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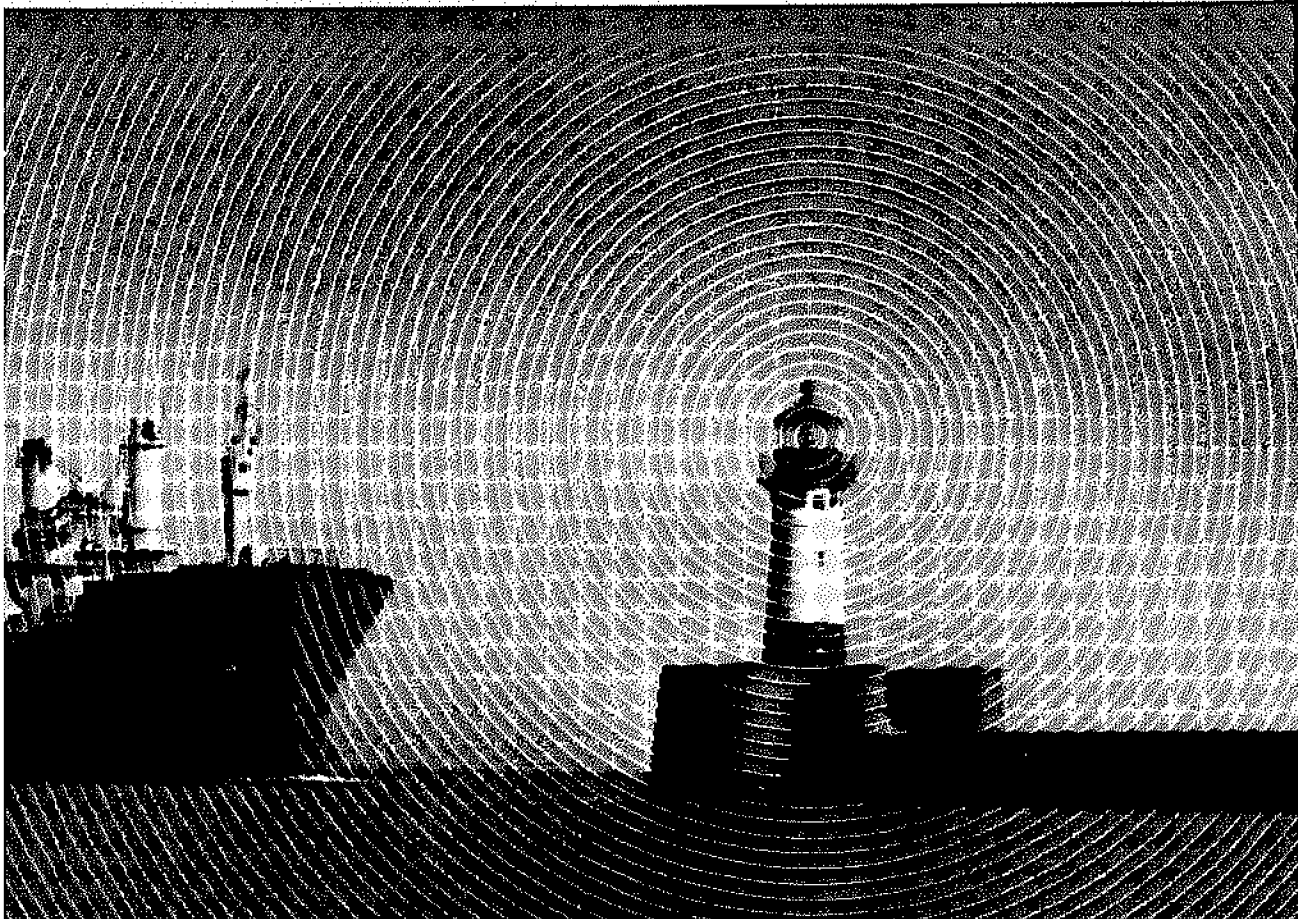
CONFERENCE HIGHLIGHTS

The Seaway In The Year 2000

June 10-12, 1985

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Highlights

The Seaway In The Year 2000

June 10-12, 1985

Howard Bell, editor

sponsored by
Minnesota Sea Grant Extension Program
University of Minnesota-Duluth

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University of Minnesota Agricultural Extension Service

Seaway Port Authority of Duluth

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South Dakota State University, Cooperative Extension

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Speakers

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Norm Houser	Director, Kansas City Commodity Office, U.S.D.A.
Colonel Frank Borborak	Deputy Director, International Traffic, Military Traffic Management Command, Eastern Area, Bayonne, N.J.
Edward Tyrchniewicz	Transport Institute, University of Manitoba, Winnipeg

Introduction

When the St. Lawrence Seaway opened in 1959, it was an engineering marvel and a symbol of Canadian-U.S. cooperation and the importance of the North American heartland's natural resources and agricultural production. During the 60s and 70s, the Seaway made great progress in achieving the original dream of becoming the fourth seacoast. But by 1984, the Seaway celebrated its 25th anniversary in the shadow of technological and economic forces that threatened to reduce the Seaway's importance as an international shipping route. The 25th anniversary was an appropriate time to organize a conference to review the Seaway's first 25 years and to discuss ways of ensuring the Seaway's growth to the year 2000 and beyond.

The most knowledgeable speakers in the U.S. and Canada convened in Duluth for three days to discuss financial, construction, commodity, and policy issues that will affect future growth of the Seaway. A number of issues and needs surfaced:

1. The goal of becoming the fourth seacoast has been partially, not completely realized. Specifics are impossible to predict but conferees agreed that the Seaway in the year 2000 would be very different from the original hopes and dreams of 1959.

2. The Canadian and U.S. governments are committed to implementing some type of Seaway cost recovery--most likely user fees. There was widespread concern among Seaway users that cost recovery would further damage the Seaway's ability to compete with other transportation systems. Seaway users already pay tolls. No other inland waterway is required to repay construction, operation, and maintenance costs. User fees, if they must be applied, should be applied so as to give the Seaway a fair chance to compete. Regardless of what cost recovery program develops, conferees felt there should be a formal mechanism for involving users in cost recovery decision making.

3. The Seaway will continue to lose ocean traffic because the new ocean vessels are too large to use the Seaway. Innovative vessel technology is imperative to ensuring that the Seaway will play some future role as an international shipping route. Suggested possible solutions included tug-barge technology, laker-salty hybrids, and ship-to-ship transloading of cargo.

4. There needs to be a second Poe-sized lock at the Soo because shut-down of the Poe would cripple over half the carrying capacity of the Great Lakes Fleet. Similarly, Canada and the U.S. must commit to maintaining, if not rebuilding, the aging Welland Canal.

5. Seaway users can no longer sit back and assume that cargo will come to them. The Seaway must aggressively search for cargo, analyze weaknesses of transportation competitors, and market its strengths to the world.

Overriding the entire conference was a distinct difference of opinion between Seaway users and government officials. User's message to government: We've got to improve and maintain the Seaway if we're

going to stay on the course of being the fourth seacoast and remain a competitive international shipping route. Government's message to users: Times have changed since the Seaway first opened. Instead of struggling to achieve old goals, users must adapt to new realities of shrinking markets, ballooning federal deficits, and bigger ships.

The conference was organized to provide a forum for these two perspectives. To that end, the conference appears to have succeeded.

Conference Coordinator,

Dale S. Baker

Seaway History: Past To Present

MARK L. THOMPSON, SEAWAY REVIEW MAGAZINE

I've been asked to sum up 95 years of history for a waterway that encompasses two nations and ten political jurisdictions; a region that accounts for one-third of the U.S. population and 14 percent of the U.S. GNP, includes the two largest Canadian provinces, and accounts for over 61 percent of Canada's GNP.

The 1895 joint commission that studied construction of a lock system to connect the Great Lakes to the Atlantic Ocean was the first major victory for Seaway proponents. Unfortunately, it was the last action to be taken for almost a quarter century.

After World War I, the St. Lawrence Tidewater Association promoted the Seaway, but their efforts also went unrewarded.

The Hoover-Bennett Treaty of 1932 committed Canada and the U.S. to build a Seaway to 27 foot draft. But anti-Seaway groups exerted political muscle, the Treaty was never ratified by the senate, and the issue died until 1940. In spite of Franklin Roosevelt's endorsement of the Seaway in the 1940s, the senate failed to ratify the aging Treaty.

By the early 1950s, Canada threatened to build its own Seaway. U.S. congressmen became concerned about the threat of exclusive Canadian control over the important trade route. But another attempt to pass authorizing legislation died in 1952.

