HJR 72

HOUSE COMMITTEE REPORT

(9)
Date Referred: January 31, 1990 FURTHER REFERRALS:

Date of Committee Action: 2/1/90

The RESOURCES Committee considered: HJR 72

HOUSE JOINT RESOLUTION NO. 72 DOUBLE HULLED OIL TANKERS

Relating to requirements for the carriage of oil in double-hulled tankers.

RECOMMENDATIONS:
[X] be replaced with CS HJR 72 [X] the same title [ ] a new title
[ ] have attached amendment(s)
[X] do pass
[ ] do not pass
[ ] no recommendation
[X] individual recommendations
[ ] additional referral to the _____ Committee

ADOPTS: _____ letter of intent

ATTACHES NEW FISCAL NOTE(s): (Dept) APPROVES PREVIOUS: (Date/Dept)

[ ] fiscal impact _____ [ ] fiscal note(s) _____
[X] zero fiscal note Transportation [ ] zero fiscal note(s) _____
[ ] zero with analysis _____ [ ] zero fn/analysis _____

SIGNING DO PASS:

Scott Hennen
Mike McCrane
Bill Finkbeiner

SIGNING: (Check approp. column)

	Do Not Pass	No Rec	Amend
Mike Davis			
Bert Knudson		X	

Scott Hennen
Chairman's Signature

No. 1

CC

STATE OF ALASKA
1990 LEGISLATIVE SESSION

BILL VERSION: HJR 72
PUBLISH DATE: HOUSE 1/31/90

FISCAL NOTE

REQUEST: House Transportation Committee

Revision Date: _____
Title: ~~requirements relating to~~ the carriage of oil in double hull tankers
Sponsor: corten, Kubina, menard, Davis
Requestor: House Transportation Committee

Agency Affected: Revenue Dept.
BRU: _____
Components: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 90	FY 91	FY 92	FY 93	FY 94	FY 95
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-0	-0-	-0-	-0-
CAPITAL	-0-	-0-	-0-	-0-	-0-	-0-
REVENUE	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL						

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY	-0-	-0-	-0-	-0-	-0-	-0-

ANALYSIS : (Attach a separate page if necessary)

Prepared by: Wade Mullen House Transportation Committee Phone: 465-4858
Division: House Transportation Committee Date: 1/30/90

Approved by Commissioner: Richard [illegible] Date: 1/30/90
Agency: _____

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Requestor
Office of Management and Budget
Impacted Agency(ies)

BLUEPRINT FOR DISASTER
The oil spill that didn't have to happen

The Coast Guard talked tough in the 1970s about its role in preventing oil spills, but over the years those words never translated into action as the service grew closer to the industry it was supposed to regulate.

EMPTY PROMISES

The Coast Guard cutter Rush was on hand when the Exxon Valdez was moved off Bligh Reef in April.

Coast Guard bowed to industry pressure

By STAN JONES
Daily News reporter

In the 1970s, the oil industry and its friends in government were ready to promise almost anything in return for permission to turn on the pumps at Prudhoe Bay.

One of those promises was that, under tough U.S. Coast Guard oversight, tankers that would haul up to 2 million barrels of oil a day through Prince William Sound would be the safest in the world.

"I consider our primary concern with regard to Valdez-Prince William Sound to be the prevention of a catastrophic oil spill," said Coast Guard Rear Adm. John B. Hayes to a fishermen's convention in Cordova in April 1977.

Hayes said the Coast Guard would — among other things — propose that double bottoms be required on tankers to reduce the chances of their poisonous cargo fouling the Sound in a grounding.

Lt. Cmdr. Ken Thompson, a Hayes subordinate told the conference that a Coast Guard traffic system would ensure the tankers didn't collide with each other or with the rocks and reefs lining the route into the Gulf of Alaska.

"Valdez Narrows and Arm will be covered by a radar at Potato Point," Thompson said. "The radar to be installed is among the most sophisticated available."

■ **TOO COZY:** Many agencies end up serving the industries they are supposed to regulate. A-10

But these and other Coast Guard commitments were abandoned soon after oil began flowing through the pipeline in August 1977.

When the Exxon Valdez hit Bligh Reef on March 24 it had one bottom, not two. The resulting 11-million-gallon spill, the Coast Guard itself recently estimated, was up to 2½ times larger than it would have been if the ship had had a double bottom.

And the operators on duty in the Coast Guard's Valdez Vessel Traffic Center said the 987-foot vessel didn't even register on their radar screens as it plowed toward disaster, although Bligh Reef is only 13 miles from the "sophisticated" radar at Potato Point.

The Coast Guard's mission is to protect the safety of ships and sailors, and to prevent pollution of the oceans. To do so, it regulates ship design, manning standards, crew qualifications and vessel operating practices.

The agency portrays itself as chronically underfunded but heroically dedicated, willing to tackle almost any job with almost no money, but a Daily News investigation suggests that its failure to prevent or lessen the severity of last spring's catastrophe stemmed more from its coziness with the oil industry than from any lack of resources.

Judged on its record, the Coast Guard is more often partner than policeman to the shipping companies it is supposed to regulate.

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SPECIAL REPORT

COAST GUARD

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Single bottoms and a feeble Vessel Traffic Service are only two of many examples of how the Coast Guard sliced away at the safety net that had been promised for the Sound.

Usually, as in the matter of double bottoms, it was because the Coast Guard bowed to industry pressure.

Less often, as in the case of the Vessel Traffic Service, it was because the Coast Guard lacked — or didn't want to spend — the money to do its job properly.

Over the years the Coast Guard has also:

- Routinely approved reductions in the number of sailors required on oil tankers, to the point that crew fatigue apparently played a part in the Exxon Valdez disaster;
- Reduced the level of experience required to drive oil tankers through the Sound, allowing oil shippers — including Exxon — to cut costs by not sending crew members to training courses in which they "sailed" a tanker simulator in and out of the Sound for practice;
- Turned an Alyeska Pipeline Service Co whistleblower in to his boss after the whistleblower informed Coast Guard officials in Valdez about possible pollution violations at the Alyeska tanker terminal there; and
- Allowed a well-trodden career path to develop from itself to the industry it purports to regulate.

Citing these and other actions, Coast Guard critics contend it set up Alaska for a spill like the Exxon Valdez.

One of those critics is Canadian David Anderson. In the 1970s, as the transportation system through the Sound was being designed, Anderson was a member of the Canadian parliament and served in the British Columbia Legislature.

Eventually, Anderson joined a group of environmental organizations in a lawsuit that held up the trans-Alaska pipeline until Congress passed a special law to get it going.

Today, Anderson is a consultant on the Valdez spill to the British Columbia government.

In his view, the Exxon Valdez crash wasn't so much an accident as a conscious choice made long ago.

"In this area, there's a systems failure of the regulatory agency," Anderson said. "We must face the fact that those who made those decisions deliberately chose to have an accident.

"It's all very well for Coast Guard admirals in splendid uniforms to turn up in helicopters and say, 'We're going to get to the bottom of this; we're going to go after that rascal Hazelwood,'" Anderson said. "But he's the goat. It's the system that's at fault."

