for each organization to clear their participation in the research through their legal offices and executive leadership. Each business was then requested to detail the expenses it incurred, either directly or indirectly, as a result of the RIO PUELO incident. Over the course of three months, nearly 50 letters, 30 telephone interviews and 200 emails were used to obtain information (see Appendix 2 for typical questions) and to pose follow-on questions.

Through the process of contacting and obtaining data from the preliminary contacted businesses, I was able to learn of additional businesses that were impacted by the RIO PUELO incident. These companies included consignees who also had containers aboard the RIO PUELO during the delayed voyage, and firms further up and down the supply chain that were engaged in shipping the Argentine lemons to Canada.

I contacted this latter group by sending three letters to Montreal and Buenos Aires (see Appendix 3 for example letter). These letters resulted in telephone interviews from the firms that incurred costs.

To simplify the task of contacting a representative sample of the businesses shipping or receiving the 1,084 containers aboard the RIO PUELO, I narrowed my review to the containers most directly affected by the six-day delay off of New York, the 456 containers scheduled to be discharged in Port Elizabeth, New Jersey. The cargo manifests for these containers was provided by CSAV. I reviewed the freight listed within these manifests to select 84 containers (see Appendix 4) that appeared to contain goods that were either perishable (e.g., fruits, seafood, etc.) or components needed for manufacturing firms (e.g., automotive components, electrical motors, etc.). Rather than taking a random sample, I targeted these specific types of freight to increase the likelihood that the companies polled would have experienced an actual cost from the delay of the RIO PUELO.

These 84 containers originated from and were bound to 46 businesses, shippers, consignees² or shipping agents. Not unusual, some of the consignees served as their own shipping agents. To each of these businesses I sent a letter requesting information on any costs incurred by the six-day delay in the arrival of their freight. Since the selection of businesses spanned the nations of Brazil, Argentina, Venezuela, Uruguay, Canada and the United States of America, I had the letter translated into Spanish and Portuguese from the original English (see Appendix 5). When businesses did not respond to my letter, I attempted to call the firm if a telephone number was available. In the end, a lack of response left me with the assumption that the firm incurred no costs significant enough to report.

² recipients

Throughout this research I was able on many, but not all, occasions to corroborate the expenses claimed by the businesses. This corroboration came from other businesses and government agencies such as the Port Authority of New York & New Jersey and the U.S. Coast Guard. In most cases I was unable to match exact figures; with the exception of the disputed costs detailed in the chapters to follow, however, the costs recollected by corroborating parties were roughly the same, generally within \$1,000.

Because of the difficulties in determining clear cost causality and the lack of multiple sources to corroborate many of the valuations, however, this research represents the best estimate available to the author. All of the information I was provided was contained in the public domain or voluntarily provided by businesses and governmental agencies; proprietary and other internal information may not be accurately reflected in this research. Likewise, although I have attempted to examine all direct and indirect costs resulting from the RIO PUELO incident, the complex and extensive network of businesses and governmental agencies involved in international commerce effectively guarantees that this research, while extensive, is not exhaustive.

It is not the purpose of this research to assess the actions or determine the liability on the part of any of the business or government parties involved in the incident in question. The limitations of this research mentioned in the previous paragraph should preclude the use of this research in any litigation or determination of liability.

CHAPTER

2

Synopsis of Events

In order to provide a context for the various costs that arise from the RIO PUELO incident, it is necessary to briefly recount the voyage of the container ship from mid-July 2004 until mid-August 2004.

At the time of the incident, the RIO PUELO was engaged in its typical seven-week voyage, visiting ports along the Atlantic and Caribbean coasts of North and South America. CSAV normally has enough ships on this circuit to result in the arrival of a CSAV vessel in each port roughly each week. The ports may vary slightly from voyage to voyage, but the North American ports are usually Port Elizabeth, New Jersey; Norfolk, Virginia; Baltimore, Maryland; Charleston, South Carolina; and Miami, Florida. During this voyage, the RIO PUELO was bound from Puerto Cabello, Venezuela to Port Elizabeth, New Jersey, with subsequent stops scheduled in Norfolk, Charleston and Miami before returning to South American ports. During an earlier portcall in Rio Grande, Brazil on July 13th, five CSAV containers filled with 117.8 long tons (119,700 kilograms) of fresh Argentine lemons from the firm Real Frut S.A. had been loaded aboard the RIO PUELO.

The lemons had been ordered by CDA Green Garden in Montreal, Canada through the Argentine firm Pampa Store. Pampa Store paid Real Frut to package and arrange shipping of the lemons. The five containers of lemons were scheduled to be discharged from the RIO PUELO in Port Elizabeth for further overland shipping to

Montreal, Canada. Although the lemons had originally been ordered by CDA Green Garden, the entire order was sold to another Canadian firm, APEX Corporation. Such enroute transfers of cargos are not uncommon, according to a CSAV official, especially with perishable commodities such as produce.

Approximately one day prior to its scheduled arrival in Port Elizabeth on July 31st the RIO PUELO received a Captain of the Port (COTP) Order from U.S. Coast Guard Activities New York to anchor offshore in the vicinity of the Ambrose light tower, just over seven nautical miles east of Sandy Hook, New Jersey. The RIO PUELO safely anchored offshore on July 31st, where it was met by a U.S. Coast Guard boarding team. The boarding team quickly located the five containers of lemons, checked the health of the crew and informed the master that there were concerns that the lemons in the five containers had been tainted with a biological agent. Over the course of the next six days, the five containers holding the suspect lemons were externally tested, looking for any potentially hazardous agents. Testing likely did not include opening the containers both because of the structural integrity provided by the doors of shipping containers (each of the lemon containers had two or three other containers stacked upon it), and out of concern of possibly releasing a harmful agent. The lemons were being shipped in refrigerated containers. While the RIO PUELO was at anchorage, the temperature of the containers was lowered from 4.5 degrees Celsius (40 degrees Fahrenheit) to below freezing (less than 0 degrees Celsius (or 32 degrees Fahrenheit)). Along with closing the container vents and drains, this freezing of the lemons was likely undertaken to destroy or reduce the activity of any hazardous agents; the action effectively ruined the fresh citrus fruit.

On August 6th, the RIO PUELO was permitted to proceed to Berth 50 of Maher Terminal in Port Elizabeth, New Jersey to discharge and onload its scheduled cargo. The five containers of suspect lemons were transferred to a barge. The RIO PUELO sailed the following day, August 7th, for its next scheduled portcall in Norfolk, Virginia.

The barge with the five containers of suspect lemons on deck was moored at Public Berth 34 of Port Newark. This relatively remote berth was likely selected to minimize the chance of fumigation operations interfering with commercial shipping operations in the port. Generator sets were placed on the wharf adjacent to the barge to provide power for the refrigerated containers and for the fumigation equipment.

Over the course of the next week, the containers underwent a series of tests and fumigation. Access holes were cut into the CSAV containers and ducting fitted to provide for the fumigation of the container contents. After each of the containers was fumigated, the lemons were removed and tested one last time before being hauled off for incineration. The containers were then tested and cleaned before being returned to CSAV, which had to repair the holes in the containers before they could be returned to service.

The delay of the RIO PUELO had placed the ship only one day ahead of the next CSAV liner due in United States east coast ports. In order to restore RIO PUELO to its original schedule, CSAV made the decision to have the ship skip its portcall in Miami and proceed directly to its next scheduled South American port. In order to facilitate this rerouting, CSAV planned to have the RIO PUELO discharge its Miami cargo in

Charleston, and requested a waiver from the Jones Act³ to allow the next CSAV liner to pick up the discharged containers in Charleston and then deliver them to Miami. The waiver request cited the principle of *Force Majeure* as grounds for its favorable consideration due to hardship the company suffered in a delay caused by a biological agent threat. The Jones Act waiver request was denied, so CSAV instead contracted with a U.S.-based shipping company to transport the discharged containers by barge from Charleston to Miami.

Governmental officials indicated that no biological hazardous materials were found in the course of this incident.⁴

³ The Merchant Marine Act of 1920, also known as the Jones Act, prohibits foreign-flagged vessels from engaging in shipping between U.S. ports.

⁴ Leach, Peter T. "NY Ship Security Threat a Lemon." Journal of Commerce Online. 9 Aug 04. (www.joc.com)

Maritime Commerce and Container Shipping

The Worldwide Shipping Industry

Since the beginning of recorded history, the oceans and seas of the world have served to link commerce within and between nations. From galleys trading goods among Greek city-states in antiquity, to multi-masted windjammers bringing Chilean nitrates to Europe at the turn of the twentieth century and to today's huge tankers bringing Middle Eastern oil to feed the energy demands of North America, the transportation of goods by water has grown with, and remains the "life-blood" of, our global economy.

Commercial shipping remains a rapidly growing transportation mode even today. 3.87 billion tons of dry goods are forecast to be shipped by water worldwide in 2005, up from 3.4 billion tons in 2003 and 1.8 billion tons in 1980. As larger ships are built, costs per ton shipped decline; these transportation efficiencies are a significant driver of global economic growth (Landon, 2004).

The types of vessels employed for the shipping of goods today are generally one of four basic types. **Tankers** carry liquid products such as oil, liquefied natural gas and styrene. **Bulk freighters**, such as coal colliers, transport large quantities of loose goods, including grain, cement and iron ore. **Roll-on/Roll-off vessels**, often referred to as RO-ROs, are used to transport wheeled cargoes such as automobiles, trailers and military

tanks. **Container ships** carry dry and liquid freight stacked in uniform steel containers within and on the decks of the vessel.

Containerized Shipping

Perhaps the greatest threat to the maritime community, and the most difficult to defend against, is the shipping container. It's just a steel box, 8 feet high, 20 to 48 feet long, but it's used to transport what we wear, work, and play with and, potentially, a weapon of mass destruction (Bergeron, 2002).

Germane to this research, container shipping is a relatively new mode of freight transportation. Shipping containers are corrugated steel cubes which come in standard, prescribed sizes of 20, 40 or 45 feet in length. The containers are truly multi-modal. They can be easily stacked aboard a ship, and craned to and from tractor-trailers or flatbed railcars.

The capacity of containers ships are actually measured in the number of containers they can hold. The industry's standard unit of measure is a "twenty-foot equivalent unit" or TEU. A 20-foot container is 1 TEU, while a 40- or 45-foot container is 2 TEUs. The CSAV RIO PUELO has a capacity of 2,524 TEU (see Appendix 1), while today's largest container ships have capacities in excess of 8,000 TEU (Institute for Shipping Economics and Logistics, 2004).

Container shipping is the fastest growing segment of commercial shipping. In 1980 containers represented 6.3 percent of world traffic. By [2003] they accounted for 23.8 percent and this is expected to rise to 26.6 per cent ... [to] 386.5 million TEU ... [total in 2005] (Landon, 2004).

The ability to load and seal a container at its point of origin makes container shipping extremely resistant to theft and tampering in transit. This attribute comes with a downside, however, as it is extremely difficult for ship's crews and customs official to verify the contents of an individual container amidst the thousands carried aboard a typical ship. Since containers rely upon their closed doors to provide structural integrity, it is literally impossible for a container stacked aboard a ship beneath two or more containers to be opened at sea for visual inspection.

Compared to tankers and bulk freighters, delays and other governmental interventions involving container ships can lead to particularly extensive disruptions to supply chains. Because a single ship can carry thousands of containers, holding hundreds of different types of freight from hundreds of different companies, a government homeland security intervention in response to the contents of one container necessarily affects all other containers on the ship in question. A delay in or failure to discharge a cargo can have worldwide implications.

In contrast to the time- and labor-intensive handling of bulk cargoes, containers can literally be loaded, sealed and delivered door-to-door in a very efficient manner. Port turnaround times of vessels have been reduced from 3 weeks to less than 24 hours (Batchelor, 1997). As a result, many firms have been able to streamline operations and reduce costs, making for a highly competitive business environment to the benefit of consumers and the companies shipping consumer goods. Manufacturers' inventories have been drastically reduced as just-in-time delivery of components has become a reality. For example, Montana supermarkets are able to stock fresh grapes from Chile in the dead

of winter. Unfortunately, these supply chain efficiencies make businesses' bottom lines extremely susceptible to disruptions in the flow of goods.

The infrastructure of the container shipping industry gives rise to another dynamic that magnifies the impact of disruptions in the flow of shipping. For the industry to work most efficiently, railheads and trucking depots must be co-located at deep-water wharfs with huge gantry cranes. The investment required to build these container terminals naturally gives rise to a limited number of transportation hubs, typically the world's major ports. Just as a security concern raised for a single container can halt a ship carrying thousands of other containers, a security incident aboard one ship can bring all port operations to a grinding halt. And since major ports are usually in or near densely populated cities, a single security incident can affect businesses that are not directly involved in maritime commerce.

Maritime Commerce in the United States

A terrorist incident in one of our critical ports would have a serious and long-lasting impact on global shipping, and the global economy...To quantify the risk in terms of economic perspective, a major [U.S.] port closure for one month is estimated to cost \$60 billion (U. S. Coast Guard Fiscal Year 2004 Report, 2004).

The U.S. Department of Transportation has dubbed the Nation's network of ports, internal waterways, federal maritime navigation systems and intermodal connections as the U.S. Maritime Transportation System, or simply MTS. The MTS sees roughly 7,500 foreign vessels call upon U.S. ports each year, discharging and loading over 2 billion tons of freight and 3 billion tons of oil. A large portion of the freight handled by the MTS arrives in the approximately 6 million shipping containers, like those aboard the RIO PUELO, that are offloaded each year (U.S. Coast Guard Publication 3-01, 2002).