Finally in 1953, the Wiley-Dondero Bill appropriated \$88 million for the U.S. share of construction costs, with the proviso that user fees be used to repay the government. Thus, it took 59 years to gain U.S. approval of the Seaway.

The Seaway opened to vessel traffic on April 25, 1959. Construction had taken only five years, yet the project dwarfed construction of the Suez and Panama Canals. U.S. and Canadian power agencies each spent \$300 million. The Canadian Seaway agency spent another \$322 million, and the U.S. spent \$124 million. For just over \$1 billion, far less than the price of a single nuclear power plant today, we got three hydroelectric dams, five Canadian locks and two U.S. locks, and a waterway that stretches 2,342 miles into the industrial and agricultural heartland of North America.

The Seaway spawned hundreds of new businesses and was, for its first ten years, the fastest growing sea route in the world. But, as was stated by F.P. Neuenschwander, Director of Development for Ohio, the Seaway was being discriminated against by the federal government. "We must," wrote Neuenschwander:

- "Free the Seaway from tolls."
- "Gain federal subsidies for the Seaway."
- "Increase the miniscule amount of Department of Defense shipping on the Lakes in American flag vessels."
- "Twin all locks, with new locks able to handle larger ships."
- "Actively promote the Seaway among users and potential users, throughout the world, and among ourselves."
- "Encourage continued uses of current technology for loading, unloading, and shipping at the ports."

An important step in correcting these weaknesses was the American Merchant Marine Act, which eliminated crippling interest on the Seaway debt, gave the region official status as Americas's Fourth Seacoast, and allowed our shipping companies to qualify for Title XI financing for new vessel construction. But the Seaway still had to use tolls to pay off the remaining \$98 million debt and to fund operating and maintenance costs.

Meanwhile, the U.S. legislature appropriated \$1.3 billion to improve navigation on the Arkansas and Red Rivers, an amount that was ten times what the U.S. spent on the Seaway. But the money did not have to be repaid by users. **Our Seaway remained the only deep-draft navigation project in the U.S. that required users to repay construction and to fund operation and maintenance.**

During the first decade, the Seaway operated without one vessel loss, proving to the world maritime community that we could operate vessels safely in confined and congested waters. The first decade also saw the first major trade mission to Europe, during which Europe's lack of awareness of the Great Lakes system was underscored.

The second decade saw dramatic increases in coal movements. We demonstrated to the nation and the world that we were the most energy-efficient mode of transportation. For each gallon of fuel, our ships moved from 300 to more than 600 tons of cargo, compared to 180 tons for railroads and 50 tons for trucks.

Business boomed during the second decade. During 1978, more than 60 million tons moved through the Montreal-Lake Ontario section of the Seaway--10 million tons more than the Seaway had been designed to handle. The Canadians built a new section of Welland Canal, and enacted legislation to erase the \$600 Canadian Seaway debt. The Corps of Engineers completed a season extension demonstration, which concluded that a ten to eleven month season was possible both from an engineering and economic perspective.

The Seaway's third decade began with President Reagan's announcement that he would consider imposing user fees to fund construction, operations, and maintenance of the nation's waterways. But the third decade also brought good news. **When Congress**

eliminated the balance of the Seaway construction debt, they averted the need for massive toll increases on a system that already labors under the heavy burden of tolls--user fees.

Canada Steamship Lines successfully completed the first mid-stream transfer of coal to a Japanese collier at Sept Iles. Midstream transfer allowed giant salt-water colliers to avoid lengthy loading delays being experienced at U.S. East Coast ports.

The third decade has also seen new major trade missions to promote the Seaway in Europe. Participants on the 1985 mission were shocked to find that many European shippers are still unaware of the Seaway and its capabilities.

Is the Seaway Essential?

RICHARD DAWSON, SENIOR VICE PRESIDENT,
TRANSPORTATION/CORPORATE AFFAIRS, CARGILL LIMITED,
WINNIPEG

For Canada, the Seaway is an eastbound Mississippi River, one that we share with our neighbor. It is vital for the agricultural heartland in both of our countries. And it is important that we take care of it, keep it strong and healthy for the future.

The prairies are a relatively dry hinterland, with only a few river systems, none of them navigable. The Mississippi River is not a viable option for Canadian prairie farmers or for farmers in North Dakota and Montana. There is only one natural exit from the region: the waterhead of the Great Lakes system.

The Canadian prairie is totally unlike the main grain growing areas in the U.S., where you have four coasts to go to, of which only one is frozen four months of the year. U.S. mountain passes are not as rugged or high. Your marvelous river system is largely navigable.

Cargill studies have found considerable untapped agricultural capacity in Western Canada. Land available for agriculture could increase 25 percent by the year 2000. Average yields are also expected to increase at least 25 percent by 2000. Total agricultural production in the prairies should rise by about 2.5 percent per year, from today's 50 million ton level to around 70 million tons, leaving between 38 and 40 million tons available for export.

Although Canada's exports will respond increasingly to demand pressures on the Pacific Rim, by 2000 we expect

the east and west movements of grain off the prairies to still be close to a 50/50 split: around 20 million tons each way.

Our increased production is caused largely by a shift from traditional wheats to the higher yielding medium quality wheats that are in greater demand by new industrial countries and middle income developing countries. Much of these grains will be delivered to Africa, the Middle East, and South America, and thus they will be shipped through the Seaway. But the Seaway will still have to meet and beat the competitive threat of new rail transportation technology.

Canada's need to export agricultural products and political pressure from Canada's Great Lake's provinces will help keep the Seaway a competitive and vital route for Canada's economy.

ED ROSS, CHAIRMAN, NORTHERN CROPS INSTITUTE, FARGO,
NORTH DAKOTA

"The St. Lawrence Seaway is essential to the economic well-being of the Northern Plains."

"The wheat industry and others in the agricultural sector are working to keep the Great Lakes viable. That includes opposing user fees, toll increases, and achieving a more flexible Seaway shipping season."

The user fee concept is regressive. It reduces our competitiveness in the world market so tonnage declines, spreading the cost over fewer units, making us even less competitive, and reducing volume even further. The Reagan Administration's insistence on user fees is counter-productive and very hypocritical.

On one hand, the Administration proposes to spend \$2 billion on its BICEP program to subsidize exports to foreign countries. They've also budgeted millions of dollars in the market development program, and in export financing programs to spur exports. At the same time, they are implementing user fees and are soft on programs such as cargo preference, both of which have a negative affect on exports.

In an effort to keep the Seaway a viable outlet for agricultural products, the Northern Crops Institute at North Dakota State University has structured market development programs and sponsored a series of grain handling seminars. The seminars have attracted representatives from dozens of countries, about half of which, could be served by the Great Lakes.

The St. Lawrence Seaway has given the Upper Great Plains 25 years of access to foreign markets at competitive transportation rates. If the cost of using the Lakes loses its competitiveness, or if we lose Seaway shipping capacity altogether, the cost to farmers would be indeed detrimental.

OM TANGRI AND DENIS TULLY, PROFESSOR AND RESEARCH ASSOCIATE, DEPARTMENT OF AG ECONOMICS & FARM MANAGEMENT, UNIVERSITY OF MANITOBA-WINNIPEG

The long-run consequence of competition is a very much reduced role for the Seaway.

Our research was designed to determine if unit trains are a more cost effective means of grain transportation than the present system of rail-laker-ocean vessel. What is the most appropriate route for moving grain to the east coast? We looked at four scenarios based on 1983 shipping volumes and 1984 costs:

Scenario 1) Present system of moving grain. Scenario 2) A system that handles an optimal movement of grain using unit trains from Thunder Bay in direct competition with water routes. Scenario 3) Similar to scenario two, except that the grain originates at inland terminals on the prairies and moves directly to the east coast. Scenario 4) Considers the effect of deleting the At and East subsidy.

Results:

In scenario one, the estimated cost of moving 18.48 million tonnes of grain is \$1,504.891 million. This overall cost is a composite of rail, laker, and ocean movements. It includes costs of storage and handling, the full cost of moving grain to its destination.

In scenario two, total shipping costs are \$1,489.786 million. The lower cost is primarily due to removing the constraints in scenario one for moving grain by rail through the At and East routes and by direct rail from Thunder Bay to Quebec ports. Cost reduction is \$15.105 million.