DOUBLE-BOTTOM DEBATE

Hayes was not the first federal official to lead the public to believe that tankers traversing the Sound would have double bottoms. The discussion had gone on for years.

"Newly constructed American flag vessels carrying oil from Port Valdez to United States ports will be required to have segregated ballast systems incorporating double bottoms," Interior Secretary Rogers Morton told Congress in 1972.

Morton appears to have been sincere, but within a year the Coast Guard was backing away from that commitment.

Other countries opposed double bottoms at a 1973 convention of the Inter-Governmental Maritime Consultative Organization, a United Nations agency set up to promote marine safety and international cooperation on technical shipping matters.

The Coast Guard soon dropped its proposal to require double bottoms, saying it wouldn't impose standards on U.S. vessels that weren't accepted internationally.

The Coast Guard's about-face drew squawks from Morton, from the Environmental Protection Agency, from environmentalists, from the governors of Washington and Alaska, and from Sens. Edmund Muskie of Maine and Warren Magnuson of Washington.

The new regulations had been formulated with the help of a study group organized by the American Petroleum Institute, an oil industry trade association, formed without public notice, chaired by an opponent of double bottoms, and meeting in secret, according to an article in Audubon magazine.

The Coast Guard wouldn't budge.

"We collected new data, and we changed our mind," Rear Adm. William Benkert told the National Observer in early 1975. "We don't think groundings are as serious a problem as we once thought, and ... they cost a hell of a lot more money."

But double bottoms cost only a little more money, according to a report published by the congressional Office of Technology Assessment in mid-1975.

The technology office examined the figures on double-bottom tankers built in the early 1970s and concluded they cost 2½ to 4 percent more than single bottoms.

A more recent study, done by the Coast Guard after the Exxon Valdez spill, concluded that double bottoms might add 5 percent to the cost of a tanker — in the case of the Exxon Valdez, about $6 million.

Exxon has estimated the disaster in Prince William Sound will cost it $1.3 billion, enough to put double bottoms on more than 200 tankers like the Valdez.

Although the Coast Guard scuttled double bottoms in 1974, the issue quickly resurfaced.

In December 1976, the tanker Argo Merchant ran aground off Massachusetts and dumped 7.6 million gallons of fuel oil into the sea. In less than four months, there were 14 more tanker spills off U.S. coasts.

In March 1977, newly elected President

Jimmy Carter proposed a host of tanker reforms, including double bottoms. It was that position that Hayes reported to the Cordova conference in 1977.

As before, though, the Coast Guard soon fell back into line with industry. After another meeting of the Inter-Governmental Maritime Consultative Organization in 1978, the Coast Guard dropped double bottoms again, and tankers — including the Exxon Valdez, built in 1986 — were allowed to sail in and out of Valdez without them.

"It was commonly accepted by those who worked on the problem that when you go up against the industry, you go up against the Coast Guard," said Walt Parker, an Alaskan who has been deep in the oil policy debate for more than a decade.

Parker, now chairman of a state commission investigating the Valdez spill, worked for the state in planning the pipeline system in the 1970s and was an observer at the 1978 maritime organization meeting at which double bottoms went down for the second time.

The Coast Guard's abandonment of double bottoms came despite studies confirming their effectiveness in limiting spills.

In early 1975, Lt. Cmdr. James Card — who worked under Benkert in the Coast Guard's Office of Merchant Marine Safety — published an analysis of 30 tanker groundings from 1969 to 1973 in which oil leaked into U.S. waters.

He concluded that in 27 of the cases, double bottoms would have prevented any oil loss, because the ships weren't penetrated far enough to have reached the inner bottom.

In the other three cases, Card concluded, double bottoms would have reduced oil loss by 30 percent.

Shippers — including Exxon — had mentioned generally that under some circumstances double bottoms might endanger a ship in an accident but produced little hard data to back up their claims.

Both the Office of Technology Assessment study in 1975 and the post-Valdez study this spring concluded there was no reason to believe double bottoms threaten ship safety.

Even in the mid-1970s, double bottoms were required on tankers carrying liquefied natural gas and other chemicals deemed more hazardous than oil. The technology office study found that their double bottoms had caused no safety problems.

The agency reported that ships carrying bulk flammable liquids above a double bottom void had not "exhibited any explosion record in these spaces."

The technology office did look at 13 tanker explosions in 1973 and 1974; none involved a double bottom.

The OTA also studied the claim that a double bottom might cause a ship to sink in a grounding and found that the opposite was true.

"In fact, sinking rates due to groundings are less for these types of ships," the technology office reported.

Despite the conclusions of double-bottom studies going back more than a decade, Coast Guard Commandant Paul Yost still offers the same anti-double bottom arguments the industry and Coast Guard made in the mid-1970s.

In an interview a few weeks ago, he said the Coast Guard is having another study done.

Then he cited the higher cost of double bottoms, repeated industry claims that double bottoms might somehow jeopardize ship safety, and maintained the U.S. shouldn't pass tanker requirements unacceptable to shippers in other countries.

"It is a great idea as long as you've got guys like Stan Jones and Paul Yost who don't mind paying for it at the gas pump," Yost said. "Everything you do in this regard adds cost to the transportation. As you add cost to it, you have a little more trouble getting the international community to accept it."

"For thousands of voyages, they shipped oil in and out of there when those double bottoms would have been a waste of money," said Jim Simpson, Yost's press aide.

Double bottoms would cost the public somewhere between half a cent and a cent per gallon — as much as $1.5 billion a year — according to estimates from marine consultants.

Clyde Robbins, the Coast Guard vice admiral overseeing this summer's effort to clean up the Exxon Valdez spill, said much of the pressure on the agency comes from inside the federal government, not just from officials of the affected industry.

Members of Congress get pressure from their constituents and pass it along to the Coast Guard, he said. The state department, juggling a host of diplomatic issues, worries about how other countries will react to U.S. maritime regulations.

And the Office of Management and Budget demands that regulators show that the benefits of new regulations exceed the cost.

"You have to react to all of those pressures to meet some sort of compromise in your regulations," he said. "One of the largest pressures is from OMB. That economic analysis that has to go on is crucial to a regulatory process."

'SERVICE REVOLVERS'

After the Coast Guard's second about-face on double bottoms, in 1978, a New York maritime consultant and arbitrator named George Reinhard wrote an indignant letter to Benkert, the head of the Coast Guard's Office of Marine Safety.

Reinhard demanded to know if the Coast Guard was "really a subsidiary of the oil industry."

An equally indignant Benkert wrote back that Reinhard was "ill informed and completely out of line" to even suggest such a thing.

Coast Guard policies and people, Benkert informed Reinhard, were directed only toward accomplishing "the very best we can for our country insofar as vessel safety and pollution prevention are concerned."

Five months later, Benkert had retired from the Coast Guard and become president of the American Institute of Merchant Shipping, an advocacy group representing tanker owners. He did not respond to a recent request for an interview passed through the Coast Guard's retirement office.

Benkert's case may be extreme, but it is only one of many examples of the ease and apparent lack of misgivings with which Coast Guard officials, often from the service's top echelons, move into jobs with the companies and industries the public had been paying them to regulate.