In the most recent statistics available, merchandise trade valued at \$807.1 billion (\$604.6 billion in imports; \$202.5 billion in exports) moved by maritime vessels between U.S. and foreign seaports in 2003 (U. S. Army Corps of Engineers, 2003). In 2002, the U.S. imported goods valued at \$1,260.7 billion and exported goods valued at \$713.1 billion. “United States ports handle over 95 percent of United States overseas trade. The total volume of goods imported and exported through ports is expected to more than double over the next 20 years” (U.S. Congress MTSA, 2002, §101(2)). It is important to note that these values do not include goods which transit into and out of U.S. ports without being offloaded; in the case of the RIO PUELO, only 456 (24.8%) of the 1,084 containers aboard the ship were scheduled to be offloaded in the Port of New York/New Jersey.

As mentioned in the in the discussion of worldwide shipping trends above, the United States is also moving toward a consolidation of transportation infrastructure that is creating critical hubs within the major ports. “The top 50 ports in the United States account for about 90 percent of all the cargo tonnage. Twenty-five United States ports account for 98 percent of all container shipments” (U.S. Congress, MTSA, §101(5)).

The RIO PUELO case specifically involved containerized shipping. In parallel with the rest of the world, inbound and outbound container shipments in the United States increased 86 percent between 1992 and 2002 (U. S. Bureau of Transportation Statistics, 2004). Because of rapid domestic and international growth in this method of transportation, combined with an increasingly globalized world linking first-world businesses with low-cost labor and raw materials from developing countries, any

governmental intervention that slows container shipping can cause grave disruptions in the Nation's commercial supply chains.

CHAPTER 4

The U.S. Coast Guard and Homeland Security

A Brief History of the U.S. Coast Guard and Commercial Shipping

Be it further enacted, That the President of the United States be empowered to cause to be built and equipped, so many boats or cutters, not exceeding ten, as may be necessary to be employed for the protection of the revenue...⁵

Like most business-government relationships, the involvement of the U.S. Coast Guard in the regulation of commercial shipping has evolved over time; the relationship continues to evolve today. While numerous Federal, state and local agencies each have unique responsibilities for oversight of shipping and goods importation (e.g., U.S. Department of Agriculture, U.S. Custom and Border Protection, local port authorities, etc.), a review of the development of the U.S. Coast Guard's port security program is illustrative of laws adapting to the changing needs of businesses and the prevailing assumptions of public good.

Since its inception as the U.S. Revenue Cutter Service in 1790, the U.S. Coast Guard has been charged with ensuring that customs duties were collected on all goods imported by ship. The duties of this small maritime service remained largely unchanged until it was charged by the Congress in 1888 with managing the movement and anchorage of vessels within New York harbor. The service was later charged with the responsibility of establishing and overseeing anchorages for vessels in the Nation's ports through the Rivers and Harbors Act of 1915.

⁵ Statute II, Chapter 35, Section 62; 2nd Session of the First Congress, August 4, 1790.

A parallel path of the U.S. Coast Guard's history began roughly fifty years after the creation of the U.S. Revenue Cutter Service when the Congress, facing a growing number of fatalities from fires and boiler explosions aboard ships, enacted a law charging the Justice Department to "provide better security of the lives of passengers on board of vessels propelled in whole or in part by steam"⁶ on July 7, 1838. Even at this early date, Congress was reluctant to enact rigorous safety standards upon commercial shipping out of concern for the possibility of harming the economically-vital steamboat industry (U.S. Coast Guard Fifth Dimension Newsletter, 1974).

Domestic steamship inspection responsibilities were then transferred to the Treasury Department by the *Steamboat Act of May 30, 1852*⁷, which also formally established supervisory inspectors, delineated geographic regions of responsibility, and provided for the appointment of local inspectors. As its responsibilities grew to include licensing of mariners, the organization was named the Steamship Inspection Service in 1871. The service was subsequently transferred to the newly-formed Department of Commerce and Labor in 1903.

In 1915, the U.S. Revenue Cutter Service and U.S. Lifesaving Service were merged within the Department of the Treasury to become the U.S. Coast Guard.

Within the Department of Commerce in 1932, the Steamship Inspection Service was merged with Bureau of Navigation (created in 1884 for the regulation of merchant seamen) and renamed the Bureau of Marine Inspection and Navigation. Safety

⁶ 5 Stat. L., 304

⁷ 10 Stat. L., 1852

responsibilities for the Bureau were expanded by Public Law 622⁸ in 1936 and the Motorboat Act of 1940. These laws required structural fire protection on passenger vessels, required the Bureau's pre-construction approval of plans for passenger vessels, and established safety requirements for every vessel propelled by machinery and not more than 65 feet in length (U.S. Coast Guard Fifth Dimension Newsletter, 1974).

In the midst of World War I, the Espionage Act of 1917 first codified the U.S. Coast Guard's responsibilities for port security. In addition to shifting control of anchorages and movements of vessels from the Army Corps of Engineers to the U.S. Coast Guard, the Act charged the service with the authority and responsibility of preventing sabotage of merchant vessels, controlling movements of people on or near vessels, and safeguarding waterfront property. Beginning in New York, the local Coast Guard commander tasked with these significant responsibilities was dubbed the "Captain of the Port" or COTP. Even after the conclusion of World War I, U.S. Coast Guard COTPs continued to oversee peacetime port activities throughout the Nation (Browning, n.d.).

When Prohibition was enacted in the 1920's, the U.S. Coast Guard mounted its first serious effort to combat major smuggling operations. Although Prohibition was eventually repealed and the U.S. Coast Guard's "Rum War" has been largely forgotten, the precedent had been established that would make the service the maritime leader in the "War on Drugs" from the 1970s until today.

⁸ 49 Stat. L., 1380

Prior to direct United States involvement in World War II, the U.S. Coast Guard was charged with inspecting merchant ships of belligerent nations to ascertain whether they were carrying offensive armaments; over 4,000 such boardings had taken place by June 1941 (Johnson, 1987). As war crept closer to the western hemisphere, the anti-sabotage and port control provisions of the 1917 Espionage Act were again enacted in June 1940 and remained in effect through the end of the conflict. Expanding the capabilities, authorities and responsibilities of the service, President Roosevelt temporarily transferred the Bureau of Marine Inspection and Navigation to U.S. Coast Guard control in February 1942. This merger was made permanent on July 16, 1946.

The Cold War was a further catalyst to the expansion of U.S. Coast Guard oversight of commercial shipping within the Nation's ports. Facing the specter of Soviet merchant ships secreting nuclear devices, the Magnuson Act of August 1950 allowed the president to invoke the port security provisions of the 1917 Espionage Act whenever "he deemed it advisable to ensure the safety of the country" (Johnson, 1987, p. 281). During the war, the U.S. Coast Guard's port-security mission grew through various laws and agreements to give the service the following broad responsibilities:

- **Control of anchorage and movement of all vessels in port.**
- **Issuance of identification cards and the supervision of access to vessels and waterfront facilities.**
- **Fire-prevention measures including inspections, recommendations and enforcement.**
- **Firefighting activities, including use of fireboats, trailer pumps and other extinguishing agents.**
- **Supervision of the loading and stowage of explosives and military ammunition.**
- **Boarding and examination of vessels in port.**
- **Sealing of vessels' radios.**
- **Licensing of vessels for movement in local waters and for departure.**
- **Guarding of important facilities.**

- **Enforcement of all regulations governing vessels and waterfront security.**
- **Maintenance of water patrols.**
- **General enforcement of federal laws on navigable waters and other miscellaneous duties. (Browning, n.d.)**

After nearly 177 years under the Department of the Treasury, the U.S. Coast Guard was transferred intact to the Department of Transportation in April 1967. Over the remaining decades of the twentieth century, the U.S. Coast Guard's merchant vessel regulation authorities and responsibilities grew largely as a result of maritime pollution disasters: The TORREY CANYON grounding and oil spill of 1967 led to the Ports and Waterways Safety Act (PWSA)⁹ of 1972, and the EXXON VALDEZ grounding and oil spill of 1989 resulted in the Oil Pollution Act (OPA)¹⁰ of 1990 (Duff, 2001).

The PWSA requires the U.S. Coast Guard to promulgate regulations regarding the “design, construction, alteration, repair maintenance, operation, equipping, personnel qualifications and manning of vessels . . . necessary for the increased protection against hazards to life and property, for navigation and vessel safety and for enhanced protection of the marine environment.”¹¹ OPA then created the Oil Spill Liability Trust Fund (OSLTF), to be administered by the U.S. Coast Guard, and set forth the responsibilities for companies to certify their financial means (through insurance, assets, etc.) to fund the clean-up of oil spill caused by their operations.

Following the terrorist attacks of September 11, 2001, the Congress enacted the Maritime Transportation Security Act (MTSA)¹² of 2002. MTSA is arguably the biggest expansion of U.S. Coast Guard responsibilities and authorities since the Espionage Act of

⁹ 33 USC Chapter 25

¹⁰ P.L. 101-380

¹¹ 46 USC §3703(a)

¹² P.L. 107-295

1917. Among its many provisions, MTSA required the service to provide oversight of security and response plans prepared by shipping companies and port facilities; provided for the service to establish sea marshall and security teams to protect vessels, harbors and structures adjacent to the water; and authorized the service to expand its size to meet these new responsibilities.

In March 2003, the U.S. Coast Guard was transferred to the newly-formed Department of Homeland Security. Along with the Secret Service, the U.S. Coast Guard has remained organizationally intact amidst the 22 agencies that were brought together to form the new department. In addition to driving change within the organization of the Federal government, the terrorist attacks of September 11, 2001, dramatically illustrated the new challenges facing the U.S. Coast Guard and its longstanding mission of protecting the United States' 95,000 miles of coastline and its commercial ports, which today number 361 (U.S. Coast Guard Fiscal Year 2004 Report, 2004).

Homeland Security: Acknowledging the Challenges

The Secretary, acting through the Under Secretary for Border and Transportation Security, shall be responsible for the following:

(1) Preventing the entry of terrorists and the instruments of terrorism into the United States.

(2) Securing the borders, territorial waters, ports, terminals, waterways, and air, land, and sea transportation systems of the United States, including managing and coordinating those functions transferred to the Department at ports of entry.

⋮

(8) In carrying out the foregoing responsibilities, ensuring the speedy, orderly, and efficient flow of lawful traffic and commerce.¹³

As can be seen above, the Department of Homeland Security has been deliberately challenged with the need to balance security with commercial efficiency. The importance of trade to the U.S. economy necessitates that all levels of government implement effective policy, backed with robust enforcement assets, to protect shipping from disruption or damage caused by terrorist organizations seeking to undermine western capitalism. The conduct of such protection and security requirements placed upon industry cannot be so onerous, however, as to stifle the very economy that fuels the United States' exceptional standard of living.

As we saw in the attacks upon the World Trade Center and the Pentagon, the actual transportation assets, passenger aircraft in those cases, can be used as weapons. This is no less the case for merchant shipping vessels. Hijacked by terrorists, a large ship could easily damage or destroy critical bridges or waterfront facilities. The danger goes well beyond that of a simple, albeit large, collision. A bulk freighter or tanker filled with ammonium nitrate or liquefied propane gas in malicious hands could become a floating bomb with the potential of immeasurable devastation to a major city. In 1917, the accidental explosion of the French ammunition ship MONT BLANC in Halifax, Nova Scotia, flattened the city, with estimates of 1,635 killed, 9,000 injured and \$35 million in property losses. The MONT BLANC was carrying 5,000 tons of explosives, a relatively small bulk cargo load by today's standards. (Johnson, 1987)

¹³ Homeland Security Act of 2002 (PL 107-296), §402.

In addition to the threat of ships being used as weapons, today's continuing growth in containerized cargo presents policymakers with a terrible conundrum. The commercial advantage of containers moving quickly and securely from shipper to consignee provides a like advantage to terrorists and criminal organizations smuggling explosives or other hazardous materials into the United States. As a direct means of terrorist attack, a cargo container is more than adequately sized to accommodate a nuclear device, a biological contagion or any other type of weapon of mass destruction (WMD).

Despite the frightening possibilities raised, there is simply no easy answer to countering the threat posed by containers. Each day an average of over 17,000 containers enter the United States (Bergeron, 2002). With the largest container ships capable of holding over 8,000 twenty-foot containers, a weapon could be brought into a U.S. port within a container that is not even scheduled for discharge in the United States. Today's highly efficient supply chains require ships to discharge and onload containers with typically less than 24 hours in each port. Inspecting each container being discharged in the United States is not only well beyond the capabilities of the Customs and Border Protection's (CBP) roughly 7,500 inspectors, it would also create a huge bottleneck in the transportation system; historically, only two percent of containers entering the United States are internally inspected (Bergeron, 2002). CBP, the U.S. Coast Guard and other Homeland Security agencies face one of their biggest challenges in accurately tracking and verifying containerized cargo without overly impacting business.

Even if all incoming containers could be inspected pierside, the threats posed by the possibility of using merchant vessels as weapons and the delivery of a container-borne WMD have necessitated the "pushing out" of the Nation's borders. With the goal

of assessing suspect vessels prior to their entering critical ports where catastrophic damage could be inflicted by a WMD, government agencies carefully assess known intelligence concerning inbound vessels and, if necessary, inspect vessels as far offshore as is practicable given government resources and the prevailing weather. As mentioned earlier, inspections of container ships at sea are limited by the way in which containers are stacked. From the business side of the issue, any time that commercial shipping is stopped, for whatever reason, the costs incurred go beyond just the delay in business. Crews must still be paid throughout the delay. Further delays may also result, as ports are forced to reschedule moorage and logistics (e.g., pilotage, cargo handling, refueling and re-provisioning). As in the case of the RIO PUELO, some goods may spoil or otherwise become unusable.