In scenario three, total cost of shipping grain is \$1,457.254 million. **The savings are due to the shift of grain movement from the lakers and ocean vessels to direct unit trains from the inland terminals on the prairies.** Scenario three (direct rail) costs \$32.532 million less than scenario two, which did not allow direct rail from the prairies. Scenario three costs \$47.637 million less than scenario one. Scenario three is the most efficient scenario analyzed. Compared to the present system, it offers approximately a three percent reduction in the overall cost of shipping grain to its final destination.

In scenario four, removal of At and East subsidy routes reduces cost by \$5 million.

Discussion:

The highest cost scenario is the rail-laker-ocean vessel method outlined in scenario one. The lowest cost is scenario three: direct rail shipment to the east coast. Scenario two results in a \$15 million savings from scenario one. Scenario three would cost \$32 million less than scenario two.

When the grain transportation system is allowed to operate without restriction from Thunder Bay east (scenario two), water transportation, not unit trains, is more cost effective. Unit trains direct from inland terminals (scenario 3) are more efficient than either ocean or laker transport. Eliminating the second elevation of grain at Thunder Bay makes the inland unit train (scenario 3) routes most cost effective of the four scenarios.

When you compare these results with our 1981 study, it appears that direct unit trains are still competitive within a 1984 rate and cost structure. Also, in the 1981 study, we concluded that direct ocean movement from Thunder Bay is most cost effective. **Our new results show that it is more cost competitive to move grain from the prairies to the eastern ports using direct unit trains(scenario 3).** The 1981 study also showed that moving grain from Thunder Bay by unit train was more cost competitive than the present system. But our new study shows that with the new cost structure, it is more efficient to move it from Thunder Bay by lake or ocean vessel. **Unit trains from Thunder Bay are less attractive when they directly compete with the water route.**

The original strength of the Seaway was to create a direct ocean route into the Great Lakes. Until this strength returns, continued erosion of the system will occur. Without greater direct ocean movements at competitive rates, the original benefits of the Seaway could be lost.

RALPH O. AVERY, VICE PRESIDENT, BURLINGTON NORTHERN RAILROAD

"There's no question in my mind that we've reached the goal of becoming the fourth seacoast."

In 1959, the Duluth Public Marine Terminal handled 9,844 tons of general cargo. In 1984, it handled 300,000 tons. In 1984, 4.3 million tons of grain and grain products moved through Duluth-Superior compared to 1.8 million tons in 1959.

There has been a decrease in domestic movement in recent years. Milling capacity has moved from Minneapolis, Buffalo, and Kansas City to the Atlantic Seaboard. The hard reds and dark northern spring wheats are moving directly to the Atlantic and reducing tonnage shipped from Duluth/Superior. Development of large subterminals in North Dakota, South Dakota, Minnesota, and Nebraska have also reduced grain shipments. But grain is still the number one commodity moving through Duluth/Superior.

New agricultural crops have helped the Seaway grow. In 1959, no Red River Valley pinto beans left Duluth/Superior for Brazil. In 1984, we moved 5,210 tons of pintos.

Western coal is another example of growth in the Seaway. In 1959, no western coal moved through Duluth/Superior. In fact, there were not even projections of moving this commodity. Moving western coal to Duluth/Superior has become very important to the financial well-being of the Burlington Northern Railroad.

Iron ore is certainly the second most important commodity moving through Duluth/Superior. In spite of

all the doom and gloom projections, I feel we will see improvement. Duluth/Superior is close to rich bodies of ore. The ore is served by two healthy but underutilized railroads operating two efficient but underutilized transfer facilities in Duluth/Superior.

There is hope for Duluth/Superior because we have a state-of-the-art coal transfer terminal linked to vast coal deposits in Montana and Wyoming. We have five private terminals and a public terminal capable of handling an infinite variety of raw, manufactured, and processed goods. I'm told that we can now bag grain in Duluth/Superior. These facilities are served by six major railroads and the interstate highway system.

There are reasons for optimism, but there are also obstacles to overcome. **The number one problem is the trade deficit.** Just because we're producing grain does not mean there's someone out there willing to buy it. The fact is we're losing markets. We're losing our wheat markets to Canada, Australia, Argentina, and Brazil. Wherever you look, we've given up a share of the market. We need a change in government policy. We're acting like free trade is a reality instead of a myth. When free trade is endangered, the Seaway is endangered.

Questions

Why are there more markets for the lower quality grains than for the higher quality spring red wheats?

Dawson: There has been a switch in world eating habits. The world does not eat as much white bread today. White flour for bread is being replaced by other substitutes.

Is the westward shift of exports to the Canadian Pacific Rim overrated?

Dawson: We tend to pay more attention to countries with money. The Atlantic Rim countries like Africa are poorer, but their needs for grain are great if not greater than the Pacific Rim.

What effect will rail deregulation have on Seaway traffic in the next 10-15 years?

Avery: When there is an excess of equipment, the ability to tie rail rates to cover variable but not all fixed costs, does not affect the Seaway.

Comments

Dawson: The Canadians and the U.S. have lost some of their grain markets. The European Common Market is partially responsible for this.

Tangri: Canada is losing more of its wheat market than the U.S.

What is the status of unit trains from Saskatchewan to the east coast?

Tangri: There are no unit trains from the Prairies to the East Coast.

Why aren't unit trains now being used?

Tangri: I don't know. The volume appears to be there.

Does the existence of the Seaway make the railroads more aggressive contractors? Are their prices for grain transportation lower than they would be without the Seaway?

Avery: No. It doesn't work that way. Deregulation along with subterminals and hopper cars allowed the railroads to apply lower margins on rail rates. This had nothing to do with the Seaway, although competition does help lower rates.

Did deregulation speed the development of subterminals and the abandonment of little terminals along branch lines?

Avery: Deregulation did not cause abandonment of branch lines. Deregulation did speed the development of the subterminal concept.

Ross Response: Farmers appreciate competition and deregulation but we are concerned about monopolies. The Seaway provides important competition for the railroads.

Dawson Response: We are not going to see a unit train come out of a center in Western Canada, but we are seeing a consolidation in terminals.

Financial Issues

ERIC BESHES, DEPUTY DIRECTOR, OFFICE OF ECONOMICS,
U.S. DEPT. OF TRANSPORTATION

"There is no reason why the general taxpayer should be asked to pay the costs of government-provided services and facilities when the users of those services are able to meet the costs and there is no overriding social objective to be served by providing a subsidy."

We want to recover Federal costs from users to the maximum extent possible. Urban mass transit is the only area where we recognize a need for ongoing subsidy. Proposals for major new investments must be subjected to marketplace tests.

Freight that is moving as part of a business enterprise intended to make a profit, should certainly pay its own way. When not distorted by subsidy or arbitrary regulation, the marketplace lets shippers decide how much of which commodity they will ship by which mode. When a portion of the carrier's costs are picked up by the Federal government, the rates that a shipper quotes will understate the true cost of moving goods by that mode. **Whenever part of the true cost of any mode becomes masked by subsidy, inefficiency occurs.**

There is nothing quite like the simple test of asking whether the customers will pay for the facility. User charges provide a true marketplace test. They can be very helpful in justifying and financing truly needed investments, or dampening pressures for marginal projects.

Beneficiaries of government transportation are unanimous in wanting stable and predictable government funding over time. User charges provide this stability because the revenue for transportation projects becomes separate from the unpredictable political struggle for government money. And when users pay for the services and improvements they want, rather than scramble for a share of the increasingly scarce taxpayer's dollar, they can be more confident that their real needs will be met.

Not a penny of taxpayer money is spent by the St. Lawrence Seaway Development Corporation. I can safely say that the Reagan Administration intends to keep it that way. We will not reduce or eliminate Seaway tolls. Future improvements will have to be financed by users.

DICK HODGSON, TRANSPORT CANADA

Canada would prefer not to move ahead of the U.S. in any cost-recovery initiative.

Canada and the U.S. share the same reason for Seaway cost recovery. Both governments are committed to reducing their federal deficit.

Cost recovery is a conflict between two considerations: the economic sensitivity of Seaway commercial operations versus federal budget deficits. The purpose of cost recovery is to reduce government involvement in commercial decision-making. To succeed, financially self-sufficient services must be put in place. Determining whether some services could be privatized is thus part of the cost recovery process.

The major ports, the St. Lawrence Seaway Authority,

and the pilotage services already operate on a financially self-sufficient basis. Canada is primarily concerned with cost recovery for Coast Guard services such as ice breaking and navigation aids. I believe Canada is spending around \$60 million for Great Lakes marine administration services. We do not intend to recover all of that, but it gives us something to work on.