Indeed, the industry is liberally sprinkled with former Coast Guard employees, sometimes called "service revolvers" by critics of the Coast Guard.

Among the revolvers is Exxon Shipping Co. President Frank Iarossi.

Iarossi graduated from the Coast Guard academy and spent eight years in the Coast Guard, four of them as head of the marine engineering section. In 1968, he left the Coast Guard and joined Exxon.

Jim Woodle, who commanded the Valdez Coast Guard station from 1979-82, recalls several former subordinates who resigned and went to work at the Alyeska tanker terminal.

In 1982, Woodle crossed over himself. When he took a job as Alyeska's marine superintendent, his pay leaped from about $40,000 a year to more than $80,000.

"Certainly, at that time a job with Alyeska was considered the plum," Woodle said.

While federal laws and regulations are fairly tight for officials in positions to influence purchasing or contracting — Defense Department employees who order weapons systems, for example — there is little scrutiny of regulators who go to work for the industry they've been regulating, despite the fact that regulatory actions can cost or save an industry millions of dollars.

John Hillman, a member of the Exxon Seamen's Union governing board, thinks there should be a cooling-off period for ex-Coast Guard employees.

"We need to get some legislation down the road that says, 'Hey, you can't suck these people over into the shipping companies and give them jobs until they've been retired for a certain number of years,'" Hillman said.

Most Coast Guard officials interviewed for this story not only don't see any problem with all the traffic on the lucrative path from the Coast Guard to the shipping industry, they think it's desirable. Their theory is that having Coast Guard members enter the private sector will make industry cleaner, more careful and more competent.

"At the early onset, I was hoping to get some additional Coast Guard people over there," said Woodle of his time with Alyeska. "I recognized their talents."

Woodle lasted two years with Alyeska, eventually becoming a critic of the company's cutbacks in oil-spill response.

Steve McCall, who commanded the Valdez Coast Guard station at the time of the Exxon Valdez crash, said he doesn't think the prospect of someday applying for a job with industry leads Coast Guard personnel to go easy as regulators.

"If you're too easy with them, they're not going to hire you," McCall said. "They want somebody who's going to be a company man, whether it's your company or their company."

McCall's boss in Washington, Coast Guard Commandant Yost, said it's only natural for industry to want to hire experts from the Coast Guard.

"When a Coast Guard officer has been working in an area for a very long time, he

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COAST GUARD: Officers often move from service to industry

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becomes one of the more knowledgeable people in that area," Yost said. "I don't see the conflict."

Simpson, Yost's aide, said the Coast Guard could be hurt by a ban on crossovers.

"I would argue that's a pretty extreme position," Simpson said. "If you take that, you'll be hard-pressed to find regulators."

Hayes, the Coast Guard admiral who told the Cordova fishermen about double-bottom tankers in 1977, and who was commandant of the U.S. Coast Guard from 1978-82, is another revolver. This summer, Alyeska Pipeline Service Co. paid him to work with spill-affected communities.

Hayes said he's seen a few crossovers he disapproved of — though he wouldn't be specific — but basically agrees with Yost.

"There's just so much talent in government in all kinds of places," Hayes said. "It would be just be a shame if our nation could not take advantage of it in the next career that person might pursue..."

NEARSIGHTED RADAR

In the 1970s, the Coast Guard seemed to be saying its Vessel Traffic Service in Valdez would be a kind of mother hen, watching over the tanker captains in case they went astray.

In a 1975 Environmental Impact Statement, the Coast Guard said the VTS would "monitor progress of participating vessels and give timely direction when needed, thus providing checks against error."

State officials thought that could best be achieved by combining radar with a system — called Loran-C retransmission — under which each tanker would continuously and automatically radio its position to the VTS.

The Coast Guard estimated retransmission would cost shipping companies $3,000 a tanker and that its own cost, for equipping the VTS to receive that information, would be about $38,000.

For a time, the Coast Guard supported retransmission as a cheaper alternative to building enough radar sites to cover the whole Sound, as demanded by fishermen.

"I believe that Loran-C retransmission may provide approximately the same level of protection to the environment as radar coverage and at far less expense to the taxpayer/consumer," Hayes told Sen. Ted Stevens in an April 1977 letter.

But nobody in the Valdez VTS was monitoring the Exxon Valdez on any system when it veered out of standard traffic lanes and blundered into the reef only a few miles from a Coast Guard radar site.

The Loran-C retransmission system was never put in and neither was the full-coverage radar net the fishermen wanted. Gordon Taylor, the VTS watch stander who last saw the Exxon Valdez on radar before it hit Bligh Reef, said it faded from the screen when it was about nine miles from the radar site at Potato Point, possibly because a drizzling rain that night limited the radar's range.

Simpson, Yost's aide, said Loran C retransmission was dropped because it wasn't effective in Valdez Narrows, which everybody then considered the likeliest spot for a tanker crash because of stone pinnacle called Middle Rock.

Yost said many things were discussed in the 1970s that didn't turn out to be feasible or economical, including Loran-C retransmission.

"A lot of practicality and realism crept into the original rather idealistic view of how we ought to treat this," Yost said.

But if Coast Guard higher-ups had listened to the advice of their own field personnel, the VTS might have been able to track the Exxon Valdez even without Loran-C retransmission.

In early 1984, Pat Levy was a civilian technician maintaining the Coast Guard's Valdez radars, manufactured by AIL/Eaton. He learned that the agency, in an effort to save money, planned to replace them with Raytheon radars he didn't consider as potent or reliable.

"I still can't help feeling that this is bringing an oil tanker disaster in the Sound closer to a reality," he wrote Congressman Don Young on Feb. 29, 1984.

Young passed on Levy's concerns to the Coast Guard. Its commandant, Adm. James Gracey, wrote back to say the new radar would be as good as the old, and safety wouldn't be compromised. A Coast Guard radar expert made the same claim this spring at a hearing on the Exxon Valdez disaster.

But, within a year of the Raytheon radar going in, the Coast Guard commander in Valdez, Micheal Cavett, was complaining about poor reception in the bad weather common to the Sound and asking for an upgrade of the radar at Potato Point.

"The installation of a 10-centimeter radar system could improve tracking ability in rain, wind, and snow," Cavett wrote in April 1985. "I request one of the 3-centimeter radar systems at Potato Point be replaced with a 10-centimeter system."

Centimeters are used to measure the length of the electromagnetic waves that make up radar signals; the longer the wave length, the better the radar can see through rain and other precipitation.

Valdez never got its 10-centimeter radar, however, and the 3-centimeter system was still in use when the Exxon Valdez hit Bligh Reef.

Simpson said Cavett's request was turned down because the big concern in the Coast Guard was resolution, not range. Resolution refers to how small a target a radar beam can pick out, Simpson said, and how well it can distinguish different-size targets.

He said the radar operators in Valdez didn't want the 10-centimeter radar because of its poorer resolution, so Cavett's request was turned down by Coast Guard technicians without even estimating the cost.

"They went with the recommendation of the users over the commanding officer," Simpson said.

The failure to use Loran-C retransmission or ensure better radar coverage was not the only Coast Guard decision on the Vessel Traffic Service that may have contributed to the spill.