Developing appropriate policies and protocols for effectively mitigating these transportation system threats in a way which is commercially viable will require a long-term, dedicated partnership of business and government. All parties must realize that another successful terrorist attack within the United States on the scale of the World Trade Center is absolutely unacceptable; no mitigation of business expenses through relaxed security laws could offset such loss of life and erosion of the national sense of security. Any possible solutions likely lie within the emerging field of strategic risk management.

For the present, the U.S. Coast Guard, in its most recent guidance for conducting Homeland Security missions, acknowledges the challenge of balancing security with commerce efficiency. “The Coast Guard recognizes that ... the economic and strategic importance of major American ports and waterways precludes delays in the supply chain,

and frequent or long closures except for the most extraordinary circumstances” (U.S. Coast Guard Publication 3-01, 2002, p 5). One of the five strategic objectives set forth by the service in its Maritime Strategy for Homeland Security is to “Protect the U.S. Marine Transportation System while preserving the freedom of the maritime domain for legitimate pursuits” (U.S. Coast Guard Publication 3-01, 2002, p 19).

The Port of New York and New Jersey is clearly one of the most economically important of the U.S. ports and it is the stage upon which the RIO PUELO incident played out, illustrating many key issues faced by the government in balancing Homeland Security with the efficient flow of maritime commerce. The RIO PUELO was stopped as local, state and Federal agencies were in the midst of preparing for the Republican National Convention to be held August 27-31, 2004. This convention, where President George W. Bush was anticipated to be nominated as the party’s presidential candidate for the November 2004 national election, was clearly a high-profile event that could have been the target of a terrorist attack.

CHAPTER

5

Sources of Costs

One of the goals of this research is to explore the broad base of business costs, direct and indirect, incurred when the RIO PUELO was delayed and its cargo of Argentine lemons destroyed. As I conducted my research and uncovered the numerous firms affected by the RIO PUELO incident, I was at the same time discovering how varied were the nature of these costs. In this section, I outline the categories of costs that arise when a large container ship is delayed.

Clearly, the most apparent cost was the loss of the Argentine lemons, suspected of being tainted with a biological agent, which were frozen, fumigated and ultimately incinerated. Far more subtle and indirect would be any increase in costs the Canadian lemon importer incurred after having to reorder lemons, assuming there was still a demand for the produce. Of course, it is possible that the cost of lemons could have decreased during this incident, in which case the incident would have provided a windfall to the lemon importer.

The delay of the RIO PUELO at anchorage from July 31st until August 6th presents numerous costs. The RIO PUELO's original voyage plan did not include anchorage, so additional pilotage expenses were likely required to cover the anchorage and any other ship handling until the vessel arrived in port. Throughout the unplanned six-day anchorage the wages of the master and crew continued to be paid, and fuel and provisions continued to be consumed by the ship's generators and crew, respectively. A

portion of the fuel consumed was for the ship's generators to provide power to the numerous refrigerated containers aboard the RIO PUELO. It is also possible that services had to be arranged for the offload of solid waste, sewage and waste oil, tasks significantly more expensive at anchorage than were the ship moored pierside. Since the RIO PUELO was allowed to continue on her voyage on August 7th, after the one day in port required to safely offload the lemon-filled containers, it is unlikely that the ship incurred any extraordinary costs above those linked directly to the suspect containers.

The delay of cargo contained within non-targeted containers aboard the RIO PUELO is another source of costs in this incident. Modern container shipping requires heavy-lift crane equipment, and the stability of the container ship must be accounted for as the ship is loaded or offloaded. The containers containing the lemons were stowed in various locations and under other containers throughout the ship in this case. For these reasons, there was no cost-effective way to safely offload the suspect containers at the offshore anchorage and to allow the RIO PUELO to continue on its voyage.

Additional costs were incurred because the Port of New York & New Jersey lacked a dedicated remote offload and disposition site, which required an interruption of otherwise scheduled shipping that must be delayed or rerouted. This is not an issue isolated to the Port of New York & New Jersey. Currently, in most ports, existing commercial pier space must be used to conduct the controlled offload and final disposition actions, whether they entail further inspection, fumigation and/or decontamination. Whether these costs would be borne by commercial interests or governmental agencies has yet to be determined.

Along with commercial pier space, training must be provided to select longshoremen to operate cargo transfer equipment in a high-risk potentially contaminated environment. Whether training would be provided to a select group of longshoremen in each port, or to mobile teams serving different regions of the country, successful implementation and funding of such an initiative will clearly involve negotiations among numerous Federal, state and local government agencies, as well as businesses and labor unions. These costs, unless covered through government grants, would also likely be shifted to the companies whose goods are being transported and then to customers and end users.

Related to requisite training for personnel, costs can also be expected for any delays driven by the availability of equipment needed for testing, cargo-handling, decontamination and the like. Of course, stationing such response equipment in or some or all of the Nation's 361 ports comes with its own up-front costs, which again would have to borne by businesses, governments or both.

Because of the complex maze of admiralty law, hazardous material response statutes and homeland security authorities that must be actively navigated as the situation evolves, businesses and other organizations might retain one or more law firms to provide counsel throughout the case. Similarly, to avoid any possible negative impact upon future business and company shareholder value caused by the situation's alleged tie to terrorist action, businesses also may employ the services of public and media relations firms.

Perhaps the most concerning of indirect costs, any U.S. Captain of the Port (COTP) Order that may be issued to facilitate the handling of a ship suspected of carrying a WMD or hazardous substance could interfere with, or even halt, the conduct of routine commercial operations within a port. Such a disruption could impact hundreds of industrial supply chains.

Many of the expenses incurred in this incident are subject to reimbursement by shipping and freight insurance. Another cost that should be expected, therefore, would be an overall rise in insurance rates, especially after repeated incidents of ship delays and cargo interdiction.

Finally, businesses involved in such a hazardous material incident (potential or real) involving governmental response can expect to reimburse government expenditures through the Comprehensive Environmental Response, Compensation & Liability Act of 1980 (CERCLA). Similar to the Oil Pollution Act of 1990 (OPA), these so-called “Superfund” acts require shippers to possess a Certificate of Financial Responsibility¹⁴, or COFR, certifying that the shipper has the financial means to cover liability of “all costs of removal or remedial action incurred by the United States Government or a State or an Indian tribe not inconsistent with the national contingency plan” and “any other necessary costs of response incurred by any other person consistent with the national contingency plan.”¹⁵ Costs incurred in this category include Federal hazardous material response teams, testing equipment, Port Authority police overtime and actual handling of the suspect material (e.g., isolation, decontamination, destruction, etc.).

¹⁴ Title 42, Chapter 103, Subchapter I, §9608, U.S. Code

¹⁵ Title 42, Chapter 103, Subchapter I, §9607, U.S. Code

CHAPTER

6

Companies and Costs

Compañía Sudamericana de Vapores (CSAV)

CSAV is a multi-national shipping company based in Santiago, Chile. CSAV is publicly held; shares are traded on Chile's principal stock market, *Bolsa de Santiago*, under the ticker name VAPORES. The market capitalization of CSAV was \$1.7B (\$US) as of January 3rd, 2005.¹⁶

I was able to obtain information on CSAV's expenses resulting from the RIO PUELO incident through several telephone interviews and electronic questionnaires presented to the vice president for operations at CSAV's New Jersey regional office. Throughout the incident, CSAV appears to have acted quite cooperatively with government agencies. PANYNJ, Oskar Wehr and Maher Terminals all confirmed the CSAV was billed for all ship charter and port service expenses associated with the delay of the RIO PUELO's voyage, as well as the handling of the five suspect containers from their discharge until they were returned empty to CSAV for repairs and return to service.

Direct Costs¹⁷

CSAV began to accumulate costs related to the suspect lemons as soon as the RIO PUELO anchored near the Ambrose light tower on July 31st, 2005. For the six days that

¹⁶ Datastream Advance database, Thompson Financial, January 3, 2005.

¹⁷ All costs in this chapter are in \$US.

the RIO PUELO remained at anchor CSAV was still responsible for paying charter fees to Oskar Wehr despite the fact that the ship was unable to carry out its revenue-generating operations. These costs, based upon a flat daily charter rate of \$17,500, totaled \$105,000. While the charter fees did include wages and provisions for the RIO PUELO's crew, they did not include \$4,950 in fuel consumed during the six days at anchor; these fuel costs were borne by CSAV.

Once the RIO PUELO arrived at Berth 50 of Mayer Terminal on August 6th, CSAV began to incur several of the expenses of handling the five containers of suspect lemons. Renting a flat barge upon which the containers were placed for transportation to Berth 34 and subsequent fumigation cost the shipping company \$13,765. For an additional \$7,434, the barge was modified to safely accommodate the five lemon containers plus a sixth container holding equipment for the fumigation. The discharge of the containers from the ship cost \$5,232, while the loading and unloading of the containers from the barge cost CSAV \$2,256. While at Berth 34, the barge required power for the refrigerated containers and the fumigation equipment. This was provided by CSAV generator sets transported to the berth at a cost of \$1,500, with a total cost of fuel of \$1,049 for the five days in which the containers were kept on the barge. Note that while these costs were borne by CSAV, the actual fumigation and final disposition operations were coordinated by government officials.

Although CSAV did not incur any direct costs when the lemons were ultimately destroyed, the shipping company did have to pay \$12,248 to make repairs to, and \$2,000 to survey, the five containers which held the lemons after the containers were returned to

CSAV. The containers had had several accesses cut into their sides to allow for the attachment of fumigation ducting.

Indirect Costs

Not surprisingly, CSAV realized that the unusual nature of the RIO PUELO incident was going to require careful handling to ensure that the company's legal rights were protected and that the company's reputation was not tarnished by the circumstance of having the five suspect containers on a CSAV liner. As a result, CSAV retained a lawyer specializing in maritime transportation security at a cost of \$2,000, and contracted for \$3,500 worth of services from a media expert. As part of the company's efforts to allay the concerns of consignees shipping with CSAV, and to dispel rumors surrounding the containers of lemons which had arrived aboard the RIO PUELO, emails and letters were proactively sent to all clients (see Appendix 6).

The six-day delay of the RIO PUELO created another problem for the shipping company in addition to the delay in the delivery of the remaining cargo aboard the ship. The company's next liner was only one day behind the RIO PUELO, seriously confounding the routine of weekly arrivals of CSAV container ships in the U.S. East Coast ports. To get the system back "on-track," the shipping company had to either accelerate the RIO PUELO back onto her original schedule or push back all of the ships in the circuit approximately six days. Not surprisingly CSAV chose the former course, requiring the RIO PUELO to skip a port to get back on its original schedule. The company looked ahead to Miami, the RIO PUELO's third port call after Port Elizabeth, as the port to be possibly skipped. This would give CSAV time during the RIO

PUELO's port calls in Norfolk and Charleston to make arrangements for the cargo scheduled for discharge in Miami.

It was sometime during the final days of the RIO PUELO incident that CSAV informally approached Customs and Border Protection (CBP) to inquire as to the possibility of a Jones Act waiver for the Miami cargo. The plan CSAV had in mind would involve discharging RIO PUELO's Miami containers in Charleston, and then having the next CSAV liner onload the containers while in Charleston for delivery in the following port of Miami. Although I was unable to confirm such discussions with CBP, CSAV's representative to the daily Federal On-Scene Coordinator (FOSC) meetings remembered asking a CBP representative about the possibility of a Jones Act¹⁸ waiver to have allow a foreign-flagged vessel onload a cargo in a U.S. port for delivery in another U.S. port.

CSAV cited *Force Majeure* its grounds for the waiver, a long-standing maritime principle meaning "greater force." Originally, *Force Majeure* allowed a ship to enter a country's territorial waters to escape extreme weather or to cope with a serious mechanical breakdown without subjecting the ship to seizure or enforcement of the country's laws. In this case, CSAV pointed out that no harmful substances had been detected among the lemons. The delay in the RIO PUELO's schedule was due to the compelling but ultimately unnecessary actions of a "greater force" (i.e., the U.S. government), and that CSAV could reasonably expect some accommodation in U.S.

¹⁸ The Merchant Marine Act of 1920, also known as the Jones Act, prohibits foreign-flagged vessels from engaging in shipping between U.S. ports.

maritime law (i.e., the Jones Act prohibition on foreign-flagged vessels shipping goods between two U.S. ports).

During the initial discussion concerning the possibility of a waiver to the Jones Act, the CPB official indicated that he would look into the likelihood of approval but that he “doubted very much that such a waiver would be forthcoming since it was a business decision [for the RIO PUELO] to bypass Miami and not a *Force Majeure* situation.” At a subsequent daily FOSC meeting, the CBP official verbally advised CSAV that a waiver request would not be approved.

Wishing to avoid any further delay in the Miami cargo, CSAV never made a formal Jones Act waiver request in writing. Instead, CSAV paid \$45,998 to a U.S. shipper to barge 110 containers from Charleston to Miami. The RIO PUELO then returned to its original schedule.

Intangible Costs

As mentioned above, CSAV both hired a media expert and took proactive actions to communicate with its clients to help minimize any damage to the company’s reputation as a result of the RIO PUELO incident. Through the course of my interviews, CSAV officials indicated that they knew of no instances of the company losing business or of CSAV receiving negative media attention related to the RIO PUELO.