We have been rather unsettled by the ups and downs of cost recovery policy in the U.S. Just when Coast Guard or dredging cost recovery looks like they're moving ahead, they suddenly fold.

I think it's important that cost recovery be applied equitably. It's unreasonable to impose a cost burden on the Great Lakes that is not also imposed on the inland waterways. They should either both pay or both not pay, so that they compete on an equal basis.

Canada is committed to thoroughly analyzing the economic affect of cost recovery and in working with the Seaway players that would be affected. Ways will be found to allow users to have a greater say in what government does or does not provide.

Construction And Maintenance Needs

User Perspective Governmental Perspective

User Perspective

JOHN GREENWOOD, VICE PRESIDENT, PICKANDS MATHER

"A trade route stretching from Duluth/Superior to Buffalo and beyond hinges on the operation of a single lock at the Soo. If the Poe Lock fails for a lengthy period of time, the logjam of vessels that would ensue would make last year's ice jam seem like a picnic in the park."

We need an additional Poe-sized lock at the Soo.

The U.S.-flag lakes fleet has 31 bulkers dependent on the Poe Lock. That's 53 percent of the American-flag fleet's hauling power. The 13 1,000 footers alone account for 31 percent of the fleet's carrying capacity. If the Poe is out of service for a lengthy period of time, more than half of the fleet's carrying capacity will be cut off from its primary trade route and, in all probability, idled until the lock is reopened.

The U.S.-flag fleet cannot overcome a lengthy closing of the Poe Lock:

1) The shrinking standby fleet has neither the cargo capacity nor the self-unloading capability to fill the void. The largest non-Poe-class vessels can carry about 25,000 gross tons in a single voyage. A 1,000 footer carries 58-60,000 tons, so even the best of the standby fleet would have to make more than two runs just to equal the hauling power of one supercarrier.

2) Unloading the standby fleet is another serious problem. Most of these vessels are straight-deckers that must be unloaded with hulettts or other shoreside bucket-equipped bridges. But this is the age of the self-unloader. Less than 10 percent of the currently operating U.S.-flag dry bulk cargo fleet are straight-deckers. Hulettts are fast becoming a relic of days gone by. The newest ore and coal ports on the Lakes do not even have shoreside unloading equipment. For example, millions of tons of western coal loaded here in Superior can be delivered to Detroit Edison only in self-unloaders.

Without Poe-class vessels, iron ore and coal transportation costs would increase significantly. American steelmaker's ability to compete would weaken. Some steelmakers might have to turn to foreign sources of ore. If that happened, the sound of pellet's rushing into a hold would become a fond memory in Duluth.

Construction of a second Poe-class lock is not likely to begin soon. But we must at least continue design studies.

Opponents of a second lock claim that tonnages will never rebound, so the \$226 million price tag can't be justified. Others fear that a new class of even larger vessels will be built and harm the environment. I see no foundation for either belief. No new class vessel is in the offing. Thousand footers will be the standard-bearer for years to come. And tonnages are inching back up. But what's most important is that any quantity of cargo moving on the lakes is going to move more efficiently with Poe-class vessels.

A second Poe-sized lock will ensure there is no bottleneck at the Soo as tonnages increase and more third-flag vessels are attracted to the system. The benefits of an additional Poe-sized lock will be truly international.

DONALD ROTHWELL, PRESIDENT, GREAT LAKES WATERWAY
DEVELOPMENT ASSOCIATION

**"User fees have never turned out to be the
panacea that they were expected to be."**

**"We've had 25 years of experience with 100
percent cost recovery and I have yet to see a
year when the Canadian government expressed
satisfaction with the revenues it collected."**

Like all honest economists, I readily admit that I'm
not quite sure what the year 2000 will bring. But I'd
like to describe two eminently possible scenarios:
one optimistic and one pessimistic.

Optimistic Seaway Scenario

Before the year 2000, Seaway traffic has increased to
the point where lock and canal facilities are strained
to the limit. Nearly 100,000 metric tons of cargo
pass through the Welland Canal in 2000 and well over
80,000 tons pass through the Seaway portion of the
system. During summer at both ends of the Welland,
there are frequent clogs, which reach chaotic
proportions late in the fall when the prairie grain
harvest chokes the system.

Carriers and shippers cooperate with the two federal
Seaway agencies to promote the Seaway. The result is
that a back haul has been found for export grain
ships. Ships in ballast are a rare sight. The
shipping season has been extended without damage to
hydro plants by mixing lake water 50-50 with potable
alcohol. Construction of a new Welland Canal is
progressing on schedule. Canada and the U.S. have
agreed on a rational cost recovery program that
recognizes that increasing use of the Seaway is the
only viable approach to reducing the gap between costs
and revenue. The two countries also recognize that

Seaway users must be involved at the policy formation stage if federal deficits are to be reduced at the same time that inexpensive lakes transportation is ensured.

Pessimistic Seaway Scenario

Traffic has declined to a trickle in spite of a strong economy because the Seaway is no longer competitive. Canadian export grain is routed by rail to western Canada and down the Mississippi River. Thermal coal for Ontario Hydro amounts to a few lumps a year. Iron ore remains the only substantial commodity on the Seaway. Ballast water is the second largest cargo. Industries relying on the Seaway have withered. The Seaway's physical facilities are on the verge of collapse because of government cost recovery policy. The government policies initiated are blind to one inescapable fact of life: the way to increase Seaway revenue is to increase Seaway traffic.

There are signs that we are sliding down the tube toward the pessimistic scenario. For example, the Canadian government recently absconded with \$30 million of Seaway money because it had been mislabeled surplus. This money was expected to fund Welland Canal improvements. Last year, the investment revenues from this money amounted to \$5.5 million, an amount that eased the pressure to raise tolls. The seized money was not compensated for by a reprieve from cost recovery. When the money was seized, the Canadian government said that the money would help reduce the federal deficit, but would have no significant effect on Seaway activities. But \$30 million has an enormous effect on the Seaway, and it's an inconsequential one-tenth of one percent of the federal deficit.

We have reason to believe that Canada is moving forward in its plans to impose user charges on navigational aids, ice breaking, and dredging. Such charges are estimated to equal the tolls already

collected: \$57 million. Even if the amount was reduced to \$40, it would have a disastrous effect on grain producers and shipping companies. Steel industries on both sides of the border would become even less competitive than they already are in a viciously competitive world market.

I urge both governments to postpone cost recovery plans and I urge both governments to recognize the need for "user pay, user say." A forum wherein user opinions can affect spending decisions before they are finalized is fundamental to the concept of cost recovery.

HEINER THEOBALD, MANAGER OF LINER SERVICES, FEDERAL COMMERCE AND NAVIGATION, OTTAWA

Containerization in the 60s was a severe blow to the Great Lakes. Change in ship design also affected Great Lakes shipping. Container ships with a wider beam cannot enter the Seaway. Even if they could, they would do so only if there was one central port. The container ship concept is one of port to port. So the container ships stay at the coast and larger bulk carriers come to the Lakes. But with the given restrictions of the locks, there is a limit.

The answer to getting more ships into the Seaway is innovation: new types of vessels and greater fuel efficiency.

What type of service are we likely to see in the year 2000? Fifteen years is too long to forecast. But shippers will always prefer the Seaway if they can get from Europe to Chicago or Duluth to Rotterdam in 15 days. It takes at least twice as long via the Mississippi system.

I believe we must develop faster, more reliable service if we are to recapture some of the cargo lost

to tidewater ports. If shippers can get their cargo moved at the same speed and at about the same cost as they do via the ship/rail connection, they are going to ship the direct route via the Seaway. Their cargo gets handled one less time and does not get tied up at an East Coast port bottleneck.

Fednav just started the only direct Ro/Ro service between Northern Europe and the Great Lakes. The Lakes can now compete with fast East Coast service. Instead of the normal two to three weeks transit time, the most recent voyage did Toledo to Bremerhaven in 11 days.

Probably the most difficult problem is the frequency of services available from the Great Lakes. Shippers can send their containers to East Coast ports and find a sailing to Europe every day. Lakes service outbound for containers and cargo shipments would be every three weeks at best. But the main commodities in the overseas trade are steel cargos into the Lakes and bulk cargos such as grain, ore and coal out of the Lakes. Since these are not as time-sensitive, transportation cost dictates the route.