When the Valdez VTS began, three people stood watch at the radar scopes. By the time Steve McCall took over as commander in Valdez in 1985, staffing was down to two per watch.

Even that was too many, he decided.

"The inefficiency I see here can be summed up simply: Too many people for the tasks to be performed," McCall wrote his Washington superiors in August 1986.

His bosses took him up on the suggestion and cut staffing. Valdez was still under his command and only one person was on duty when the tanker hit the reef.

While there's no guarantee that two heads would have been better than one, it is a fact that Bruce Blandford, the only watch stander on duty in the radar room at the time, said he was doing paperwork and other shift-change chores when the Exxon Valdez wrecked shortly after midnight.

Blandford also said that when he adjusted the radar and looked at the Bligh Reef area after learning of the crash by radio, the tanker, by that time broadside to the beams and presenting a larger target, was clearly visible.

All this suggests that, if a second watch stander had been on duty with Blandford and adjusting the settings of the radar, the Valdez might have been visible before the crash, in time for it to have warned off the reef.

"I'm not satisfied with the situation in our VTS before this accident," said Yost, commandant of the Coast Guard. "I think it's at least possible that that ship could have been tracked out that far."

Since the crash, staffing at the radar scopes has been increased to two people.

"Perhaps if we'd tried a little harder for funds for the VTS's, perhaps if we would have kept after it, we would have had better control of the ships going in and out," said Robbins, the Coast Guard official who oversaw the cleanup effort. "We cut back on people here a few years ago and perhaps we shouldn't have done that."

LESS PILOTING PRACTICE

In the 1970s, the Coast Guard seemed to be promising tough pilotage requirements for Prince William Sound, just as it seemed to be promising tough tanker design standards, a vigilant VTS and other safety measures.

"Properly trained pilots are probably the single most important factor in building a safe tanker transportation system for Prince William Sound," Hayes, the Coast Guard admiral, told Cordova fishermen at the 1977 conference. "To this end, we have implemented local qualification standards ... that represent a quantum step ... upgrading Coast Guard pilotage requirements."

The standards that Hayes bragged about in 1977 required that a crewman who wanted certification to pilot a big tanker into the Sound have — in addition to detailed knowledge of the Sound's waters and hazards — experience on big ships. The standards set up a tiered system for obtaining that experience.

Sailors with experience on ships of 20,000 gross tons or less could become certified to pilot ships up to 20,000 tons; those with experience on ships of 20,0000 to 40,000 tons could handle ships up to 40,000 tons; and so on.

The final tier was 60,000 tons — those with experience on ships larger than that could be certified to pilot vessels of any size, such as the Exxon Valdez at 95,000 gross tons.

Coast Guard standards allowed part of the experience to be obtained on tanker simulators. Because of the difficulty and expense of obtaining real experience on large ships, some of the companies running tankers through the Sound — including Exxon — employed the simulators.

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COAST GUARD: Service relents on reducing tanker crews

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One company they used was Marine Safety International, in Kings Point, N.Y. "We had a complete computer model of Prince William Sound and Valdez, the Narrows, all the way in to the dock," said Thomas Garrigan, a Marine Safety official.

About 20 Alaska-trade crew members took the simulator course each year at a total cost to the shippers of about $80,000 a year, Garrigan said.

Four to six of those crewmen each year came from Exxon at an annual a cost of $20,000 to $30,000.

In October 1988, the Coast Guard relaxed pilotage standards so that a crewman need have experience only on a ship of 1,600 gross tons or more — about 1/60th the cargo capacity of the Exxon Valdez — to obtain an unlimited pilotage endorsement.

Pilotage requirements for Prince William Sound were lowered to match the new national standards, which at the same time were raised slightly for the rest of the country.

Because most ocean-going mariners already have experience on ships of 1,600 tons or more, the tanker companies no longer needed Marine Safety's Prince William Sound simulator.

"When the companies that did training with us heard that, they stopped training," Garrigan said.

Greg Cousins, the third mate in charge of the bridge when the Exxon Valdez slammed into Bligh Reef, did not have a pilotage endorsement for the waters where Joe Hazelwood, the Valdez's skipper, turned the ship over to him.

Nor, said Garrigan, had Cousins ever trained on Marine Safety's Prince William Sound simulator in New York.

SHRINKING CREWS

Thirty years ago, the average American tanker carried a lot less oil and a lot more people than it does today.

Arthur McKenzie, who runs an independent rating service called the Tanker Advisory Center in New York City, estimates the typical tanker in the late 1950s carried a cargo of about 6.3 million gallons and a crew of 40 to 42.

When the Exxon Valdez hit Bligh Reef with 53 million gallons of oil aboard, it carried a crew of 20.

Even so, it was more than 30 percent over staffed by Coast Guard standards. Exxon had the agency's approval to operate with as few as 15 people aboard.

As the size of crews required by the Coast Guard has dwindled in recent decades, the Coast Guard and shipping industry have justified the reductions on several grounds.

One is that the cost savings are needed to keep American shippers competitive with foreign operators, who have reduced their crews. According to industry and union officials, the savings are about $120,000 a year per crew position eliminated.

Another justification is that a modern ship simply requires fewer people.

Automation of major systems — such as engines and steering — requires fewer hands, the industry and Coast Guard say. The increased reliability of modern equipment means fewer people needed for maintenance, they say.

McKenzie favors double bottoms and other tanker reforms opposed by the industry, but sides with the shippers on crew size.

His reasoning: Since most accidents involve human error, fewer humans mean fewer accidents.

"If you get rid, as much as you can, of the people and depend more on machinery, provided that machinery is designed and run properly, you're probably going to do better," McKenzie said.

Nonetheless, there are signs that even a crew of 20 on the Exxon Valdez wasn't large enough to prevent overload and fatigue when the ship came into Valdez to take on its cargo of North Slope crude.

Greg Cousins, the third mate in charge of the bridge when the Valdez hit the rocks, told the National Transportation Safety Board that he had been on duty from 8 a.m. March 23 until the crash 16 hours later, except for a 3½-hour nap in early afternoon.

Cousins said he wouldn't have been on the bridge at all, except that he let his relief, Second Mate Lloyd LeCain, sleep in after his own long day at work. James Kunkle, the ship's first mate, told the board he frequently was up 24 hours at a time during cargo loading.

Federal law prohibits a shipowner or operator from permitting an officer to take over the bridge of a ship leaving port unless he's been off duty for at least six of the preceding 12 hours.

Cousins and the other mates denied being too tired to work properly and no official determination has yet been made on whether fatigue was a cause of the crash.

But sleep experts say it fits the pattern of sleep-related accidents.

"It's not unreasonable to suspect either that they were not able to detect how sleep deprivation was affecting their performance or they were unwilling to admit it," said Donald Tepas, an industrial psychologist at the University of Connecticut.

Despite the long history and high stakes of de-manning, the Coast Guard still has no agency-wide standard for setting minimum crew size.

Instead, the shipowner proposes a minimum crew size, then local Coast Guard officials evaluate and approve, subject to review by Coast Guard headquarters in Washington.

In the case of the Exxon Valdez, local Coast Guard officials — concerned about Exxon's bottom line — allowed their approval of smaller crews to continue even after headquarters told them they had done it improperly.