Since CSAV is a publicly held company I was able to look for some external evidence of impacts to the shipping company from the RIO PUELO incident. The performance of CSAV’s stock over the course of 2004, particularly in comparison to the

Chilean General Price Index, shows no discernable dramatic change in the share price which might be linked to the delay of the RIO PUELO (See Table I).

TABLE I: CSAV Stock Performance Composite¹⁹

DATASTREAMEQUITIES				03/01/05 18.45	
VAPORES					
Mnemonic - CL:VPR		Geography Code - CL		Industry Group - SHPNG	
Local Code - CH3203560		Exchange - Santiago		Sector - TRNSP	
Current Price	1360.00	30/12/04		Fin.Yr	LocStd
12 Mth Range	High	1450.00	2/12/04	12/03	09/04
	Low	725.00	19/ 1/04	EPS	67.3 95.5
Price Change	1mth	3mth	12mth	PE	20.2 14.2
(CE)	0.5%	7.2%	76.6%	PE Rel.	84.2%
(US\$)	4.0%	16.3%	84.3%	P/Cash	15.15 (%=Rel to DS Index)
Relative to IGPAGEN				Dividend Rate (CE)	32.82
	1.3%	4.0%	44.2%	Dividend Yield	2.41
Market Value (CE)	1000748M			Dividend Cover	2.9
Adjusted to (US\$)	1782.91M			Div Last Fin Year	25.12
				Last Div Paid	N/A
				Pay Date	N/A
				(CE)	12/01 12/02 12/03
				Total sales	1105B 1155B 1463B
				Pre-Tax Prof.	22872M 36202M 56873M
				Publ. EPS	22.57 34.47 67.32
				Cash EPS	37.54 62.17 89.76
				Mkt to Bk Val	0.78 0.65 1.68
				ROE (%)	5.99 7.94 13.70
				No. Shares in Issue	735844(000s)
				Volume	173.5(000s)
				Percentage of free float	22%
				Volatility	11
				Beta	1.232
				Correlation	0.555

Source: DATASTREAM

At worst, it is possible that CSAV's dramatic upsurge at the end of September would have occurred earlier in the absence of the RIO PUELO incident, although there is no apparent evidence to support this possibility.

¹⁹ Datastream Advance database, Thompson Financial, January 3, 2005.

Reimbursement

CSAV was partially successful in seeking reimbursement of expenses incurred as a result of the RIO PUELO incident. Like any shipping company, CSAV carries several types of insurance to cover the broad variety of contingencies that could arise from theft, labor problems and severe weather at sea. The three major policies carried by CSAV include:

P&I (Personal & Indemnity) Club – Hull and machinery liability claims.

P&I Club – In-transit cargo liability claims.

TT Club - Liability for cargo while in terminals and other shore facilities.

Strike Club – Coverage for losses during interruptions in operations due to labor problems, etc.

All three of these policies include deductibles.

CSAV submitted a claim against the Strike Club coverage on September 28, 2004. The Strike Club agreed to cover costs of the charter fees for the RIO PUELO over the six days at anchor, less the policy's deductible, providing a total reimbursement of \$87,500 on October 15, 2004. While the Strike Club did agree to cover this incident in the spirit of uncontrollable interruption in operations, the settlement did state that this incident was a "unique accommodation" and that the policy may not cover similar incidents in the future.

CSAV submitted no further insurance claims, and no liability claims were made against CSAV regarding the RIO PUELO incident as of the time of this research.

Cost Summary

In total, CSAV appeared to incur \$276,932 in expenses as a result of the RIO PUELO incident, \$87,500 of which was eventually reimbursed. These costs do not include any request for reimbursement which the U.S. government may make against CSAV for the costs of the response, costs which I will discuss in the chapter on government expenses.

For a large company such as CSAV the two-month delay in the reimbursement of \$87,500 was likely of little impact. For a smaller company such as the fruit exporter I shall discuss in the next chapter, however, such a temporary loss of cash flow can have serious ramifications.

Pampa Store

Pampa Store is a small private company based in Buenos Aires, Argentina. Pampa Store is privately held and managed by three partners, each holding an equal share in the company. I was able to obtain information on Pampa Store's expenses and indirect costs resulting from the RIO PUELO incident through a telephone interview with the partner who also serves as the sales manager of the company.

Pampa Store exports citrus fruit and organic asparagus. The firm has annual revenues of approximately \$1 million²⁰. It employs a staff of eleven employees year-around, plus additional temporary field workers during the growing season. 2004 was the first year that Pampa Store attempted to export produce to Canada.

²⁰ All costs in this chapter are in \$US.

CDA Green Garden was the Canadian produce importer than contracted with Pampa Store for the fresh lemons that were eventually shipped on the RIO PUELO. To fill the order Pampa Store located a lemon producer, Good Taste, to provide the desired amount of fruit. To avoid paying internal Argentine taxes of as much as ten percent, Pampa Store decided to use Good Taste's contract shipper, Real Frut S.A., to package the lemons and arrange the shipping. Pampa Store then paid \$40,000 to the lemon producer and \$15,000 to Real Frut, S.A., who packaged the lemons and paid for CSAV shipping the containers aboard the RIO PUELO. The terms agreed to with CDA Green Garden involved no up-front payments; the full price of the produce was due to Pampa Store 21 days after delivery. While the RIO PUELO was enroute to a Port Elizabeth,²¹ the contract for lemons was transferred to another Canadian firm, Apex Corporation.²²

Direct Costs

Not surprisingly, the majority of Pampa Store's direct costs is the \$55,000 paid to Good Taste and Real Frut. Pampa Store was expecting to sell the lemons wholesale for approximately \$70,000, so the company also lost \$15,000 in profits. Additionally, once Pampa Store was notified of the delay of the RIO PUELO and the detention of the containers holding the lemons, the firm sent a company representative from Argentina to Port Elizabeth to work with government officials in the processing and final disposition of the suspect lemons. The travel costs and required expenses for Pampa Store's representative totaled \$14,125.

²¹ The containers that held the suspect lemons were to be discharged in Port Elizabeth, NJ, and then transhipped via land to Montreal, Canada.

²² Because neither CDA Green Garden nor Apex Corporation responded to my queries, the terms of the contract transfer are unknown. A CSAV operations official confirmed that because of the volatile prices and perishability of produce, shipments are frequently repriced and/or sold while in transit.

Indirect Costs

Similar to CSAV, Pampa Store retained a lawyer specializing in maritime law to assist with governmental dealings and potential issues of liability. As a result, Pampa Store paid \$8,875 in legal fees.

Having paid both Good Taste and Real Frut without realizing any revenues from planned sale of the lemons, Pampa Store experienced a serious cash flow problem in the middle of its busiest season. As a result, Pampa store had to take out a one-year \$50,000 loan to pay its growers. As a result of high rates of interest in Argentina, exacerbated by risks associated with the produce industry, Pampa Store had to pay \$4,000 in fees and agreed to pay \$6,000 in interest to secure this short-term loan.

Pampa Store did not have the shipment of lemons insured, so Pampa Store experienced no impact to its insurance premiums.

Intangible Costs

Like CSAV, Pampa Store took immediate action to mitigate any negative impact on the company's reputation resulting from the RIO PUELO incident. At a small cost that was not disclosed, Pampa Store issued a report to all of its clients to inform them of the U.S. government's actions regarding the suspect lemons and to re-assure them of Pampa Store's strengths as a dependable fruit exporter.

As mentioned above, 2004 was the first year that Pampa Store attempted to engage in trade with Canada. The losses from the RIO PUELO incident, in combination with a in-transit dispute with Apex Corporation over the price of the lemons (Blustein

and Byrnes, 2004) have led Pampa Store to make the decision to suspend any further business with Canada for a least one year.

While Pampa Store does not export citrus fruit to the United States, it does export organic asparagus to several U.S. produce importers. Pampa Store's concerns that its brand name might have been tainted by the RIO PUELO incident proved unfounded when the subsequent shipments of asparagus entered the U.S. unfettered by USDA²³ officials and were readily accepted by U.S. importers.

Reimbursement

As mentioned above, Pampa Store did not have the lemon shipment insured. Pampa Store was, however, partially successful in seeking reimbursement of expenses incurred as a result of the RIO PUELO incident. The U.S. Coast Guard, under the provisions of the Military Claims Act²⁴ offered a settlement of \$84,125 to Pampa Store on January 14, 2005. Pampa Store accepted the reimbursement on January 18, 2005. That settlement was deemed to cover the "cost of the lemons, shipping, and some administrative costs directly related to the destruction of the lemons." The legal fees were not covered. I was able to confirm this reimbursement through the U.S. Coast Guard Headquarters Office of Claims and Litigation.

²³ U.S. Department of Agriculture

²⁴ 10 USC §2733

Cost Summary

In total, Pampa Store appeared to incur approximately \$103,000 in expenses as a result of the RIO PUELO incident, \$84,125 of which was eventually reimbursed. Unlike CSAV, the loss of cash flow ended up costing Pampa Store \$10,000.

Real Frut, S.A.

Real Frut is a small private fruit wholesaler and shipper based in Buenos Aires, Argentina. I was able to obtain information on Real Frut's expenses and indirect costs resulting from the RIO PUELO incident through a letter and a telephone interview with the majority partner and director of the company.

Real Frut is approximately two years old and its annual revenues amount to approximately \$500,000²⁵. Real Frut employs between 20 and 50 temporary workers, with the payroll varying on a seasonal basis. The company contracts with fruit producers such as Good Taste at the beginning of the growing season.

Direct Costs

Because of the \$15,000 payment received from Pampa Store, it does not appear that Real Frut incurred any direct costs as a result of the RIO PUELO incident.

²⁵ All costs in this chapter are in \$US.

Indirect Costs

Within the five containers aboard the RIO PUELO, the lemons were packaged in clearly labeled Real Frut boxes (see Figure 1). This may explain why, unlike CSAV and Pampa Store, Real Frut apparently experienced serious negative effects upon its brand name as a result of the RIO PUELO incident. At the time that the five containers of lemons from the RIO PUELO were being fumigated in Port Elizabeth, Real Frut had another three containers of lemons aboard a different container ship. Upon arrival in the destination country, these three containers with an open bill of lading²⁶, could not be sold to any fruit importers at their destination, presumably because of fears of contamination stemming from the U.S. government's response to Real Frut lemons aboard the RIO PUELO.²⁷ The lemons eventually spoiled; as a result, Real Frut suffered a loss of approximately \$21,000.

²⁶ An "open bill of lading" allows the shipper of a perishable product to transport goods to a destination while the best terms are obtained through negotiations with multiple potential buyers.

²⁷ Details on the ship that carried the additional three containers of lemons and the destination country were not provided by Real Frut and could not be obtained from other sources.

FIGURE 1: Real Frut Lemon Packaging²⁸



In the weeks that followed the RIO PUELO incident, business for the Real Frut brand name completely dried up. The company was forced to suspend exports to Canada and Europe for lemons, orange and kiwis at the peak of the season. To adapt to the situation, Real Frut had to sell its produce through competitors' brand names, losing an unspecified margin of profits to those competitors.²⁹ Eventually Real Frut introduced a new name brand under which it sells its produce today.³⁰

Real Frut also experienced unspecified losses and financial obligations as a result of purchasing contracts with fruit producers that it was unable to honor because of the

²⁸ Official U.S. Coast Guard photo

²⁹ Actual financial losses due to sales through other name brands were not provided by Real Frut.

³⁰ The brand name under which Real Frut sells produce today was withheld to protect the brand name's reputation.

disruption in produce sales caused by the RIO PUELO incident.³¹ The approximate \$21,000 loss associated with the refused lemons mentioned above also contributed to Real Frut's inability to honor its contracts with producers.

Intangible Costs

As mentioned above, Real Frut incurred the immeasurable loss of its original brand name. In a very real business sense, this represents the ultimate loss of reputation.

Reimbursement

Real Frut, as the shipper of the lemons, had the shipment insured for \$42,847.³² The insurance company, however, refused to make payment on the loss of the lemons due to a clause exempting losses caused by "intervention from a foreign state."

Cost Summary

As a result of the RIO PUELO incident, Real Frut experienced a loss in excess of \$21,000 and perhaps the greatest intangible loss of the businesses associated with this event.

Container Shippers and Consignees

My discussion of company expenses has so far centered on those firms that were, in some way, involved with the ordering or shipment of the five containers of lemons

³¹ Actual losses and financial obligations resulting from unfulfilled contracts were not provided by Real Frut.

³² The amount of insurance coverage provided by Real Frut was apparently greater than the \$40,000 paid by Pampa Store due to produce price fluctuations, and to the value added by packaging and transportation prior to shipping.

which were alleged to be contaminated with a biological agent. In this section I discuss those companies that had no connection to the suspect lemons other than having containers of cargo that were also being shipped on the RIO PUELO during the July-August 2004 voyage. At the time that the RIO PUELO was directed to anchor east of Sandy Hook, New Jersey, the container ship was laden with 1,084 containers, each 20 or 40 feet in length. The ensuing six-day delay in the ship's mooring at Port Elizabeth impacted not only those containers that were aboard the ship, but also those that were staged for loading on the RIO PUELO on the original arrival date of July 31, 2004. The delivery delay also cascaded onto ports following Port Elizabeth. Since the RIO PUELO was not able to get back on schedule until CSAV had the ship skip Miami, the containers bound for Norfolk, Virginia; Baltimore, Maryland; Charleston, South Carolina; and Miami, Florida were all delayed approximately six days.