Vessel technology 15 years from now is difficult to predict. Self-unloaders and fuel efficiency will remain important. A tug and barge operation adapted to the Lakes might come about some day.

As far as commodity movement goes, there will always be a certain volume of steel cargoes moving into the Lakes. The heavy lift and machinery business will continue to be of interest for a long time to come.

Probably the most worrisome part of the Seaway in the next few years is the dearth of outbound grain, a traditional mainstay of the Lake's exports. Deregulation of road/rail, and water rates will not help the Great Lakes cause. And good grain harvests in Europe will dictate that the sellers and ship

owners look for less traditional markets, like North Africa and the Middle East.

Winter closure of the Seaway is a major drawback. I don't believe that year-round navigation can be economically justified. Current cargo levels don't justify it. Insurance rates for winter navigation would be prohibitive. There is more wear and tear on ships and ice-class tonnage is more expensive to operate. Perhaps a way around the problem is for the Great Lakes to collectively organize rail service to an ice-free port from a few central ports in the Lakes.

Government Perspective

BRUCE MCCLEOD, DIRECTOR OF CORPORATE PLANNING, ST. LAWRENCE SEAWAY AUTHORITY, OTTAWA, CANADA

We will not build a new generation of Welland locks in the near future.

A new canal would cost \$2 billion plus another \$2 billion for accompanying St. Lawrence section improvements. We've had no problem with queuing since the mid-60s and we don't foresee a problem.

We've spent a lot of time studying the Welland and have developed a simulation of Welland Canal operations. We estimate that the present locks can handle 130 million metric tons per year without new construction. Today they are handling 50 million metric tons. You can see that there's lots of spare capacity.

We're not likely to see the demand necessary to justify building larger locks. But if we did, twinning locks at today's length would be more effective than twinning with larger locks.

Constructing longer locks in the rapidly climbing Niagara Escarpment and trying to handle all the water involved adds an unbelievable expense. The costs get out of hand even if you build incrementally over many years.

We also found in our studies that the cost advantage of larger ships was not very great. That's because we would only be doubling capacity instead of increasing it ten-fold, which happened when we shifted from pre-Seaway canallers carrying 2,700 tonnes to today's maximum of 27,000 tonnes.

Our studies suggest that we should look for ways to reduce the cost per ton in ways other than building new locks. Shunter technology combined with a shift toward barge traffic on the Seaway might significantly lower costs.

Capital Plans

We will spend just a few million dollars a year. We will choose projects that improve safety and speed of movement through the canals. Computer-assisted traffic control is one such capital improvement. Computerized traffic control could help us prioritize cargos, giving preference to time-sensitive cargos. The industry would develop the priorities. We would gladly implement their plan.

Maintenance Capital improvements over the past 20 years have done a lot to rehabilitate the canal. A complete rehabilitation of the Welland Canal to ensure efficient operation beyond the year 2000 would not cost more than a few tens of millions of dollars. A good part of this work would be accomplished without a special program, since maintenance costs normally represent some \$30 million annually.

We will be using the present Welland Canal for at least another 50 years.

PHILLIP MCCALLISTER, CHIEF, PLANNING DIVISION, DETROIT DISTRICT CORPS OF ENGINEERS

"I'm going to tell you some things that are considerably different than what you just heard from the Canadian side."

We are conducting a great deal of analysis of the Great Lakes-St. Lawrence system so that the needs of commerce can be responded to through the year 2000 and beyond.

Update on the Great Lakes Connecting Channels Study

Four alternative plans are being analyzed:

- 1) Construct a new lock at the St. Marys Falls Canal
- 2) Deepen the Southern Lake Michigan Harbors to permit increased drafts on intra-Lake Michigan transits.
- 3) Deepen Lake Superior Harbors and Upper St. Marys River to permit increased draft during periods of high water levels on the lower lakes.
- 4) Improve seven harbors on the upper Great Lakes to accomodate 1,000 footers.

Soo Lock

Colonel Beurket has recommended that a new lock be constructed. There is overwhelming support for a new lock. No adverse environmental impacts have been identified. The efficiency of existing locks would be adversely affected if no action is taken and the facility was reduced to a two lock system. Significant delays would result. The Great Lakes fleet is too dependent on the Poe Lock. An accident would cause serious delays and economic loss. A new lock is also necessary to meet potential national defense requirements.

A new lock would provide maximum economic benefit. The proposed lock would be 1,294 feet long, 115 feet

wide and 32 feet deep over the miter sills. Total estimated cost is approximately \$227. Total average annual benefits from the plan are estimated at \$34.8 million, with a benefit/cost ratio of 1.4 to 1.

The proposal is currently under review at the Board of Engineers for Rivers and Harbors.

Proposal to deepen portions of Upper St. Marys River and Duluth Harbor

The deepening would ensure a maximum safe draft of 26.5 feet at low water datum. Estimated cost is \$11.1 million. Estimated average annual benefits are \$15.1 million. Average annual cost is \$1.1 million. The cost/benefit ratio is 14.8 to one. The final report will be completed in September '85 and then forwarded for Washington-level review.

St. Lawrence Seaway Additional Locks Study

Four alternative plans:

- 1) Duplication of the existing Seaway sized locks throughout the entire lower United States and Canadian systems.
- 2) Construction of class 10 locks and navigation channel widening to accommodate the larger vessels.
- 3) No action
- 4) Construction of vessels longer than the current Seaway-sized vessels, but shorter than the class 10 lakers.

A draft final feasibility report and environmental impact statement are due in August 1987.

Major Rehabilitation Projects Initiated in 1985:

1) West Neebish Rock Cut-replace the existing walls with a new concrete surface that will continue to give visual assistance to vessel masters as they complete this difficult passage. Work will be completed in fiscal year '89. The project may not be approved for funding by Washington. If not, we intend to proceed with rehabilitation on an incremental basis, using annual maintenance funds.

2) Duluth Harbor-rehabilitation of entry pier walls will be underway this summer. Existing pier walls will be covered by steel sheet-pile and a new concrete cap will then be placed over the top of the piers. Total cost is approximately \$13 million. Work should be completed in late 1987.

3) Milwaukee Harbor-rehabilitation of the north entrance pier and most of the north breakwater. Construction begins in 1985. Existing pier will be covered by steel sheet pile and a new concrete cap will be placed over the top. North breakwater will also be completed at this time. Total cost is approximately \$14.7 million. Work should be completed in late 1988.

4) Muskegon Harbor-rehabilitation of the north and south breakwaters and the south revetment. Steel sheet pile will be covered with a concrete cap and new toe stone protection. Work should be completed by spring '87 at a cost of approximately \$9.8 million.

Also, currently under Washington-level review is a reconnaissance study on major rehabilitation of the Eisenhower and Snell Locks. The study would look at deterioration of concrete in the Eisenhower lock and stability of the lock walls in both locks. Total repair cost is approximately \$40 million and would take four years to complete.

Questions

Comment to McCleod: The Seaway is run very cost effectively, even though we do not operate for 3.5 months. There are 259 operating days a year and a total Seaway capacity of 9,065 ships a year. Today we operate at about half of capacity. This leads me to conclude that full cost recovery for the Seaway is unrealistic and should be reconsidered at the current levels of traffic.

Does high water in the Great Lakes affect the depth of the locks and allow shippers to increase tonnage?

McCleod: The system is still limited by the connecting waterways. We are operating today at a draft one foot higher than 15 years ago. But it would cost billions to increase the draft of these channels.

Have your studies considered the fact that the size of ocean vessels is increasing?

McCleod: We recognize that new generations of ocean vessels will be excluded from the Great Lakes because of their increased draft. This is a real serious long range trend.

Will future locks be designed to serve only the existing fleet?

McCleod: There are a few local fleets who do build ocean vessels for the Seaway. Otherwise we do not expect to attract other major ocean fleets. That's a fact we have to face.

Are the Corps' plans affected by cost recovery?

McCallister: Our plan for a new thousand foot lock at the Soo is subject to cost recovery. There is no local sponsor. All costs will be borne by the federal government.

Commodity Trends And Markets

HAZEM GHONIMA, SENIOR ECONOMIST, ST. LAWRENCE SEAWAY AUTHORITY

"Changing commodity supply as well as demand and flow patterns will cause fluctuations in Seaway traffic, but the future viability of the Seaway is linked to and ensured by the fact that it is first and foremost a bulk cargo route strategically located within the world's largest agricultural and industrial region."