In September 1987, R.A. Janacek, the officer in charge of marine inspections at the Coast Guard station in Long Beach, Calif., wrote headquarters in Washington to request that the Exxon Long Beach — the Valdez's sister ship — be allowed to cut three positions in the engine room.

"Exxon is of course requesting prompt action to eliminate the cost of retaining these men on board," Janacek wrote. "The Exxon Valdez ... is already operating satisfactorily with reduced manning."

Fred Grady, the Coast Guard's chief of Merchant Vessel Personnel in Washington, wrote back two months later to say that not only was the proposed cut of the Long Beach crew inadequately documented, but that approval of crew reductions aboard the Valdez had never been reviewed by headquarters.

Nonetheless, the California office let it stand.

Paul Larson, the Janacek subordinate who had actually handled the Valdez evaluation, wrote Exxon on Jan. 28, 1988, to say the erroneously allowed crew cuts would stand because the ship had operated for six months with no problems.

"I certainly understand your vested interest in gaining approval in a timely fashion to reduce the crew and cut costs," Larson wrote. "The best I can do is apologize and assure you I will urge MVP's (headquarters') handling of your case as a priority rather than a routine matter."

Simpson, Yost's aide, defended Larson's decision to let approval for the Valdez's crew cuts to stand, despite the letter from headquarters saying it had not been properly reviewed.

"The bottom line is that what he did was perfectly legal," Simpson said. "If you want to find fault or error, the error was his in not clearing it through headquarters before he did it."

Hillman, the Exxon Seamen's Union official, thinks the Coast Guard should worry more about safety and less about Exxon's bottom line.

"You and I have this regulatory agency called the U.S. Coast Guard. It does not belong to the shipowners," said Hillman. "It was set up for a purpose: to see that these ships are operated safely and that the seamen are not abused by the shipowners."

Despite industry and Coast Guard insistence that crew cuts haven't jeopardized safety, people who have to bet money on it are beginning to think otherwise.

Harry Keefe is vice president of a marine insurance company called GRE America and vice chairman of an industry group called the American Institute of Marine Underwriters.

At a marine insurers conference in Belgium last month, Keefe warned that modern shipping practices — including smaller crews and less crew training — are creating hazards at sea.

"We have had a revolution in technology accompanied by a de-emphasis on marine training," Keefe said in a speech to the conference. "In this scenario, who cares about safety?"

"True efficiency must incorporate a level of safety tolerable to society."

No.	Vessel Name	Rating	Weight	Age	Hull
	ARCO MARINE				
1.	Mt. Cabrite	1	255 tons	18 years	Single
2.	Saint Lucia	1	255 tons	17 years	Single
3.	Seal Island	2	259 tons	16 years	Single
	ARCO TANKERS				
1.	Arco Alaska	3	188 tons	10 years	Double
2.	Arco Anchorage	3	120 tons	16 years	Single
3.	Arco California	4	189 tons	9 years	Double
4.	Arco Fairbanks	3	120 tons	15 years	Single
5.	Arco Independence	4	262 tons	12 years	Single
6.	Arco Juneau	3	120 tons	15 years	Single
7.	Arco Prudhoe Bay	2	70 tons	18 years	Single
8.	Arco Sag River	3	70 tons	17 years	Single
9.	Arco Spirit	3	262 tons	12 years	Single
10.	Arco Texas	3	90 tons	16 years	Single
	BAY TANKERS				
1.	Bay Ridge	1	228 tons	11 years	Single
2.	Stuyvesant	1	228 tons	12 years	Single
	CHEVRON SHIPPING				
1.	Chevron Arizona	3	39 tons	12 years	Double B&S
2.	Chevron California	3	70 tons	17 years	Single
3.	Chevron Colorado	3	39 tons	13 years	Double B&S
4.	Chevron Louisiana	3	39 tons	12 years	Double B&S
5.	Chevron Mississippi	3	70 tons	17 years	Single
6.	Chevron Oregon	3	150 tons	19 years	Double B&S
7.	Chevron Washington	4	39 tons	13 years	Double B&S
	COVE SHIPPING				
1.	Cove Liberty	1	69 tons	35 years	Single
2.	Cove Trader	1	50 tons	30 years	Single
	EXXON SHIPPING CO.				
1.	Exxon Baltimore	3	51 tons	29 years	Single
2.	Exxon Baton Rouge	3	76 tons	19 years	Single
3.	Exxon Baytown	4	58 tons	5 years	Double
4.	Exxon Benicia	3	173 tons	10 years	Single
5.	Exxon Boston	3	51 tons	29 years	Single
6.	Exxon Galveston	3	27 tons	19 years	Single
7.	Exxon Houston	2	73 tons	25 years	Single
8.	Exxon Jamestown	3	41 tons	32 years	Single
9.	Exxon Lexington	3	41 tons	31 years	Single
10	Exxon Long Beach	5	211 tons	2 years	Single
11	Exxon New Orleans	3	72 tons	24 years	Single
12.	Exxon North Slope	5	173 tons	10 years	Single
13.	Exxon Philadelphia	3	76 tons	19 years	Single
14.	Exxon Princeton	3	43 tons	7 years	Double
15.	Exxon San Francisco	3	76 tons	20 years	Single
16.	Exxon Valdez	5	211 tons	3 years	Single
17.	Exxon Washington	3	41 tons	32 years	Single
18.	Exxon Yorktown	5	43 tons	6 years	Double
	[illegible]				
1.	Brooks Range	3	176 tons	11 years	Single
2.	Thompson Pass	3	173 tons	11 years	Single
1.	Alaska Pass	2	176 tons	12 years	Single
2.	Chestnut Hill	1	91 tons	13 years	Double
3.	Golden Gate	1	82 tons	19 years	Single
4.	Kenai	3	123 tons	10 years	Double B&S
5.	Keystone Canyon	3	173 tons	11 years	Single
6.	Kittanning	1	91 tons	12 years	Double
7	Tonsina	3	123 tons	11 years	Double B&S
	[illegible]				
1.	Reunion				Single
	MOBIL SHIPPING				
1	Mobil Arctic	3	125 tons	17 years	Single
2.	Mobil Meridian	3	49 tons	28 years	Single
3.	Syosset	3	32 tons	31 years	Single
	OMI CORP.				
1.	OMI Columbia	2	136 tons	15 years	Single
2.	OMI Dynecham	4	51 tons	8 years	Double
	OVERSEAS SHIPPING				
1.	Eastern Lion	4	265 tons	16 years	Single
2.	Northern Lion	4	265 tons	15 years	Single
3.	Overseas Boston	3	122 tons	15 years	Single
4.	Overseas Chicago	4	92 tons	12 years	Double
5.	Overseas Juneau	3	120 tons	16 years	Single
6.	Overseas New York	3	90 tons	12 years	Double
7.	Overseas Ohio	4	91 tons	12 years	Double
8.	Overseas Washington	3	91 tons	11 years	Double
9.	Southern Lion	3	265 tons	14 years	Single
10.	Western Lion	4	265 tons	15 years	Single
	[illegible]				
1.	B.T. Alaska	2	182 tons	11 years	Double
2.	B.T. San Diego	3	182 tons	11 years	Double
	SUN TRANSPORT				
1.	American Sun	3	81 tons	20 years	Single
2.	New York Sun	4	34 tons	8 years	Single
3.	Nordic Sun	5	20 tons	8 years	Double*
4.	Philadelphia Sun	5	34 tons	8 years	Single
5.	Prince William Sound	3	124 tons	13 years	Double B&S
6.	Texas Sun	2	53 tons	29 years	Single
7.	Tropic Sun	2	35 tons	32 years	Single
8.	Western Sun				Single
	TEXACO INC.				
1.	Brooklyn	1	225 tons	15 years	Single
2.	Texaco California	2	39 tons	35 years	Single
3.	Texaco Connecticut	1	39 tons	36 years	Single
4.	Texaco Florida	3	39 tons	35 years	Single
5.	Texaco Georgia	3	26 tons	25 years	Single
6.	Texaco Mesa.	2	27 tons	26 years	Single
7.	Texaco Minnesota	3	27 tons	46 years	Single
8.	Texaco Montana	3	27 tons	24 years	Single
9.	Texaco New York	3	39 tons	36 years	Single
10.	Texaco Rhode Island	3	27 tons	25 years	Single
	TRANSCO CORP.				
1	Lion of California	2	16 tons	35 years	Single
	[illegible]				
1.	Admiralty Bay	1	81 tons	18 years	Single
2.	Aspen	1	82 tons	18 years	Single
3.	Glacier Bay	1	81 tons	19 years	Single
	[illegible]				
1.	Coast Range	4	40 tons	8 years	Double
2.	Sansinena II	3	265 tons	14 years	Single
3.	Sierra Madre	5	40 tons	6 years	Double