The transportation of any cargo or freight usually involves two companies, the shipper and the consignee³³. Many consignees receiving goods by ship also contract with a third firm, called a shipping agent, to coordinate the arrival and any required transshipment of their cargoes. Depending on the terms of the contract originally agreed upon for the shipment of a container's cargo, any combination of these three parties could potentially incur an unusual expense due to the delay of the RIO PUELO's schedule.

Rather than attempting the Herculean task of contacting the shippers, consignees and shipping agents of all the containers aboard the RIO PUELO destined for Port Elizabeth, Norfolk, Baltimore, Charleston or Miami, I chose to focus on the 456 containers destined for discharge in Port Elizabeth. CSAV provided the cargo

³³ recipient

manifests³⁴ for these 456 containers, from which I selected a sample 84 containers to study further (see Appendix 4). Rather than choosing randomly, I selected containers that appeared to contain goods that were either perishable (e.g., fruits, seafood, etc.) or components needed for manufacturing firms (e.g., automotive components, electrical motors, etc.). This methodology increased the likelihood that my research would reveal any containers whose shipper, consignee and/or shipping agent would have experienced an actual cost from the delay of the RIO PUELO.

A total of 46 shippers, consignees and shipping agents were involved in the transport of the 84 selected containers.³⁵ To each of these companies and agents I mailed a letter inquiring as to any costs experienced as a result of the delay of the RIO PUELO. The sampling yielded shippers, consignees and shipping agents based in six different countries in the Western Hemisphere, ranging from Canada to Argentina. I had the letters (originally in English) translated into Spanish and Portuguese (see Appendix 5) to increase the likelihood of response.

After three months, and along with follow-up telephone calls and emails, the letters generated responses from just two companies.³⁶ In both cases, the firms indicated that they experienced no appreciable costs or losses as a result of the delay of their cargo. Cascaju Agroindustrial S.A., a shipper based in Ceara, Brazil indicated that none of the company's clients filed any claims due to the delay of Brazilian cashews carried in a 20-

³⁴ A cargo manifest is a brief listing of all the critical data concerning a ship's cargo, including shipper, consignee, shipping agent (if any), weight, temperature requirements and a description of the goods.

³⁵ A single shipment often involves more than one container. Of the 84 containers selected, the largest shipment numbered 32 containers.

³⁶ Telephone calls were placed and/or emails sent if such information was available on the cargo manifest. Four letters were returned due to address unknown. Several companies contacted by telephone did not respond to the letter because they had no records or recollection of the delay.

foot container aboard the RIO PUELO. NATCO International Transport, a Miami, Florida-based company, was the consignee for a container of yerba matte arriving from Brazil aboard the RIO PUELO. NATCO indicated that the six-day delay did not result in any unusual costs for the firm. To determine if there were any costs further along the supply chain, NATCO contacted the food distributor to whom the yerba matte was sold to determine the distributor would be willing to participate in this research. New Jersey-based Triunfo Foods agreed to talk to me, indicating that the delay had caused no appreciable costs that they could find in their records.

NATCO International Transport also recalled its Miami-bound cargo from the RIO PUELO that was further delayed by barging the containers from Charleston; no unusual expenses were recorded as a result of the delay in the containers arriving in Miami.

Based upon the low response rates and the lack of unusual costs incurred by those firms that did reply to my queries of shippers, consignees and shipping agents, it is apparent that the six-day delay of the cargo bound for five U.S. ports did not result in appreciable widespread costs to businesses. Clearly, the risk of costs would increase as the delay becomes longer and/or the number of ports affected grows.

Companies Avoiding Incident-Related Costs

Throughout my research, it became clear that many companies were able to avoid incurring any appreciable costs as a result of the RIO PUELO incident. In some cases the firm's organization or legal relation to other companies provided "shelter" from unusual costs; in other cases, firms reacted quickly to avoid such expenses. Below I briefly detail

all those firms connected in some way to the RIO PUELO incident that did not incur costs, not including those shippers and consignees of containers aboard the RIO PUELO who were discussed in the last section. The firms are listed in alphabetical order.

Apex Corporation

As mentioned in the section on Pampa Store, the contract for the five containers of lemons transferred from CDA Green Garden to Apex Corporation required no up-front payment; payment in full was due 21 days following delivery of the produce. Since the lemons were never delivered, Apex Corporation appeared to incur no direct costs as a result of the RIO PUELO incident. Apex Corporation did not respond to mail, telephone or email queries for this research, so there is no way of knowing if the firm experienced any indirect costs or reputation loss when the lemons did not arrive.

CDA Green Garden

CDA Green Garden, the Canadian firm which originally contracted with Pampa Store, was able to avoid any unusual costs related to the RIO PUELO incident because the contract required no up-front payment for the produce and CDA Green Garden transferred the contract to Apex Corporation before the RIO PUELO was directed to anchor off of Sandy Hook, New Jersey. CDA Green Garden also did not respond to mail, telephone or email queries for this research.

Good Taste

Since Good Taste was paid in full for its lemons by Pampa Store, and the lemons were packaged in Real Frut boxes, the lemon producer avoided any unusual costs arising

from the RIO PUELO incident. Both Pampa Store and Real Frut were able to confirm this avoidance of costs on the part of Good Taste.

Maier Terminal

Port Elizabeth-based Maier Terminal billed CSAV for all services provided when the RIO PUELO tied up and discharged the containers of suspect lemons to the barge, and for all logistics dealing with the fumigation and final disposition of the five containers. Since CSAV agreed to pay these expenses, Maier Terminal avoided incurring any unusual costs. CSAV, the Port Authority of New York & New Jersey (PANYNJ), Maier Terminal and the New York Shipping Association (NYSA) all confirmed CSAV's payment of all logistics not provided or funded by government agencies.

Oskar Wehr KG

The German company which actually owns the container ship CSAV RIO PUELO was protected from costs involved with this incident. The charter contract with CSAV places all liability for issues surrounding the ship's cargo upon the charter. Both CSAV and Oskar Wehr confirmed that Oskar Wehr avoided any unusual costs. Interestingly enough, if the RIO PUELO ran aground and began leaking its fuel oil, Oskar Wehr would likely be liable for the costs incurred.

CHAPTER

7

Government Expenses

As a final portion of this research, it is important to look into the costs incurred by the Federal, state, local and port governments in handling the RIO PUELO incident. In Chapter 7, I detailed many logistics costs paid by CSAV involving the handling of the containers of suspect lemons. All other services required to safely resolve this case were undertaken by governmental agencies, completed directly by the agencies or through contractors paid by the government. These services included assessing, safeguarding and fumigation of the containers, as well as the testing and final disposal of the lemons. Because of the nature of hazardous material and pollution response statutes within the United States, there is a possibility that CSAV could be liable for reimbursing government expenditures.

CERCLA

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. (U.S. Environmental Protection Agency, 2004)

A U.S. Coast Guard official in the National Pollution Fund Center (NPFC) indicated that the government response to the RIO PUELO incident was funded by CERCLA³⁷ because of the possible release of a hazardous biological agent. Because the

³⁷ 42 USC Chapter 103

incident occurred on a ship, the U.S. Coast Guard took the lead for coordinating and tracking government expenditures for the response. All levels of government, including the Port Authority of New York & New Jersey (PANYNJ), the New Jersey State Police and Department of Environmental Protection, and the U.S. Coast Guard and Environmental Protection Agency (EPA) submitted their expenses through U.S. Coast Guard Activities New York to be reimbursed through the U.S. Coast Guard NPFC in Washington D.C.

Direct Costs³⁸

Estimates of actual governmental costs were obtained from NPFC and Coast Guard Activities New York. At the time of this research, these costs were in the process of final documentation before they could be submitted to EPA for reimbursement from the CERCLA Superfund. Nonetheless, NPFC and Coast Guard Activities New York consider the estimates to be accurate to within a few thousand dollars.

The U.S. Coast Guard, which first responded to the RIO PUELO incident, incurred \$125,000 in expenses for personnel and equipment utilized in ship boardings, pierside and at the Federal On-Scene Coordinator (FOSC) command center. The service also incurred \$25,000 in travel costs, for the Coast Guard National Strike Team³⁹, and \$100 in small administrative purchases. Total costs for the U.S. Coast Guard are estimated at \$150,100.

³⁸ All costs in this chapter are in \$US. Through a reciprocal agreement with the EPA, NPFC has been funding and accounting for governmental expenditures at all levels in the RIO PUELO incident. Once the accounting is complete, EPA will transfer funds equal to the total governmental costs from the CERCLA Superfund to NPFC.

³⁹ The Coast Guard National Strike Team is a group of highly trained personnel who specialize in oil, hazardous material and pollution spill response.

EPA was the other Federal agency directly involved in the response to the RIO PUELO incident. In addition to providing an around-the-clock FOOSC representative and the agency's Emergency Response Team (ERT), the EPA utilized its testing equipment and technical experts to test, and monitor the atmosphere in the vicinity of, the containers holding the suspect lemons. The EPA's total costs are estimated to be \$240,000.

Through the course of the RIO PUELO incident, the Port Authority of New York and New Jersey (PANYNJ) was extensively involved in planning and preparations for the eventual arrival of the container ship at Port Elizabeth on August 6th. Discussions with PANYNJ officials indicated the majority of the agency's costs were a result of overtime wages for port operations personnel providing enhanced, around-the-clock monitoring of the port and for Port Authority police providing security for the RIO PUELO and the suspect containers throughout their offload and fumigation, until the lemons were carted away and the containers returned to CSAV. PANYNJ's costs amounted to \$92,559.

The State of New Jersey also incurred costs in providing technical support and security for the RIO PUELO incident. Expenses for New Jersey Department of Environmental Protection personnel amounted to \$7,721 and the New Jersey State Police incurred personnel costs of \$43,905, for a total state expenditure of \$51,626.

Finally, contractors who supported the response to the RIO PUELO incident amassed a total of \$791,970 in costs. Miller's Launch provided ferry service for personnel to and from the RIO PUELO while at anchor for \$3,470. Fumigation of the containers by Sabre Technical Services cost \$675,500. Once the lemons were tested and

found to be free of any hazardous materials, Ken's Marine provided disposal services for \$113,000.

Reimbursement

Under the provisions of Section 9607 of CERCLA, CSAV could be held liable for up to \$5,000,000 for “the full and total costs of response and damages, if ... the release or threat of release of a hazardous substance was the result of willful misconduct or willful negligence...”⁴⁰ In this way the U.S. Federal government, through the EPA and the Justice Department, is able to recover costs of government actions to prevent or respond to hazardous material incidents. Without knowing the source and motivation behind the “unconfirmed anonymous report” which initiated the response to the RIO PUELO, the possibility remains that the Federal government could seek cost recovery for all levels of government which expended resources to safeguard the Port of New York & New Jersey from the potentially contaminated lemons.

Another provision of CERCLA could serve to protect CSAV from assuming the responsibility for governmental costs. The aforementioned “unconfirmed anonymous report” suggests the possibility that a third party intentionally misled government officials that the five containers carrying the lemons contained an “unknown biological substance.” CSAV could be absolved of financial responsibility of the governments’ response to the suspect lemons aboard the RIO PUELO if the company can show that threat of a hazardous material release was the result of “an act ... of a third party ... if the defendant [CSAV] establishes by a preponderance of the evidence that ... he took

⁴⁰ 42 USC §9607(c)(2)

precautions against foreseeable acts or omissions of any such third party and the consequences that could foreseeably result from such acts ...⁴¹ CSAV may not be required to mount such a defense; at this time it is not known whether the EPA will ultimately seek to recover the governments' expenses from CSAV or the party responsible for the hoax, if that party is identified.

Cost Summary

In total, the RIO PUELO incident resulted in \$1,326,254 in government costs which could be ultimately charged back to business to recover CERCLA Superfund expenditures. The \$84, 125 reimbursed to Pampa Store from the U.S. Coast Guard has not been included among these government expenses because it was not paid out of the CERCLA Superfund and hence is not subject to cost recovery charged to business.

As mentioned at the outset of this thesis, this research is not intended in any way to suggest or determine liability for the RIO PUELO incident. It is also by no means an authoritative source for U.S. laws concerning hazardous material responses. This brief discussion on government expenses and CERCLA liability is simply meant to explain how governmental interventions can potentially translate into significant direct costs to businesses.

⁴¹ 42 USC §9607(b)

CHAPTER

8

Conclusions

Totaling the direct expenses and cash flow disruptions of CSAV, Pampa Store, Real Frut and the U.S. government, the total measurable international costs of the RIO PUELO incident are at least \$1,555,561⁴²; the loss of cash flow is at least \$171,625. Should the U.S. government seek to recover its response costs from CSAV, businesses will end up bearing the full \$1.5 million in expenses. If, on the other hand, the government chooses not to charge CSAV, either by choosing not to pursue recovery or by locating a third party liable for the incident, business expenses drop to \$229,307 – just 15% of the total costs. The cash flow disruptions were borne fully by business. These totals do not include the intangible costs detailed in the previous chapters, which nonetheless had significant repercussions for Pampa Store and Real Frut.

Looking back on this case, it appears that \$70 thousand worth of lemons actually cost \$1.5 million. In the end the actual cost of the destroyed lemons was reimbursed to Pampa Store by the government. Hence the net financial impact resulted from business bearing part or all of the cost of the response, as well as from the tainting of business reputations due to involvement with alleged terrorist-like activities.

At the outset I had anticipated that the total costs of the RIO PUELO incident would have been appreciably higher, in the \$2 - \$3 million range. Because I had believed that more of the costs would have been directly paid by involved and affected businesses,

⁴² All costs in this chapter are in \$US.