Under the most probable scenario, Seaway traffic will grow an average of 2 percent annually over the next 15 years. By 2000, cargo movements should reach 65 million tonnes on the Montreal-Lake Ontario Section (MLO) and 73 million tonnes on the Welland Canal. Grain, iron ore, and coal are basic to Seaway economics, accounting for 75 percent of traffic.

Grain

In the year 2000, grain will be the largest component of Seaway shipments, accounting for half of all Seaway cargo. Grain traffic could fluctuate between 25 million tonnes and 45 million tonnes, of which 20.5 is Canadian and 15.6 is U.S. grain. Over the next fifteen years, Seaway grain traffic should increase at an average annual rate of two percent. Growth in Seaway grain traffic will be lower than growth in world grain trade. Most growth in North American grain exports will go to Asia and Africa, which are not major Seaway customers. Also, Western Europe, an important Seaway customer, is expected to reduce its grain imports. Future Seaway grain volume hinges on superpower politics and on whether the Eastern Bloc achieves grain self-sufficiency.

Iron and Steel

Seaway iron ore shipments come primarily from the Quebec-Labrador region to Canadian steel mills on Lake Ontario and to U.S. mills on Lake Erie and in the Pittsburgh-Johnstown-Youngstown region. Substantial tonnage is carried downbound through the Welland from Lake Superior.

Seaway traffic on the MLO section competes against three alternative routes/modes: Quebec-Labrador ore transported by ocean vessel to U.S. Atlantic ports and then by rail, U.S. Mesabi ore moved by vessel from Duluth/Superior to U.S. Lake Erie, and South American ore shipped to U.S. Gulf and Atlantic ports.

Factors that affect Seaway iron ore traffic include 1) demand for finished iron and steel products in the U.S. and Canada, 2) the share of domestic and imported steel in the total supply, 3) steel-making technology (yield and furnace mix), 4) material uses and the performance of steel mills located within the Seaway region, and 5) transportation cost competitiveness. Our analysis shows that the effect of transportation cost is diluted by the vertical integration of production, distribution, and consumption of iron ore in this industry.

By the year 2000, Seaway iron ore traffic will vary between 10 million and 18 million tonnes on the MLO, with the most probable amount being around 15 million tonnes.

Coal

Seaway coal movement is primarily from U.S. mines transferred to lake vessels at Lake Erie ports and bound for Lake Ontario generating stations and steel mills. By 2000, coal traffic on the Welland Canal could fluctuate between 5 and 13 million tonnes. The most probable scenario shows 7.3 million tonnes.

JERROLD PETERSON, DEPARTMENT OF ECONOMICS, UNIVERSITY OF MINNESOTA--DULUTH

There is significant potential demand for biomass (wood&peat) as an energy source in the Lower Great Lakes region. Such demand could increase bulk cargo shipments on the Great Lakes.

In 1980, potential U.S. demand for biomass was estimated to be 1.2 trillion BTUs. Gross sales of this quantity might generate \$2.96 billion. Such biomass generated energy would replace \$4 billion worth of other energies. If this biomass was transported on the Great Lakes, shipping activity would increase by 7,200 vessel trips each year: a \$1.1 billion per year increase in shipping activity that includes loading, storage, and shipping costs. If the current raw BTU price spread between biomass and other energy forms continues, there should be adequate economic incentive to develop marketing infrastructure and to expand the technology for using wood-locked energy.

But shipping biomass energy products on the Great Lakes suffers from lack of markets and lack of an infrastructure capable of developing markets. Biomass energy lacks markets because it is a low quality energy source. It's dirty, hard to handle, and difficult to store.

Transportation infrastructure is good but the supplier infrastructure is not. Small timber harvesting companies have neither the expertise or the financial capital to develop a market for biomass energy. Large timber harvesting companies are reluctant to advocate using wood as an energy source, because they are afraid that resources used for pulp and paper products will dwindle and the price of their own raw materials will increase.

The biomass industry does not have someone comparable to an Exxon, which developed the oil infrastructure, or a U.S. Steel, which developed the coal infrastructure. The biomass industry needs someone who can bring the product to market.

Shippers may be the ones to develop such an infrastructure. The economic incentives are there, but it's going to take risk and effort to find the best ways to get biomass energy products to market.

DAVIS HELBERG, DIRECTOR, SEAWAY PORT AUTHORITY OF DULUTH

"We've gone from the green revolution to the gene revolution and tremendous agricultural yields are possible worldwide. But in less than 50 years the world will have to feed over 8 billion people and much of the needed food will move through the Seaway."

Duluth ships a greater variety of grain products than any other port. We don't know what's going to happen to the genetics or to the demand for these products, but the sunflower phenomenon can happen again. Ten years ago, we shipped very little sunflower seed. Then came sunflower hybrids and we were moving 1.2 million tons.

Although our shipping volume has decreased since 1979, our number of destinations has increased. In 1979 we moved 6.5 million tons to 29 different countries. Last year we moved 4.3 million tons to 35 countries. We are expanding to new parts of the world and have added 18 new countries to our 1984 destination list.

Some predict that by the year 2000, 50 percent of the world's fleet will be too big to come through

the Seaway. But 80 to 85 percent of the world's ports won't be able to handle those big bombers. A lot of ports and markets can be served by the Seaway, with conventional ships or through a feeder system.

The locks should accomodate 1000 footers with 110 foot beams.

Mississippi River barge rates exert a tremendous competitive pull, especially on our marginal drawing areas. But such low rates can't last forever.

New products are important to our future. Peat products, logs, pulp wood, and fuel wood have a lot of potential.

Cost is the major competitive factor that we can control. And in our business, cost is what it all comes down to.

Government's Role

S. THOMAS ROMEO, MARKET DEVELOPMENT, MARITIME
ADMINISTRATION, WASHINGTON, D.C.

"Many think that cargo preference laws are handicaps to growth in U.S. imports and exports. Nothing could be further from the truth."

"There will be no change in the cargo preference laws."

We are the only major developed country with formal government cargo preference rules. Underdeveloped countries with merchant marines have much more vigorous programs than ours. Their preference procedures cover all commercial cargoes not just government cargoes. I can cite cases of U.S. manufacturers who used non-national vessels and faced heavy fines such as 200 to 300 percent duty tariffs or being forced to take cargo back. We've never done that sort of thing, but we're accused of having arbitrary and rigid laws and procedures.

There is a real lack of understanding of what the 3 cargo preference laws actually are:

1) Military Transportation Act of 1904 forces the Dept. of Defense (DOD) to use U.S. flags if service and reasonable rates are available. But most DOD cargo moves through the Military Sealift Command or the Military Traffic Management Command.

2) Public Resolution 17 requires that an institutionally funded government program cargo must go 100 percent on U.S. flag vessels. But recipient nations with merchant marines that don't discriminate against other flags can move up to 50 percent of cargo intended for them.

3) Public Law 664 says that at least 50 percent of all government impelled cargo must be shipped on U.S. flag vessels. It's the most comprehensive law. It eliminates gaps and more narrowly defines the 1904 law.

The intent of the laws is to provide the U.S. Merchant Marine the opportunity to participate in federal cargo movement. I stress opportunity, not license. Service availability and reasonableness of rates are the basis for U.S. flag use, and these are the most confusing aspects of the laws.

In calculating reasonableness of rates, my office calculates an acceptable rate based on costs of operations and amortization plus a reasonable profit. We do not use as a gauge foreign flag rates or quotes. Lack of direct origin to destination service does not constitute lack of service availability.

If the government has title to the cargo at the time of shipment, it will be routed by the government. If the cargo is generated by a govt. program, loan guarantee, or grant, the government rarely has responsibility for routing. Cargo preference applies only to artificial export-import transactions. They are artificial because without the government's impact, the export or import wouldn't exist. With cargo preference, part of the government expenditure returns to the economy and maximizes the utility of the transaction.

NORM HOUSER, DIRECTOR, KANSAS CITY COMMODITY OFFICE,
USDA

"There will be a change in cargo preference rules whether it's wanted or not."

Unpredictable government policy is a particularly big

problem for the Great Lakes. We may have been supplying processed foods for a country when suddenly we change to whole grain. That sort of thing has a disastrous effect on the shipping infrastructure.

Commercial navigation is too dependent on government programs. Our policy should be that we are a minor, not a major customer of shipping services on the Great Lakes. There should be other types of programs and commodities moving through the Lakes.

We are seeing some commodity changes, such as the increasing importance of lupine beans. Of course, there are also negative changes, such as the boom and bust of sunflower seeds.