...and out. We cut back ... people here a few ... go ... and ... perhaps we should ... done that ...

— Vice Admiral Clyde Robbins

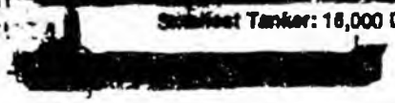
Radar Site

Valdez Tanker Fleet

Capacity

Largest Tankers: 265,000 Dead Weight Tons Eastern Lion, Southern Lion, Western

Smallest Tanker: 16,000 Dead Weight Tons Lion of California



Age

Oldest Tanker: 46 years Texaco Minn. Built 194

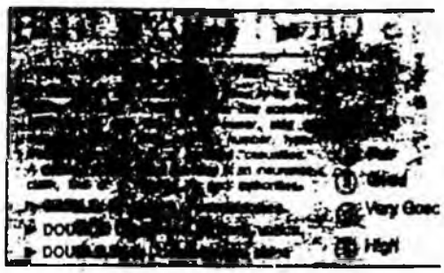
Average Age: 18 years

Newest Tanker: 2 years Exxon Long Beach Built 1987

Percent Double-Bottoms

93 tankers are registered for Alaska trade

Type of hull designs



A tanker loads oil at the Alyeska Marine Terminal in Valdez.

Anchorage Daily News via Associated Press

Anchorage Daily News file photo/Paul Souder

Bruce Blandford keeps watch in the Coast Guard's radar room in Valdez in a photo taken before the Exxon Valdez spill.

ANCHORAGE DAILY NEWS OCT 15, 1989

Regulators: serving public or industry?

By STAN JONES
Daily News reporter

If you tell an economist that the Coast Guard seems to have been captured by the industry it is supposed to regulate, he'll probably say, "Oh, sure, that's inevitable."

The Coast Guard's record on tanker safety — turning in a whistleblower, breaking promises of rough oversight and generally acting as the industry's partner — is typical in government regulation, according to people who study the subject.

"This is a real failure of democracy, and it's one that we've understood for a long, long time," said Peter Aranson, an Emory University economics professor and expert on the regulatory process.

The idea that agencies like the Coast Guard serve the industries they oversee, not the public they represent, may shock the layman. But economists and political scientists have long taken it for granted.

The Coast Guard has plenty of company in its coziness with the industry under its scrutiny, according to a national computer database of newspaper articles, and other sources. For example:

• According to the Washington Post, Nuclear Regulatory Commission documents alleging there were cracks in the floor of a containment facility at a Louisiana nuclear power plant were leaked to the plant's owner, apparently from the office of NRC Commissioner Thomas Roberts, who later tried to destroy evidence of the leak.

A commission investigator told Congress in 1987 he was ordered to turn over his notes and copies of the documents to Roberts.

"I saw no reason for them to continue to exist," Roberts told Congress when asked about it. "They were torn up and thrown in the wastebasket."

Later, however, copies of the documents were found in the files of the company that owned the plant. An accompanying note from a company vice president urged that the documents be kept confidential "to protect the source within the NRC."

• In 1970, the Ralph Nader organization studied the Interstate Commerce Commission, which at the time set interstate freight and passenger rates for truckers and railroads. Nader's group found that of 11 commissioners who left the ICC between 1958 and 1987, six wound up working for the rail or highway industries.

• In Alaska, at least three people who served on the Alaska Public Utilities Commission — Diana Snowden, Marvin Weatherly and Gordon Zerbetz — later worked for the conglomerate that owns Alascom Inc., the largest utility under the commission's oversight. Snowden also worked for the company that would become Alascom before she was appointed to the commission.

While outright venality — bribes or kickbacks — may go on at times, the experts say the explanation for the process of "industry capture" is usually much simpler.


Gordon Zerbetz


Marvin Weatherly

In a nutshell, the industry pays attention, and the rest of us don't.

An industry thinks and worries about its regulator constantly, while the public at large doesn't think about it at all, unless there's a catastrophe like this spring's Exxon oil spill.

The reason for this is that both parties — the public and the industry — are behaving rationally. In fact, Aranson calls it the problem of "rational ignorance."

Suppose, for example, the Coast Guard proposes to require double bottoms on oil tankers.

If the regulation passes, it will raise gas prices a half-cent a gallon, and reduce the amount of oil that gets into the oceans each year by a small percentage.

You — John or Jane Q. Public — may think the increase in environmental quality too modest to justify the cost and therefore oppose the idea.

Or you may think just the opposite — that the improvement in environmental quality is worth the cost — and support it.

But, either way, it's rational for you to stay ignorant. It's not worth your while to spend time on the issue. Your chances of making a difference are slight and the outcome probably won't affect your life much anyway. You won't bother to study the issue, write the Coast Guard or testify at a hearing.

You certainly won't hire an economist to analyze the costs and benefits of the regulation, or a naval architect to study whether double bottoms would be unsafe, or a law firm to tie up the matter in court.

Nor will you form a political action committee and hire a lobbyist to take your case — and your contributions — to key members of Congress. Neither will you offer Coast Guard officials nice offices and lucrative jobs after they retire.

But suppose you're the tanker industry. If you're rational, you'll do all that and more.

Double bottoms will cost you $6 million a ship, more if they have to be put on existing vessels. If you expect to buy 100 new ships over the next 10 years, the Coast Guard is about to raise your bill to $600 million. You may be able to kill or stall the proposal for a few hundred thousand dollars.