I had also believed that a much higher percentage (i.e., greater than 50 percent) of the total costs would have been borne by business, rather than the preponderance of direct costs being paid by government.

The most surprising result of this research was the apparent lack of costs experienced among the shippers and consignees of the 1,079 containers aboard the RIO PUELO which did not contain the suspect lemons. In today's global economy, with fresh produce traveling to marketplaces around the world and hundreds of manufacturing firms relying on just-in-time delivery of components from numerous countries, it stands to reason that delays in the supply chain could harm "downstream" businesses. The factors involved in such harmful "ripple effects" of delaying a container ship likely include length of the delay, number of containers aboard and possibly even countries of origin and destination (i.e., the standard of living, degree of industrialization, complexity or perishability of exports, and need for just-in-time inventory all vary among countries).

If the RIO PUELO can be considered a "model case" of a commercial shipping delay resulting from a governmental Homeland Security intervention, the costs to business may not be significant enough to warrant the attention of business executives and government policymakers, especially if the government does not typically seek to recover its response costs from business and the interventions are infrequent. If, on the other hand, shipping disruptions are commonplace and/or increasing in frequency, the collective impact upon business may be substantial.

With this latter thought in mind, I attempted to get a better sense of how frequent the U.S. government disrupts commercial shipping. I contacted U.S. Coast Guard

Headquarters and was informed that the U.S. Coast Guard does not currently track the number, or length, of delays to commercial shipping that result in from the service's Homeland Security efforts. While I was unable to locate any other U.S. government agency that tracked such data, a U.S. Coast Guard official at the National Pollution Fund Center anecdotally recalled that since September 11, 2001, there have been five to seven incidents per year where CERCLA funds have been required to bring National Strike Force personnel on-scene to evaluate a commercial ship that has been held offshore due to a suspected threat of a hazardous substance release. The costs to businesses as a result of such interventions are unfortunately unknown.

Long-Term Outlook

All of the costs detailed within this research are examples of the economic impact business can experience as a result of governmental intervention in commercial shipping. Clearly every such intervention is different, with differing types and amounts of cargo, and delays ranging from minutes to days.

While few people question the need for government to undertake such actions when safety and security of the nation's ports and populace are at risk, there are serious potential economic implications that must be considered if such transportation interruptions are or become frequent. In the short-term, consumers and end-users can expect costs for shipped goods, as well as products manufactured with shipped components, to rise. In the long-term there arises the possibility of lost commercial business in some, or possibly all, major U.S. ports as shippers shift to smaller U.S. ports

or foreign ports. Such a loss of business competitiveness in major U.S. ports could be devastating to the nation's economy.

The long-term outlook also depends on how the government chooses to approach Superfund expense recovery. The degree to which businesses are held accountable for situations that are not directly in their control will have a profound effect on how the U.S. is viewed vis-à-vis the free flow of commerce. The RIO PUELO case could potentially prove a watershed event for government cost recovery practices when and if more information is discovered regarding the origin and motivation behind the “unconfirmed anonymous report” that served as the trigger for the incident.

This research has also demonstrated how such disruptions can be devastating to small businesses, both in direct expenses and loss of cash flow. Larger businesses can presumably absorb such costs and cash losses, provided the number of such government interventions remains low. Smaller businesses, especially those with seasonal business cycles, may not be able to survive such a loss of capital, even if temporary.

Business/Government Partnering

It is clear that both governments and businesses have a mutual interest in minimizing disruptions in commercial shipping. What then can each do, separately and in concert, to contribute to this shared goal?

- The U.S. government should gather, and maintain within a central database, the number, location and length of commercial shipping delays resulting from Homeland Security interventions. This data will allow the government to

assess the impact of its actions upon businesses utilizing maritime transportation, and should also prove a useful metric for studies seeking to measure the effectiveness of Homeland Security initiatives.

- Together with the shipping industry, the U.S. government should continue to develop uniform standards for cargo tracking and security. These standards could include container point-of-origin cargo inspection protocols, RFID container seals and security requirements for container yards and moored ships. Knowing the potential costs of shipping disruptions, businesses will have an incentive to invest an amount of capital (obviously an amount significantly less than the expenses of a possible shipping disruption) with the goal of lessening likelihood of such government interventions. Of course, for such standards to be effective, they must be adopted on a global basis, through such multinational agencies as the International Maritime Organization (IMO).
- Even with higher tracking and security standards, government must continue to gather, evaluate and disseminate intelligence pertaining to groups or individuals who would seek to tamper with cargo or shipping for illegal or malicious purposes. Not only would such efforts, if effective, help government agencies to best utilize their limited inspection and response assets, but they would also reduce the possibility of expensive hoaxes as may have occurred in the case of the RIO PUELO. Through sound intelligence, boats, aircraft, boarding teams and National Strike Team personnel can be alerted and positioned to counter the greatest anticipated threats. Again, business can assist the government in intelligence gathering through

incentives or even through the intrinsic desire to safeguard the integrity and reputation of the shipping line.

- The need for robust and transparent risk management is clear, but undertaking and managing such a system is clearly very challenging. It is naïve to think that some algorithm could be developed which would inform government officials when potential business costs outweigh risks to persons and property. Such officials, Federal, state and local, must nonetheless be cognizant of and consider commercial interests in making their decisions.
- When incidents such as the RIO PUELO do occur, government needs to explore ways to clearly announce the “held harmless” status of involved businesses that have maintained applicable standards and supported Homeland Security efforts. I could find no evidence that the U.S. government made a concerted effort to communicate that there was no evidence of wrongdoing on the part of CSAV, Pampa Store or Real Frut after the lemons proved to be without hazardous contaminants. Perhaps such a message was passed to mass media reporters, but to be effective such statements of “no wrongdoing” must be directly attributed to the government. Such proactive policies will assist otherwise upstanding businesses from being negatively impacted by the stigma of being involved in an intervention. Such public outreach through mass media outlets will, in turn, encourage businesses to report suspicious circumstances and occurrences, trusting that media exposure will bolster impressions of corporate responsibility.

- Finally, lawmakers and regulators should explore policies which can be implemented to minimize the financial impact on companies which are inappropriately or inadvertently involved in government interventions. In the case of the RIO PUELO, the shipping firm's expenses could have been slightly eased if an appropriate and expeditious policy was in place whereby the provisions of the Jones Act could have relaxed on a one-time basis, allowing the RIO PUELO to discharge its cargo in Charleston to be loaded and transported to Miami by another CSAV liner.

Potential Area for Future Studies

As mentioned at the outset of this thesis, my research focused solely providing an example of the costs associated with a government disruption of commercial shipping. Following the terrorist attack on the U.S. of September 11, 2001, the nation has been struggling with providing adequate levels of Homeland Security without encroaching on the attributes which make the U.S. stand out in the world – both economically and in the area of individual rights.

There are many areas of study that logically follow from this research. I specifically suggest further studies into how differing types of cargo result in greater or lesser degrees of financial impact to firms throughout the supply chain when their delivery is delayed. Factors which play into the economic impact of specific cargoes should include monetary value, perishability (if applicable) and criticality to downstream manufacturing. Once cargo is loaded, factors for assessing economic impact for a given a ship are principally the compilation of the cargo and the duration of the delay. Through

such research, both government and business may be able to better anticipate the potential financial downside of a disruption in the voyage of a particular ship; knowledge of such a potential downside would be important information for any risk management tool employed by government officials responding to a perceived threat.

Hopeful Guidance for the Way Ahead

In closing, it is encouraging to note that ambitious guidelines have been set forth by U.S. legislators to guide agencies as they seek to balance national security with commercial efficiency. The Maritime Transportation Security Act⁴³ states that:

(13) It is in the best interests of the United States—

⋮

(E) to invest in long-term technology to facilitate the private sector development of technology that will assist in the nonintrusive timely detection of crime or potential crime at United States ports;

⋮

(G) to promote private sector procedures that provide for in-transit visibility and support law enforcement efforts directed at managing the security risks of cargo shipments.

⋮

It is my belief and sincere hope that this research will help to provide valuable information and perspective as the U.S. continues to develop and implement its Homeland Security policies.

⁴³ P.L. 109-175

APPENDIX

A

Container Ship CSAV RIO PUELO

IMO Number: 9243239
Call Sign: V7DR5
Country of Registry: Marshall Islands
Year Built: 2002
Gross Tonnage: 25,703
Vessel Owner: SBT Shipping Company Limited., Majuro, Marshall Isl.
Manager/Operator: Oskar Wehr KG (GmbH &Co.), Hamburg
Charterer: Compañía Sudamericana de Vapores (CSAV)
Crew Size: 17

MV Wehr Trave*

Cellular Container Vessel

Technical Data:

Container Capacity:	2,524 TEU
LOA:	208.16 meters
Homo. Capacity @ 14t:	1,895 TEU
Beam (molded):	29.80 meters
Refrigerated Containers:	400
Draft (scantling):	11.40 meters
Deadweight:	33,600 tons
Speed:	22.3 knots

From Reederei Oskar Wehr website: www.wehrship.de/wehr/eng/mswehrtrave.html, 10 Feb 05

*Launched as WEHR TRAVE in 2002. Initially chartered as CCNI AYSEN. Chartered in late 2003/early 2004 as CSAV RIO PUELO.

From *Lloyd's Register of Ships*, 2004, Page 1061

Typical Telephone/Email Cost Questionnaire

1) Personal/Company Information:

- a) What is your full name?
- b) What is your position at Company X?
- c) How big of a company is Company X?
 - i) Number of employees?
 - ii) Annual revenue (\$US/AR pesos/CLP/CAD)?
- d) Is Company X privately or publicly held?
- e) What is the best way to contact you? Do you have an email address?

2) Loss Information:

- a) What was the size of the lemon shipment (kilograms/boxes/number of lemons)?
- b) What was the total value of the lemons (\$US/ARpesos/CLP/CAD):
 - i) Wholesale?
 - ii) Retail?
- c) Did Company X suffer any monetary loss from the destruction of the lemons?
 - i) What was the monetary value of the loss (\$US/AR pesos)?
 - ii) Was any of the loss reimbursed?
 - (1) How much (\$US/ARpesos/CLP/CAD)?

- (2) By whom (e.g., insurance/government)?
- d) Did Company X suffer any other monetary loss (e.g., other produce delayed aboard the CSAV RIO PUELO)?
 - i) What was the nature of the loss?
 - ii) What was the monetary value of the loss (\$US/ARpesos/CLP/CAD)?
 - iii) Was any of the loss reimbursed? How much? By whom?
- e) Do you expect Company X's insurance (if any) to be affected by this incident?
 - i) Estimated amount of premium increase (\$US/ARpesos/CLP/CAD)?
- f) Did this incident result in any indirect or non-monetary loss for Company X (e.g., loss of sales, reputation)?

3) Related Company Information:

- a) What is Company X's relationship with Company Y?
- b) Do you have a point of contact for Company Y?
 - i) Name
 - ii) Position
 - iii) Address
 - iv) Telephone
 - v) Email
- c) To your knowledge, did Company Y suffer any loss?
 - i) What was the nature of the loss?
 - ii) What was the monetary value of the loss (\$US/ARpesos/CLP/CAD)?

iii) Was any of the loss reimbursed? How much? By whom?

Sample of Letter Sent to Firms Dealing in Suspect Lemons

Sir/Ma'am:

I am an active duty U.S. Coast Guard officer who is currently a Sloan Fellow at the Sloan School of Management at the Massachusetts Institute of Technology.

I am currently conducting research for a thesis which will document the total international business costs incurred when the United States government delayed the voyage of the container ship CSAV RIO PUELO off of the Port of New York & New Jersey from 30 July until 6 August 2004. The purpose of my research is to use the case of the RIO PUELO to help inform decisions of homeland security policymakers and international business leaders by providing a comprehensive view of extraordinary business expenses caused by interruptions in shipping.

In conducting my research, I am attempting to identify and contact every business involved with the shipping of the Argentine lemons aboard the RIO PUELO, including those distributors involved in the shipping and intended receipt of the produce. I then hope to obtain a detailed list of extraordinary expenses incurred by each of these businesses as a result of the delay of the RIO PUELO and the destruction of the lemons. My thesis will then compile and explain the various costs across all of the involved businesses. I am currently working with such organizations as Compañía Sudamericana de Vapores (CSAV) and the Port Authority of New York & New Jersey in conducting my research.

I would greatly appreciate any information you can provide concerning costs incurred by Real Frut as a result of the destruction of the lemons and/or the delay of any other Real Frut produce aboard the RIO PUELO. I would like to document these costs even if they have been reimbursed by insurance or other means.

I can be reached at ejones@sloan.mit.edu, via telephone at (339) 234-1020 or (781) 453-1250, or at the above address. Thank you in advance for your time and assistance.