Our Title 1 and Title 2 programs are also changing. Title 2 is a donation program; Title 1 is a preferential credit program. Title 1 has the greatest potential for market expansion, in part because program recipients like Brazil and India will make an economic move up from Title 2 to Title 1.

I see great expansion of sales programs, even to the most economically depressed countries. We will practically give them the commodities if they can pay for transportation. The newest sales program is BICEP, an export payment-in-kind.

During the next few years, it will be difficult for any nation to maximize their foodstuff exports. Right now, weather conditions are such that everyone has the potential for a successful crop.

We will continue to see great changes in transportation, such as bigger, more specialized containers, use of barges on the Lakes, and more emphasis on feeder services.

COLONEL FRANKLIN D. BORBORAK, DEPARTMENT OF DEFENSE,
MILITARY TRAFFIC MANAGEMENT COMMAND, EASTERN DIVISION

"Responsive, economical service is the key to increased use of the Great Lakes by the Department of Defense over the next fifteen years."

We are a major customer of the transportation industry and we constantly look for new ways to gain maximum return on every dollar we spend. "FedNav", an American flag ocean carrier serving Europe from the Great Lakes, eliminates one barrier we consider important when deciding whether to ship from the Great Lakes.

The Military Traffic Management Command decides what, where, and how cargo is to move. We look at the Great Lakes ports along with all other U.S. ports for services provided to various regions of the world. We have routed cargo through the Great Lakes since 1977, although the quantities have not been great. Lack of American flag service to Europe is an important disability to using the Great Lakes. All Department of Defense freight generated throughout this region will continue to be reviewed under guidelines of lowest delivery cost.

RICHARD HODGSON, DIRECTOR GENERAL, MARINE POLICY &
COORDINATION, MARITIME ADMINISTRATION, TRANSPORT
CANADA

"It is the absence of U.S. grain rather than the threat of cost recovery which presents one of the major economic problems for the lakes."

Alternative routes, waterway expansion projects, U.S.

foreign policy, U.S. regulatory policy, U.S. grain marketing policy, and the U.S. economy create uncertainty of demand for U.S. grain. Inability to forecast demand causes inefficiency and unused capacity. If ship operators and service agencies reduce their capacity to match present low levels of demand, sudden re-expansion would disrupt export flows, particularly for Canadian grain, which has a much more limited route choice. **The entire system is placed in a situation where it is endeavoring to maintain capacity for maximum demand while still seeking ways to operate economically at levels of demand significantly below the maximum."**

We should look for ways to discourage use of the Great Lakes as a surge route only. Long term commitments from shippers are needed. Then we would have some guarantee of future capacity and the gap would close between average and peak demand levels. **"Low levels and wide fluctuations in Great Lakes transportation demand are more critical than the need for additional capacity."**

Climate is another problem influencing marine transportation policy on the Great Lakes. Ships do not operate well in ice. There are considerable problems with extending the season. We must face the fact that the system effectively becomes inoperative for three and a half months. **It is clearly difficult to market a transportation service than only operates for part of the year when shippers need year-around services.**

It makes sense to find ways of moving floating capacity out of the system in winter and use it elsewhere. Companies like Misener have constructed the "salty-laker" in an effort to find winter business on the international market. It is unfortunate that a number of U.S. and Canadian policies frustrate this initiative. Canada's tariff payment for importation

of ships to be used in domestic trade has frustrated shipping mobility between domestic and international trade. Pilotage policies are also a problem.

The Great Lakes must be seen as an efficient transportation system. That means cooperation of all aspects of the system, maximum use of facilities, minimum imposition of unnecessary costs or regulatory impediments, and maximum use of available technology. We must find ways of attracting steady, predictable cargo. Pilotage and safety regulations should only be imposed when necessary. We must explore container handling technology such as Ro-Ro or LASH feeder systems that could avoid using shore-based infrastructure. These would make seasonal use of the Great Lakes more attractive.

Questions

What kind of military cargo is now shipped on the Great Lakes?

Borborak: On June 29 we are shipping 4000 military vehicles out of Detroit. A lot of things made this possible. Many of our MSC ships were withdrawn for exercises. And our low cost carrier maxed out in cargo and was unavailable. In the future, we will have to go to ports outside the Great Lakes unless a similar situation arises or service and cost improves on the Lakes. On the average, we ship about 2,000 tons per year through the Great Lakes--not very much. I don't foresee any great influx of military cargo to the Great Lakes.

Do you foresee any changes or compromises in U.S. flag requirements?

Romeo: The Reagan Administration's position is that there is not going to be any expansion or contraction of the cargo preference law. Agricultural lobby groups have made a lot of false statements about how cargo preference restricts agricultural exports. That's just not true. In 1983, agricultural exports totalled 145 million tons. Cargo preference on U.S. vessels affected 2.9 million tons, less than 2 percent of total agricultural exports.

What is a fair and reasonable rate and how do you determine it?

Romeo: The statute says fair and reasonable rates for U.S. flag vessels. It does not say fair and reasonable as compared to foreign flag vessels. We establish the rates as a ceiling and we do this on a vessel by vessel basis. Currently rates are fixing significantly below the ceiling because of competition. Our rates are specific for a particular

movement from the tender terms, for the quantity a vessel can carry and a reasonable profit. We generally do not do less than full cargo ceiling rates.

When you compare a rate for 10,000 tons of bagged goods on the Lakes, do you look at a full vessel basis of 20,000 tons?

Romeo: No, it doesn't work that way. When the sponsoring agency comes to us, it has already allocated the cargo. We don't calculate a number of rates for a multitude of vessels for a particular transaction. For example, the USDA might come to us and say they have 25 thousand tons of grain going to Sudan from New Orleans and that such and such a vessel offered in. Then we calculate the ceiling rate. That's the sequence we use. Calculation of ceiling rate has nothing to do with their allocation process. We calculate the ceiling rate after the vessel and destination have been chosen. We then calculate the rate for that specific vessel.

At what rate difference would you turn down a U.S. flag vessel?

Romeo: We are not required to fix a vessel if it won't come down to the ceiling rate. If the vessel is above the ceiling rate, we offer him the ceiling rate. If he refuses to take it, and he's the only American vessel, then we are absolved from having to use that vessel.

Is there an official body that coordinates Canadian and U.S. policy for Great Lakes shipping?

Hodgson: No. And only in the last two or three years have we recognized the need for such a body. Right now, the primary coordinating links are between the pilotage agencies, Coast Guard, and Seaway agencies in both countries.

Panel Of Reactors Perspectives On The Future

BRUCE MCCLEOD, ST. LAWRENCE SEAWAY AUTHORITY

I've met a lot of people who are either very optimistic about the Seaway or very pessimistic. A balance between these extremes is the most realistic.

History shows that the Seaway will be used for many different cargos. Some will fall by the wayside, and others will take their place. We are experiencing a decline in bulk cargos. The recession uncovered this trend. It did not cause the trend. **Growth is going to be much less spectacular than we predicted in the 1970s.**

The Seaway has become extremely dependent on grain. Over 50 percent of bulk cargo is grain. Selling that grain has become a problem. We are selling less grain to a greater number of countries. Some countries that used to buy are now competing with us as exporters.

Running out of capacity is not a problem. None of our competition has a capacity problem either. All transportation modes are competing to fill empty capacity.

We will not be getting larger boats. **We are moving away from the original dream of being open to the world's ocean vessels.** At one time, 35-40 percent of traffic came from the ocean fleet. We are now down to 20 percent and it will drop further. As the importance of ocean vessels declines, hybrid vessels may be built to pick up the slack. We could provide feeder services for the big ocean going vessels.

Mississippi barge rates are artificially low. But that problem will sort itself out.

The Canadian budget sends clear messages to the Seaway: there will be user recovery and there will be no subsidies for ship building. Canada in the future will reward success, not effort. Perhaps our industry is known for its effort, not its success.

The future will be largely unlike the past. But there will be traditional cargos to move and we will have clear sailing on capacity.

Our dependence on international trade will continue to grow. But we can't sit back and expect those cargos to come our way. We have to identify markets, analyze what's not coming to us and why, learn more about the competition and take cargo away from them. We all are aware of the electronics revolution, yet we have not applied it to improving the efficiency by which goods are moved on the Seaway.

Iron ore shipments have declined, but they are still a strong commodity. Imports of finished steel are increasing. So the Seaway provides a contribution to the steel industry, whether it's finished steel or ore. Manufactured steel will be a stronger commodity in the future--one that we can take away from competing routes. Even shipping imported coal up the lakes would be good use of the waterway.