So you write letters and go to hearings; you hire economists, lobbyists, naval architects and every other kind of expert in sight; you incite friendly congressmen to denounce the proposal and threaten the agency's budget; you foment panic among unions whose members will lose jobs if oil shippers switch to lower-cost forms of transportation.

In short, a regulatory agency hears loudly and constantly from the industry it deals with, but weakly and rarely — if at all — from the public whose interest it is theoretically out to protect.

"Given that knowledge is power, one can understand how an industry will come to dominate those who regulate it, merely on the basis of the difference in attention levels," Aranson said. "Government ends up doing exactly what it's not supposed to do and not doing what it's supposed to do."

Industry capture is so well-understood that books have been written on it, including at least one that tells companies how to do it.

Called "The Regulatory Game — Strategic Use of the Administrative Process," it was published 11 years ago by two economists, Bruce Owen and Ronald Braeutigam.

"No industry offered the opportunity to be regulated should decline it," they counsel in the book's introduction.

They then explain how the regulatory process can be used to make sure that such sinister forces as competition, innovation and government oversight don't interfere too much with profits.

Some samples of their advice:

• On information management: "Agencies can be guided in the desired direction by making available carefully selected facts."

Or, if that fails, "delay can ... be achieved by over-response: flooding the agency with more information than it can absorb."

• On litigation: "The delay which can be purchased by litigation offers an opportunity to undertake other measures to reduce or eliminate the costs of an eventual adverse decision. ... If the administrative process goes on long enough, it is even possible to ask for a new hearing on the grounds that new and more accurate information may be available."

• On delay through innovation: "A well-timed announcement of an innovation or technological breakthrough can moot a difficult issue which threatens to go against the firm. At a minimum, the terms of the debate may change sufficiently to require to the decision process to begin anew."

• On lobbying: "An official contemplating a decision must be led to think of its impact in human terms, and not in institutional or organizational terms. Officials will be much less willing to hurt long time acquaintances than corporations."

• On experts who help shape policy: "Be prepared whenever possible to co-opt these experts. This is most effectively done by identifying the leading experts in each relevant field and hiring them as consultants or advisors, or giving them research grants and the like. ... It must not be too blatant, for the experts themselves must not recognize that they have lost their objectivity and freedom of action."

• On playing one agency against another: "The most common instance of this occurs with respect to geographic jurisdiction: state versus federal, or one state against another. The interests of these agencies often diverge, and one can court the assistance of one in dealing with another."

In time, according to the experts, the regulators take on the mindset of the industry that they deal with.

"It's very common to find the agency worrying about the economic health of the people they're regulating," said Bruce Owen, one of the authors of "The Regulation Game."

"What it comes down to is, they've simply identified with the industry," he said.

Owen now runs his own economic consulting firm in Washington, D.C., but does not, he said, have any clients in the oil or shipping industries.

Another well-documented facet of the regulation game is the ease and frequency with which employees in regulatory agencies end up working for the industries they oversee.

In the case of the Coast Guard, the traffic includes former Coast Guard Commandant Jack Hayes. Before running the Coast Guard from Washington, he ran its Alaska district from Juneau and was in charge when the tanker system was set up in Prince William Sound 12 years ago. After the spill, he did post-spill community relations work for Alyeska Pipeline Service Co.

The crossover from agency to industry is also all but inevitable, according to the experts.

"When you go to work for government and you become expert at regulating an industry, what you do is create a certain value for yourself which is very specific," Owen said. "Your skills are only worth something, outside the government, to that particular industry."

In Owen's view, the realities of regulatory politics make it unlikely the Coast Guard will ever, on its own, go against the industry on a major issue like double bottoms.

Only Congress can do it, he said.

"Big dramatic events like the Exxon Valdez are the focal points for exactly that kind of movement," Owen said. "If there is ever any hope of reforming the Coast Guard in the appropriate direction, it's on these occasions."

10-15-89 Anchorage Daily News

Alyeska whistleblower was left out on a limb

By STAN JONES
Daily News reporter

Berth operator Steve Eward was troubled by the oil slicks and sheens and dead fish and birds he kept seeing around the tanker terminal in Valdez, so he reported them to his bosses at Alyeska Pipeline Service Co.

The year was 1977 and the terminal, like the pipeline it serves, had only been in operation a few months. Alyeska didn't seem to want to do much about the problems.

"What I would see would be late response or no response or maybe one supervisor would come down, look it over, and say, 'Well, gee whiz, if we wait long enough the current will take it away,'" Eward said in an interview this summer.

He figured the Coast Guard would know what to do about the pollution, so he built a file.

"I started taking copies of the logbooks when we would have a spill or a sheen on the water," Eward said. "They would show the response time and what the response was ..."

When Eward thought he had enough information, he went to Homer Purdy, commander of the Coast Guard station in Valdez, turned over 40 pages of copies and sat through an hour-and-a-half tape-recorded interview.

When Eward went to work the next morning, his boss, Alyeska Marine Superintendent Bill Fisken, called him in. The evidence that Eward had given to Purdy

Please see A-11, EWARD

was spread out on Fisken's desk.

"Your days with Alyeska are numbered," Eward quoted Fisken as saying.

That day, Eward says, he was reassigned to what he describes as a "menial" pump-maintenance job.

"They were hoping it would discourage me and I might just want to resign," Eward said.

He didn't resign, but was fired in November 1978, after an altercation with an Alyeska security guard that both Eward and the company say wasn't serious.

Fisken has since died, but Paul Connors, who was working in the Coast Guard's Valdez station on the day Eward brought in his evidence and who sent him upstairs to see Purdy, confirms parts of Eward's account.

"I do recall that within a day or two of that meeting in the office, I was asked to take a rather large envelope over to Capt. Fisken (at Alyeska) and to make sure that I gave it to him directly," Connors said recently.

Connors didn't look in the envelope, but he said it could have contained the documents and tape recording of Eward's interview.

"I realize the guy [illegible] like somebody squealed on him, and they probably did in all reality," Connors said. "But you can't, because you're the regulatory agency, divorce yourself from sending information back and forth with the people you're regulating."

Homer Purdy, the Coast Guard official Eward says took his evidence, is retired and living in the Washington, D.C., area. He works for a company that maintains electronic gear under contract to the Coast Guard.

Purdy said in a recent interview he doesn't remember Eward coming to his office that day in 1977, or forwarding any evidence from Eward to Alyeska.

But he said that, if it did happen, it wasn't because he was trying to get a whistleblower fired.

"I would not hang somebody out to dry on purpose," Purdy said. "I personally resent the insinuation, if there is one, that I was in any way in collusion with Alyeska to go after this man or his job or that I wasn't doing my job up there in Alaska."

Purdy said the standard at the time was that an alleged pollution incident didn't amount to a case unless an investigator — either federal or state — actually saw oil on the water.

He said he might have forwarded reports of pollution to Fisken, along with a demand that Fisken check out the allegations and explain what was going on at the terminal.

"It may have been naive on my part, but my goal was to stop it, or would have been to stop it," Purdy said.

Alyeska spokesman George Jurkowich said company records and recollections seem to confirm that the Coast Guard sent over information on Eward.

"There is some memory of him having gone to the Coast Guard and the Coast Guard coming back to Alyeska," Jurkowich said.