Sincerely,

CDR Eric C. Jones, USCG
MIT Sloan Fellow, 2005

APPENDIX

D

Excerpts from CSAV RIO PUELO Cargo Manifest for Containers to be Discharged in Port Elizabeth, New Jersey

CSAV Manifest

Shipper

COMPESCAL - COMÉRCIO DE PESCADO ARACAT
RUA 2 DE NOVEMBRO, 1525
VÁRZEA DA MATRIZ
ARACATI-CE BRAZIL
CEP: 62.800-000

Consignee & Shipping Agent

Bobbery Enterprises Inc.
2760 W. 81 Street
Hialeah, FL 33016
PHONE: 1 305 828-0828

2 full containers and 2 partial containers of frozen shrimp (95K lbs) and rock lobster tails (20K lbs) (Bobbery had other freight in containers from other shippers aboard)

Shipper

COMPANHIA BRASILEIRA DE RESINAS-RESIBRAS
RUA 20 DE JANEIRO 1615
FORTALEZA - CEARA - BRAZIL
CEP 60331-200
PHONE:55 85 288 7500

Consignee

UNITED NATURAL TRADING CO. D/B/A
HERSHEY IMPORT CO. INC.
700 EAST LINCOLN AVE.
RAHWAY, NJ 07065-5798

Shipping Agent

D.F YOUNG USA
17 BATTERY PLACE
NEW YORK, NY 10004 ATTN.MR FRANK BLANCO
PHONE:973-258 9833

* 700 CARTON 16800.00 KGS
1(ONE) CONTAINER 20FT SAID TO CONTAIN 700
CARTONS BRAZILIAN CASHEWS NUT AS FOLLOWS:
200 CARTONS W1-240
100 CARTONS W2-240
200 CARTONS W1-320
200 CARTONS P1

Shipper

FRUITRADE COMÉRCIO E EXPORTAÇÃO LTDA.
LOTE 417 - GALPÃO A - PROJETO CURAÇA
CEP 48900-000 JUAZEIRO - BA - BRASIL
PHONE/FAX:55 87 3991-2026

Consignee

FARM-WAY PRODUCE,INC.
727 SOUTH, NEW YORK AVE.
LAKELAN, FL 33815-4748 - USA
PHONE/FAX:1 863 413-1200

Shipping Agent

CUSTOMIZED BROKERS RE:04/0990410-001
7220 N.W.36TH STREET SD:2040775233/1
MIAMI,FL 33152 SERVICE CONTRACT NUMBER: 2003-307
PHONE:1 305 471 8989/FAX:1 305 471 8988

* 11088 CARTON 49896.00 KGS (2 Refrig Containers)
11.088 CARTONS WITH FRESH MANGOES IN NATURA

Shipper

GENERAL MOTORS VENEZOLANA C.A.
AV.GENERAL MOTORS ZONA INDUSTRIAL II
VALENCIA, EDO.CARABOBO VENEZUELA
PH.0241-503488 FAX.0241-8503568

Consignee

GENERAL MOTORS OF CANADA LTD.
C/O TDS AUTOMOTIVE
301 TILLSON AVE.
TILLSONBURG ONT. CANADA N4G 5E5
ATTN:DAN GRAHAM

Shipping Agent

EAGLE GLOBAL LOGISTICS .
10049 HARRISON RD. SUITE 100
ROMULUS, MI. 48174
ATTN: ANGELA SIMS

32 Containers, apparently of automotive parts

Shipper

VALORIZACAO EMPRESA DE CAFE S.A.
RUA DA QUITANDA, 191/3º AND. SL 301
CENTRO - RIO DE JANEIRO - BRASIL

Consignee & Shipping Agent

ATLANTIC (USA) INC
17 STATE STREET 23rd FLOOR
NEW YORK - USA
PH 212 2481190 FAX 212 2484102

1,280 BAGS 77440 LBS OF BRAZILIAN GREEN COFFEE.
4 containers

Shipper

URUD'OR S.A. 000MVB
RINCON 487 OF. 301
MONTEVIDEO-URUGUAY
PHONE: 5982 9160635 FAX: 5982 9161994

Consignee & Shipping Agent

BAR IMEX INT'L INC.
1455 BERCY, ST.
MONTREAL H2K 2V1
QUEBEC, CANADA
PHONE: 514 525 6381 FAX: 514 525 1084

8 refrigerated containers
Lemons 2,520 cartons 48,170 Kg
Navelate Oranges 3,080 cartons 53,030 Kg
Salustiana Oranges 5,320 cartons 90,370 Kg

Urud'Or had other containers aboard

Shipper

WEG EXPORTADORA S.A.
AVENIDA PREFEITO WALDEMAR GRUBBA 3000
89256-900-JARAGUA DO SUL-SC-BRASIL
PHONE 55 47 372-4000 FAX 55 47 372-4001

Consignee & Shipping Agent

V.J.PAMENSKY CANADA INC.
64 SAMOR ROAD
TORONTO, M6A 1J7
ONTARIO- CANADA
PHONE:1 416 781-4617 FAX:1 416 781-4352

5 containers of electric motors and frequency converters

MONTEMAR MARITIMA S.A.⁴⁴ Manifest

Shipper

CASCAJU AGROINDUSTRIAL S/A
AV. JOSÉ ANTUNES QUEIROZ, 2642
CASCAVEL-CE-BRAZIL
PHONE: 55 85 299 8717

Consignee

RED RIVER FOODS, INC.
9020 STONY POINT PARKWAY - SUITE #380
P.O . BOX 35612
RICHMOND, VA 23235 - USA

Shipping Agent

RED RIVER FOODS, INC.
C/O FERRARA INTL LOGISTICS, INC.
HILLSIDE, NEW JERSEY 07205 - USA
PHONE: 908 688 5009 - FAX: 908 688 9010

* 700 CARTONS 16800.00 Kgs (1 20ft container)
BRAZILIAN CASHEW NUT KERNELS PACKED IN CORVAC

⁴⁴ CSAV subsidiary

Shipper

DUCOCO PRODUTOS ALIMENTICIOAS S.A. AV.
ANASTACIO BRAGA, 2.776 - CACIMBAS
ITAPIPOCA - CEARA - BRAZIL
PHONE FAX: 55 85 631-1111

Consignee & Shipping Agent

EXPRESS FOODS INC.
221 MILLER STREET
NEWARK - NJ - 07114
PHONE FAX: +1 (973) 6239211

* 2793 CARTON 13587.46 Kg (1 20ft container)
COCONUT WATER (AGUA DE COCO) & COCONUT WATER PRISMA (AGUA DE COCO PRISMA)

Shipper

CITRICOLA SALTENA S.A.
PZA. CAGANCHA 1335 - OF. 1002
Montevideo, URUGUAY
PHONE 9011541 Fax 9011549

Consignee & Shipping Agent

AGRI MONDO INC.
9240 BOUL. PIE IX
MONTREAL,(QUEBEC)
CANADA H1Z 4H7
PHONE 3239240 Fax 3230611

* 2800 CARTONs 47630.00 Kgs (2 40ft Refrig Containers) ORANGES NAVEL
Citricola had other containers of citrus fruit aboard.

Shipper

VINPAC LINES (BUENOS AIRES) S.A.
SARMIENTO 944 PISO 4
C1041AAT BUENOS AIRES ARGENTINA
Ctc Sr RAUL MOURE

Consignee & Shipping Agent

NORTHSTAR SHIPPING & TRADING INC
2855 MANGUM ROAD SUITE 535
HOUSTON, TEXAS 77092
PIC MRS GRACIE DELGADO

11910.00 Kg ORGANIC SOYBEANS IN BULK (6 20ft containers)

Shipper

SOUTH CONE TRADING S.R.L.
VIAMONTE 367 1ST FLOOR
BUENOS AIRES ARGENTINA
N DE CUIT 30 70810694 8

Consignee & Shipping Agent

MAISLINER LOGISTICS .
2555 DOLLARD AVENUE SUITE 119
LASALLE MONTREAL QC H8N 3A9
PHONE 1 514 366 0336 FAX 1 514 368 0626

* 1260 CARTON 113,400.00 Kgs (107100 Kg Net)
FRESH Argentine LEMONS
5 40ft Refrig Containers

Shipper

NATCO INTERNATIONALE TRANSPORTE BRASIL
L RUA DOM GERARDO, 64/10 ANDAR - CENTRO
RIO DE JANEIRO - RJ - BRASIL
PH: 5521 3288-9000 - FAX: 5521 3288-9001

Consignee & Shipping Agent

NATCO INTERNATIONAL TRANSPORTS USA, LLC
2801 NW 74TH AVE, SUITE 224
MIAMI, FLORIDA FL33122
PHONE: 305 599-3285 - FAX: 599-3646

* 1254 CARTONS 12704.00 Kg (1 20 ft Container)
1254 CARTONS CONTAINING YERBA MATE AS FOLLOW: 8400 KILOS OF
YERBA MATE FONTANA AND 4140 KILOS OF YERBA MATE GAUCHO

LIBRA⁴⁵ Manifest

Shipper

UTI DO BRASIL LTDA
RUA: SALTO GRANDE, 701 - JARDIM DO TREVO
CAMPINAS - SÃO PAULO - BRASIL

⁴⁵ CSAV subsidiary

PH. 55 19 3277 0630 FAX 55 19 3277 0630

Consignee & Shipping Agent

UTI, UNITED STATES INC.
745, N. DILLON DR.
WOOD DALE, ILLINOIS 60191
MICHELLE SCHRADER
PH.1 630 694 0680 FAX 1 630 694 0684

78020 Kg (4 20ft containers) 4 BULK LINERS OF ORGANIC SOYBEAN MEAL

Shipper

ROHDE LIESENFELD DO BRASIL TRANSP INTERN
RUA CONSELHEIRO LAURINDO, 825 - 10 AND
80060-100- CURITIBA - BRAZIL
PH. 55 41 324 5551 FAX 55 41 324 5551

Consignee & Shipping Agent

ROHDE & LIESENFELD, INC
535 8TH AVENUE NY 10018
NEW YORK - USA
PH. 1 212 432 1200 FAX 1 212 432 1200

21024 Kg (1 40ft Refrig Container) 1440 CARTONS WITH FRESH BRAZILIAN
GINGER ROOTS

Shipper

REFINADORA DE MAIZ VENEZOLANA, C.A.
"REMAVENCA"
ENCRUCIJADA DE TURMERO
EDO.ARAGUA-VENEZUELA

Consignee

GOYA FOODS INC.
100 SEAVIEW DRIVE
SECAUCUS NJ 07096. USA
PH.201-348.4900 FAX.348.6609 R/R QGA200400119

Shipping Agent

EXPORT - IMPORT SERVICES
900 ROUTE WOODBRIDGE, NJ 07095
PH.(732)636.8700 FAX.636.6575

18000 BAGS 36144.00 Kg (2 20ft containers) OF PRECOOKED WHITE CORN MEAL

Shipper

PIRELLI PNEUS S.A.
AV. GIOVANNI BATTISTA PIRELLI, Nº 871
SANTO ANDRE-S.P.-BRASIL CEP.:09111-340
PH.:(011)4998-5168 FAX.:(011)4998-5420

Consignee

PIRELLI TIRE LLC - FORD MICHIGAN
6307 W.FORT STREET WAY
48209 DETROIT, MICHIGAN
PHONE: 7063685833

Shipping Agent

BRUZZONE SHIPPING INC.
530 BURNSIDE AVENUE
INWOOD, NY 11096
ATTN VICTOR BRUZZONE

19012 Kg (2 40ft Containers) 936 UNITS OF NEW PNEUMATIC TYRES FOR CARS

Shipper

AGROPECUARIA LABRUNIER LTDA.
RUA GEORGE EASTMAN, 213 - 1º
BAIRRO: VILA TRAMONTANO
05690-000 - SÃO PAULO - SP - BRAZIL

Consignee & Shipping Agent

TALLY TRADING COMPANY INC.
174 NORTH MEADOW CRESCENT
THORNHILL L4J 3C5
ONTARIO - CANADA

4400 UNITS 46400.00 (2 40ft Refrig Containers) HONEY MURCOTT (TANGOL MURCOTT)

Shipper

AGRICOLA FRAIBURGO SA-FILIAL 01
ROD.SC 453-KM 50,5 DISTRITO INDUSTRIAL
DE RIO DAS PEDRAS
89560-000 VIDEIRA-SC-BRASIL

Consignee

WESTCOTT AGRI PRODUCTS INC
RR 1 BOX 12
ELGIN, MN 55932 - USA
PHONE:507 876 2891 FAX:507 876 2820

Shipping Agent

BARTHCO
721 CHESTNUT ST.
PHILADELPHIA, PA 19106
AT.MR.PATRICK JOHNSON

* 1176 CARTON 22579.20 (1 40ft Refrig Container) 1176 CARTONS OF FRESH
APPLES AS FOLLOWS:

280 GRANNY SMITH 90-BR APPLE
168 GRANNY SMITH 100-BR APPLE
224 GRANNY SMITH 110-BR APPLE
224 GRANNY SMITH 120-BR APPLE
280 GRANNY SMITH 135-BR APPLE

Total Containers: 84
Total Business Offices: 46

APPENDIX

E

Samples of Letter Sent to Container Shippers, Consignees & Shipping Agents

ENGLISH

Sir/Ma'am:

I am an active duty U.S. Coast Guard officer who is currently a Sloan Fellow at the Sloan School of Management at the Massachusetts Institute of Technology.

I am currently conducting research for a thesis which will document the total international business costs incurred when the United States government delayed the voyage of the container ship CSAV RIO PUELO off of the Port of New York & New Jersey from 30 July until 6 August 2004. The purpose of my research is to use the case of the CSAV RIO PUELO to help inform decisions of homeland security policymakers and international business leaders through a comprehensive view of extraordinary business expenses caused by interruptions in shipping. I am working with such organizations as Compañía Sudamericana de Vapores (CSAV) and the Port Authority of New York & New Jersey in conducting my research.

In conducting my research, I am attempting to identify and contact shippers and consignees of freight carried within the containers aboard the RIO PUELO. I am interested in compiling the expenses incurred by these businesses as a result of the containers' six-day delay in delivery.

I would greatly appreciate a point of contact and any information you can provide concerning costs incurred by your firm as a result of the delayed arrival of your freight aboard the CSAV RIO PUELO. I would like to document these costs even if they have been reimbursed by insurance or other means.