In the future, we'll become more interested in smaller chunks of cargo. Some cargos will run for only a few years at a time, but they will be replaced.

It's simplistic to say that we must keep costs down. The user pay costs now being introduced are really quite reasonable in terms of their percentage of cargo value. **We can't waste all our energy harping on the traditional questions of user fees.** Our primary concern should not be cost reduction, but identifying our strengths and identifying new markets.

Let's stop moaning about the past and get on with the future--with becoming more efficient and finding new markets. The Seaway has not outlived its usefulness.

ERIC BESHERS, DEPUTY DIRECTOR OF ECONOMICS, U.S. DEPARTMENT OF TRANSPORTATION

Forecasting the future is nearly impossible. Extrapolating current trends is almost certainly the way to get it wrong.

I'm skeptical of proposals to spend federal money. Predictions of dispair from regions that want federal money are rarely born out.

In the absence of cost recovery, the Seaway won't look any different than it does now. The traffic is going to have to pay for any improvements or season extension. I can't imagine either federal government using tax dollars to fund Seaway improvements or season extension.

It's not necessarily true that the Seaway is essential to the economy of the Great Lakes.

MARK THOMPSON, SEAWAY REVIEW MAGAZINE

The first priority for the U.S. bulk industry has got to be the construction of a second Poe-sized lock at the Soo. Too much of our Great Lakes carrying capacity is dependent on the Poe Lock. A shutdown would devastate the Great Lakes fleet and cripple Midwest industries.

We are being too nonchalant in predicting the impact of user fees on the Great Lakes bulk fleet. A lot of damage could be done. Shipping companies could fail and we would lose competitiveness. **If user fees must be applied, then they should be applied equitably.**

U.S. support of the Seaway and the Merchant Marine has been shallow and minimal. The U.S. Merchant Marine is essential to the defense of our country. We cannot rely on foreign flag vessels to support the national defense interests of the U.S.

There are three crucial issues for the future of the Seaway: marketing, marketing, and marketing. I would hate to come back here in the year 2000 and have to report that Europe is still unaware of the Seaway. We have the capacity to serve world trade more than we do now.

We must commit ourselves to a nine to ten month season. We have to be consistent with season length, so that shippers can plan far in advance.

We need to improve vessel technology: personnel as well as ships. We must reduce crew size and improve training of mariners. Our 30-man crews can't compete with international vessels running with 20 or less crew. Our vessels are among the least sophisticated in use of micrologic technology for navigation and engineering. We must speed up the adoption of such technology.

We must diversify the Great Lakes fleet, perhaps by adopting tug barge technology. In the future, we may see tug barges pushing manufactured as well as bulk products, and acting as feeder service to the lower Great Lakes.

DAVIS HELBERG, DIRECTOR, PORT AUTHORITY OF DULUTH

We are about as close to having a cargo crisis as we've ever been.

If we'd had a conference 15 years ago, I venture to say we would have expected to be moving a hell of a lot more cargo today than we are.

People expected the streets of Duluth would be paved with gold because of the Seaway, but it didn't happen. It's had a very positive effect, but it could do so much more.

We're experiencing ferocious competition from the river barges and railroads. But the barge rates will go back up and the railroads can't be giving away tonnage forever. And they won't always be bailed out by the federal government.

We've got to do everything possible to keep costs down. In cutting costs at the terminal, we've cut things so close to the bone that we're at the marrow.

User fees and Seaway tolls are part of the cost problem. Tolls have become a psychological barrier for a lot of people. And it's an angle used against us by the railroads and East Coast and tidewater ports. I know from experience that tolls immediately put us on the defensive in marketing negotiations.

User fees are like a camel trying to get its nose in the tent. Because once you create a revenue source, it's tappable. The rates will go up over time to keep up with demand for that revenue source. Next thing you know, the camel is in the tent and our problems have grown. **We're already paying user fees and that's the chief reason we've been somewhat rebellious.** It all comes down to cost.

We've got to do a better job of pounding on the doors at state, federal, and provincial capitals. We've made it known that we're not about to buy any kind of user fee scheme unless the special situation of the Seaway is taken into consideration.

We've got to market, analyze the competition, develop interest among processors, growers, and manufacturers, and participate in the international market. It takes education, aggressiveness, hustle, and knowing what you're doing.

JERRY COOK, DIRECTOR, PORT OF THUNDER BAY

If I don't make a profit, I don't have a job.

We minimize uncertainty about the future by planning. Our planning makes us very positive about the future. Our tonnage will be up 30 percent in 1995. We'll handle a greater variety of grain products, and we will see growth in forest products, potash, and petro-chemicals.

As a sign of things to come, we just loaded a Chinese ship christened in 1983 that has 14 crew members and no one in the engine room.

It will not be possible to bypass Thunder Bay with unit trains of grain. It's an option, but our planning indicates it will never happen because the infrastructure to make it work is too expensive: \$300 million of rolling stock, \$52 million worth of engines, and hundreds of millions of dollars to improve the rail bed.

Negativism of bureaucrats is the single greatest impediment to making progress on the lakes.

Canada has a misguided obsession with the Pacific Rim. In the past three years, Canada has dumped more than \$1 billion into chasing that magic thing, and it's falling apart. It's not there. So when we talk about problems of the Seaway, such as enlarging the Welland Canal for \$2 billion, it doesn't bother me. We can do it if we think positively, because our little country of 25 million just dumped a billion dollars on our west coast and we're not going to get our money back.

China exported grain in 1984 and in 1987 they may export 50 million tons of grain. Whether they reach that projection or not, they are going to be an inroad.

Pilotage is the worst scourge we've got on the St. Lawrence system. It's an abusive system and one I think we can change.

Thirty-five percent of Seaway cargo passes through Thunder Bay. Add Duluth to that and Lake Superior is in a very strong position to play a leadership role on the lakes in solving problems.

Things are going to turn around. I'm not pessimistic about the Seaway.

Questions

What is the likelihood of reducing the number of sailors on the Great Lakes?

Thompson: Reductions in crew size will be very difficult. But the problem comes down to having some sailing jobs or having no sailing jobs. The Europeans are a decade ahead of us on this. The Maritime Administration has a demonstration project looking into crew reductions. And Ford Motor Company is working on it. I've met sailors that are willing to make concessions because they see the realities. We need fewer and better trained crew. Shipping companies need to move ahead on this.

Cook: Canadian employers are dedicated to making dramatic reductions in labor force. We've built six new ships, for which manpower has been cut by 60 percent. The number of shore workers has also decreased. We've gone from 26 grain elevators in 1965 to 17 elevators; from 7.8 million bushels of grain in 1965 to 18 million, and we've done it with a 50 percent smaller work force. The work force may drop another 50 percent by the 1990s. At the Thunder Bay docks between 1980 and '85, we've reduced labor by 75 percent but are handling double the cargo.

Labor Advocate: Regarding labor cut backs, we can't keep cutting back on labor and expect to sell all of our goods to people who work at fast food restaurants. Our economy depends on reliable purchasing power.

General Comment From Port Rep: There is a rather depressing contradiction in what we're being told by both federal governments. We're told we won't be getting the larger ships but that we must take cargo away from routes that accommodate the larger ships. Secondly, we're told that federal funds are not

available. But federal funds are available, just not to the Seaway. The Tennessee-Tombigbee Waterway is an example.

What is the user fee schedule for the Tenn-Tom Waterway?

Beshers: The same as any other inland waterway: 10 cents per gallon of fuel. In regards to the Tenn-Tom, I don't believe one boondoggle justifies another. Secondly, I think we spend too much time trying to revive what was, instead of concentrating on what could be. Eliminating user fees has nothing to do with cost reduction. The costs are there. Somebody is paying them. Subsidy masks inefficiency. Inefficiency does not make a competitive economy. As for the shallowness of U.S. support for the merchant marine that was mentioned earlier, the government should have never gotten involved in the first place. An outrageous deal was made to create a highly privileged, over-paid guild. The U.S. taxpayer paid for it.

Helberg (regarding political efforts): We often overlook the reality that virtually every Great Lake State has a river system or another coast at their southern or eastern border. The states are very attuned to the inland water system. Our efforts bog down when they clash with inland waterway interests.

McCleod: Going back to what was said about bigger ships and unused capacity, I'm just stating facts when I say that there will not be bigger ships and there will be lots of extra capacity. That's life.