I can be reached at:

31 Crestview Road
Needham, MA 02492-2707 USA
ejones@sloan.mit.edu
(339) 234-1020 (Mobile)
(781) 453-1250 (Office)

Thank you in advance for your time and assistance.

Sincerely,

CDR Eric C. Jones, USCG
MIT Sloan Fellow, 2005

PORTUGUESE

Caro Senhor,

Eu sou um oficial da Guarda Costeira dos Estados Unidos e estou cursando o programa de Mestrado Sloan Fellows, na Escola de Administração Sloan, no Massachusetts Institute of Technology (MIT).

Atualmente estou fazendo a pesquisa para minha tese que procura avaliar o custo total para os negócios internacionais que foi gerado quando o governo dos Estados Unidos resolveu reter o navio CSAV RIO PUELO, fora do Porto de New York e New Jersey entre os dias 30 de julho e 6 de agosto de 2004. O propósito de minha tese é usar o caso do navio CSAV RIO PUELO para auxiliar as autoridades de segurança e líderes de negócios internacionais na tomada de decisões através de uma visão abrangente do extraordinário custo para os negócios causado pela interrupção nos embarques. Eu estou trabalhando junto com a Companhia Sudamericana de Vapores (CSAV) e as autoridades do Porto de Nova York para conduzir minha pesquisa.

Durante minha pesquisa estou tentando identificar e contactar transportadores e clientes dos cargas em containers a bordo do CSAV RIO PUELO. Estou interessado em obter as despesas incorridas por estas empresas devido ao atraso de seis dias na entrega do ditos containers.

Eu gostaria muito de conseguir um contato com os senhores e qualquer informação a respeito dos custos incorridos por sua firma devido ao atraso no desembarque das cargas a bordo do CSAV RIO PUELO. Eu gostaria de avaliar todos os custos, inclusive aqueles reembolsados por companhias de seguro ou outros meios.

Meu endereço de contato é:

31 Crestview Road
Needham, MA 02492-2707 USA
ejones@sloan.mit.edu
(339) 234-1020 (Mobile)
(781) 453-1250 (Office)

Antecipadamente agradeço seu tempo e sua ajuda.

Saudações,

CDR Eric C. Jones, USCG
MIT Sloan Fellow, 2005

SPANISH

Estimado Sr./Sra.

Yo soy un oficial de la Guardia Costera de los Estados Unidos y actualmente estoy realizando un master (Sloan Fellows Program) en el Instituto Tecnológico de Massachussets, en Boston.

Como parte de este programa, estoy realizando un trabajo de investigación mediante el cual documentaré los costos totales internacionales que se incurrieron cuando el Gobierno de los Estados Unidos demoró el viaje del barco CSAV RIO PUELO, en aguas del puerto de New York y New Jersey, desde el 30 de Julio hasta el 6 de Agosto de 2004.

El propósito de mi tesis consiste en utilizar el caso RIO PUELO para que tanto las autoridades locales como los líderes internacionales de negocios puedan, en el futuro, tomar decisiones basadas en información concreta, a través de un análisis detallado de los costos extraordinarios causados por interrupciones de embarcaciones de transporte. Es importante resaltar que en el marco de mi tesis estoy trabajando con organizaciones como Compañía Sudamericana de Vapores (CSAV) y las autoridades portuarias de New York y New Jersey.

Como parte importante de mi trabajo estoy tratando de identificar y contactar compañías involucradas con los contenedores que viajaban a bordo del RIO PUELO. Específicamente, estaría interesado en determinar los costos incurridos por estas empresas como resultado de la demora de 6 días mencionada anteriormente.

Les agradecería enormemente si me pudiesen indicar una persona de referencia a contactar, así como cualquier información que me pudiesen brindar acerca de los costos que ustedes sufrieron en la desafortunada situación del RIO PUELO. Me gustaría poder documentar estos costos aun en el caso en que los mismos hubiesen sido reembolsados a posteriori.

Yo puedo ser contactado en:

31 Crestview Road
Needham, MA 02492-2707 USA
ejones@sloan.mit.edu
(339) 234-1020 (Mobile)
(781) 453-1250 (Office)

Les agradezco anticipadamente vuestro tiempo y asistencia,

Cordialmente,

CDR Eric C. Jones, USCG
MIT Sloan Fellow, 2005

Samples of Information Emails CSAV Sent to Customers

To Customers-at-Large

Customer Information

August 6, 2004

Compania Sudamericana de Vapores S.A. (CSAV) wishes to advise its customers of facts concerning the detention of one of its vessels servicing the Argentina-Brazil-USA trade.

1. On July 31, 2004, the U.S. government informed us that they had received an anonymous tip that a refrigerated cargo container being transported on one of our vessels might contain harmful substances.
2. The containers in question were loaded in Zarate, Argentina, transferred to the vessel "CSAV Rio Puelo," at the port of Rio Grande, Brazil with a final destination in Canada, via the United States.
3. The vessel arrived outside of the Port of New York and New Jersey on July 31st. The company has been cooperating fully with the authorities having jurisdiction since we became aware of this issue. The vessel has been waiting at anchor outside the Port, while the authorities have considered how to proceed in the safest possible manner.
4. CSAV and our agents are working in concert with the U.S. Coast Guard (USCG) to transfer any containers in question to a barge or other acceptable shoreside location to allow the appropriate government agencies to take what steps they deem necessary.
5. CSAV regrets the delay this incident may have caused our customers with cargo aboard the vessel, but the company's highest priority is to cooperate with the government in addressing any security issues that may arise. We will complete vessel operations and proceed with scheduled cargo deliveries as soon as possible.
6. CSAV will continue to refer any questions about the details of this incident to the U.S. Coast Guard for response.

To Shippers and Consignees with Cargo Aboard CSAV RIO PUELO

Dear Valued Customer,

In order to keep your company informed about a delay in our schedule, we are advising you that MV CSAV Rio Puelo v. 003SB arrived New York Pilot Station on July 31, 2004, at 00:44 LT.

She has been held by the U.S. Coast Guard for inspection and the inspection process is still ongoing.

We will keep you informed about any relevant developments and will provide a new schedule as soon as this situation is finalized. We don't expect to have any new information earlier than Wednesday August 4th noontime.

Thanks for your understanding.

American Transportation Group LLC,
as agents of Compañía SudAmericana de Vapores, Libra and Montemar.

BIBLIOGRAPHY

- Associated Press. “Shipload of Rotten Lemons to be Fumigated, Destroyed.” 6 Aug 04.
- Batchelor, Charles. “Choppy Waters Ahead: Declining Returns on Container Operations are Behind Recent Spate of Mergers.” The Financial Times. 25 April 97.
- Bergeron, Peter J. *U.S. Coast Guard Implementation Strategy For Homeland Security*, Thesis, Massachusetts Institute of Technology, June 2002.
- Browning, Jr., Robert M. “Captains of the Port.” Article available at United States Coast Guard Historian’s Office website. No date. Retrieved 9 Feb 05 from <http://www.uscg.mil/hq/g-cp/history/collect.html>
- Blustein, Paul and Byrnes, Brian. “Lemons Caught In a Squeeze: Incident Pits Security vs. Free Flow of Trade.” Washington Post. 10 Sep 04.
- Casey Research: What We Now Know. “Post-9/11 Tricks of the Trade.” 19 Oct 04. Retrieved 9 Feb 05 from <http://www.howestreet.com/story.php?ArticleId=710>
- Coulter, Daniel Y. (2002). Globalization of Maritime Commerce: The Rise of Hub Ports. In S.J. Tangredi (Editor), *Globalization and Maritime Power* (Chapter 7). Washington DC: Institute for National Strategic Studies, National Defense University. Retrieved 12 Feb 05 from http://www.ndu.edu/inss/books/Books_2002/Globalization_and_Maritime_Power_Dec_02/08_ch07.htm
- Duff, J. A. (2001, January). In the Wake of Intertanko: US Admiralty Law, International Law of the Sea and How US states are responding to the Supreme Court’s decision in U.S. v. Locke. Presentation for AALS Annual Meeting. Retrieved 15 Feb 05 from <http://mli.usm.maine.edu/AALSpres/>
- Edmonson, R.G. “A Unified Approach: The National Incident Management System Aims to Coordinate Agencies’ Responses to Emergencies.” The Journal of Commerce. 18 Oct 04.
- Edmonson, R.G. “If the Unthinkable Happens.” The Journal of Commerce. 27 Sep 04.
- Fields, Gary. “Customs Chiefs Approve Plan to Secure Cargo.” The Wall Street Journal. 10 Dec 04.

- Institute for Shipping Economics and Logistics. Shipping Statistics and Market Research: General Cargo and Container Shipping. Jun 04. Retrieved 9 Feb 05 from http://www.isl.org/products_services/publications/pdf/COMM_6-04_short.pdf
- Johnson, Robert E. Guardians of the Sea: History of the U.S. Coast Guard 1915 to the Present. Annapolis, MD: Naval Institute Press, 1987.
- Johnston, David with Broder, John. "Vigilance And Memory: The Alert; A Day of High Security Proves Mostly Uneventful." The New York Times. 12 Sep 02
- Landon, Felicity. "Lifeblood of the Global Economy." Times Online. 7 Sep 04. Retrieved 12 Feb 05 from http://e-paper.timesonline.co.uk/cargo/13002/articles/artikel_TMNY_2GX_20040907_2_1.html
- Leach, Peter T. "NY Ship Security Threat a Lemon." Journal of Commerce Online. 9 Aug 04. Retrieved 9 Feb 05 from <http://www.joc.com>
- Lipton, Eric. "Audit Faults U.S. for Its Spending on Port Defense." The New York Times. 20 Feb 05.
- Lloyd's Register of Ships. London, UK: Fairplay. 2004
- Local6.com. "Super Bowl-Bound Ship Delayed At Port Canaveral For Weapons Sweep." 3 Feb 05. Retrieved 9 Feb 05 from <http://www.local6.com/news/4158666/detail.html>
- McFadden, Robert D. and Dao, James. "At 5 Buildings, A Day of Pluck And Patience." The New York Times. 3 Aug 04.
- NFWPA Food Safety News. "Imported Fruit Delayed by Security." 27 Aug 04.
- Office of Homeland Security. National Strategy for Homeland Security. 16 Jul 02.
- Port Authority of New York & New Jersey. Foundations: Comprehensive Annual Financial Report For The Year Ended December 31, 2003. 22 Apr 04. Retrieved 9 Feb 05 http://www.panynj.com/AboutthePortAuthority/InvestorRelations/AnnualReport/pdfs/2003_Annual_Report.pdf
- Ramirez, Anthony. "Sour Surprise For Officers Who Raided Container Ship." The New York Times. 7 Aug 04.
- Smothers, Ronald. "Ship's Radiation Is Traced to Harmless Tiles." The New York Times. 14 Sep 02.
- Smothers, Ronald. "Vigilance And Memory: New Jersey; Container Ship Is Held Offshore After Search Discovers Radiation." The New York Times. 12 Sep 02.

The Journal of Commerce. “Radar Screen: Carriers Pay Big Tab for Security Delays.” 27 Sep 04.

The Marex Bulletin. “Going Sour.” 18 Oct 04. Retrieved 30 Dec 04 from <http://www.marexbulletin.com>

United States Army Corps of Engineers Waterborne Commerce Statistics Center. US Foreign Waterborne Transportation Statistics Program: US Waterborne Foreign Trade – 2003. Retrieved 9 Feb 05 from <http://www.iwr.usace.army.mil/ndc/usforeign>

United States Bureau of Transportation Statistics. Transportation Statistics Annual Report 2004. Jan 05. Retrieved 9 Feb 05 from http://www.bts.dot.gov/publications/transportation_statistics_annual_report/2004/html/chapter_02/merchant_marine_vessel_capacity.html

United States Coast Guard, First District Press Release. “Coast Guard Cutter *Campbell* Patrols Coast Ensuring Safety and Security.” 12 Aug 04.

United States Coast Guard, First District Press Release. “Coast Guard Holds Shipment of Lemons to Ensure Safety.” 6 Aug 04.

United States Coast Guard. Fiscal Year 2004 Report. 1 Feb 04.

United States Coast Guard Historian’s Office website. Retrieved 9 Feb 05 from <http://www.uscg.mil/hq/g-cp/history/collect.html>

United States Coast Guard MTSA-ISPS website. Retrieved 15 Feb 05 from <http://www.uscg.mil/hq/g-m/mp/mtsa.shtml>

United States Coast Guard. Maritime Strategy for Homeland Security. 23 Dec 02.

United States Congress. Comprehensive Environmental Response, Compensation & Liability Act of 1980 (CERCLA) (Public Law 96-510). Dec 80.

United States Congress. Maritime Transportation Security Act of 2002 (MTSA) (Public Law 107-295). Nov 2002. Retrieved 15 Feb 05 from <http://www.uscg.mil/hq/g-m/mp/pdf/MTSA.pdf>

United States Congress. Oil Pollution Act of 1990 (OPA) (Public Law 101-380). Aug 90.

United States Congress. Homeland Security Act of 2002 (Public Law 107-296). Nov 02.

United States Department of Commerce. U.S. International Trade in Goods and Services – Annual Revision for 2003. Jun 04. Retrieved 9 Feb 05 from http://www.census.gov/foreign-trade/Press-Release/2003pr/final_revisions/exh1.pdf

United States Environmental Protection Agency CERCLA Overview website. Sep 04. Retrieved 11 Mar 05 from <http://www.epa.gov/superfund/action/law/cercla.htm>