Eward's information apparently did not lead to any enforcement action, according to Alyeska.

Eward now fishes commercially in Alaska in the summer, and deals in fishing permits and boats in the winter. He said he tries not to think of his experience with Purdy, Alyeska and the Coast Guard, but the memories are still sharp.

"The one incident that stands out strong in my mind is taking all that information to the Coast Guard and then having it turned over to my boss," Eward said.

STATE OF ALASKA

DEPARTMENT OF ADMINISTRATION

ALASKA OIL SPILL COMMISSION

STEVE COWPER, GOVERNOR

707 A STREET, SUITE 202
ANCHORAGE, AK 99501
PHONE: (907) 258-6545
FAX: (907) 279-4302

January 30, 1990

Dear Mr. Ken Johnson:

During our phone conversation yesterday you requested additional information regarding the date of 1999 as a requirement for tankers serving in the Alaskan Trade be operating with double hulls.

This requirement was suggested as a practical solution for timely replacement of tankers serving Alaska given the consideration(s) of an ageing fleet, declining throughput of the Alyeska Pipeline and national shipbuilding capacity.

The 1999 date is an attempt to ensure the Alaskan Oil Trade will receive a premier role in achieving the standards being proposed for the nation -- the commission felt that as Alaska is the nation's number one oil producer with the highest resource risk it would be appropriate for tankers operating in Alaskan waters be assured a first right basis for limited ship building capacity.

I will be available for telephone conference if the Transportation Committee desires until 10:00 AM, January 30, 1990. My number is (907) 258-6545.

Sincerely,

Dennis M. Dooley

Dennis M. Dooley
Technical Coordinator

The following information was taken from:
An Assessment of Tanker Transportation Systems in Cook Inlet and Prince William Sound

Prepared for: Alaska Oil Spill Commission

Prepared by: Engineering Computer Optecnomics, Inc.

Section V.8 - Cost of Improved Tankers

Figure V - 6 illustrates the increased cost of improved tankers based on the improved 70,000 deadweight ton Cook Inlet crude carrier and the improved 250,000 deadweight ton Prince William Sound crude carrier. Both of these crude carriers incorporate the engineering subsystems discussed within this section, with cost data verified by U.S. shipyards, and are governed by the following factors:

- Single ship bid from U.S. shipyard (Nov. 1989) with a 1992 delivery;
- Service speed is 14 knots;
- Designed for ice operations in Cook Inlet/Prince William Sound;
- Main propulsion - diesel engine(s); and,
- Hydraulic unit for auxiliary thruster and cargo pumps.

Figure V - 6 also shows that the construction cost of a 70,000 deadweight ton, single hull tanker, is approximately 85 million dollars, whereas the cost of an improved B/15 double hull tanker (separation between the inner and outer hulls is the tanker's beam divided by 15), of the same deadweight, is 93 million dollars. This 8 million dollar increase in construction cost equates to a cost increase of 9.4 percent for the Cook Inlet crude carrier.

From the same graphic, it is shown that the cost of a 250,000 deadweight ton, single hull tanker, is approximately 175 million dollars, whereas the cost of an improved B/15 double hull tanker, of the same deadweight, is approximately 192 million dollars. The computed cost increase of 17.2 million dollars equates to a cost increase of 9.8 percent for the Prince William Sound crude carrier.

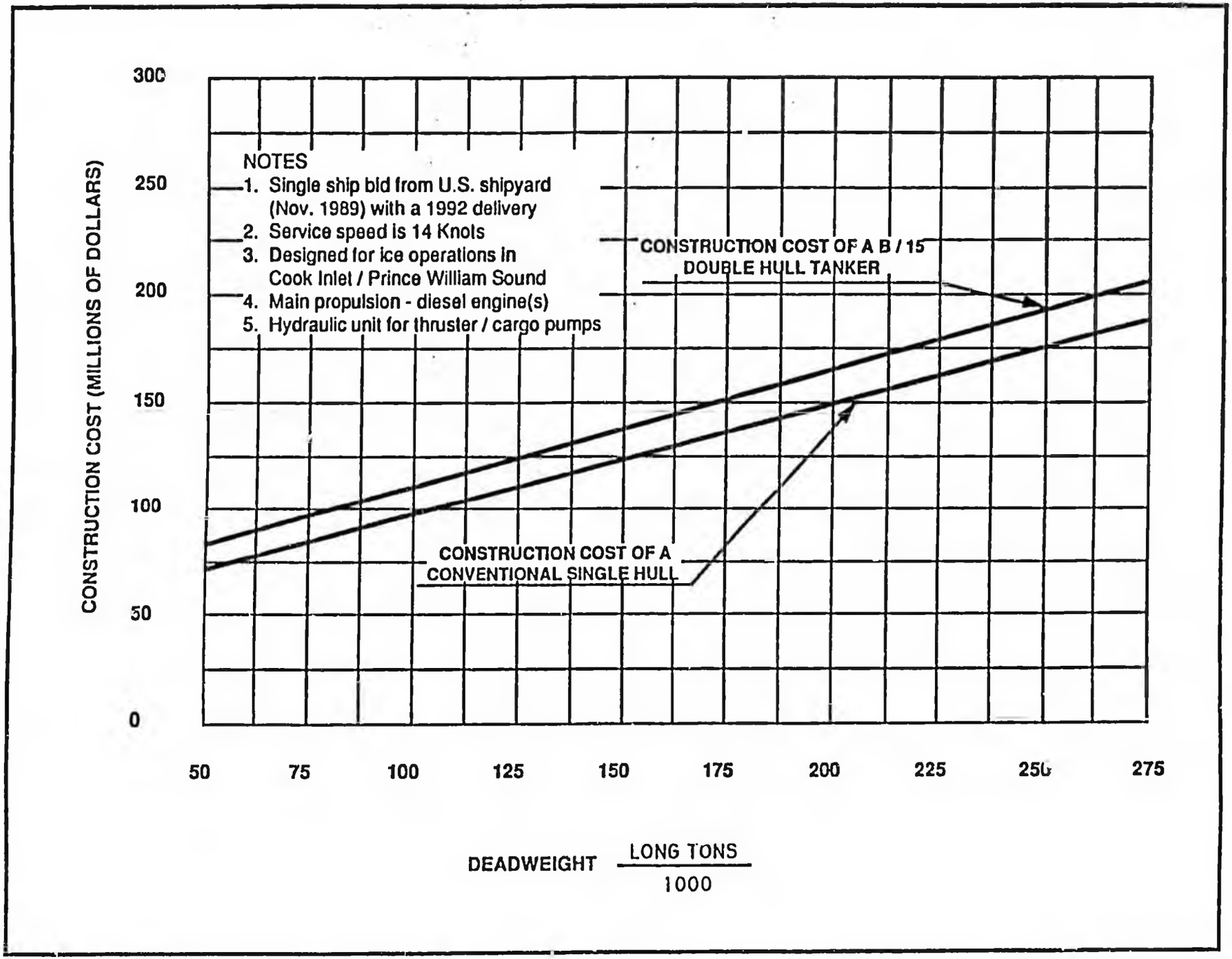

300
250
200
150
100
50
0
CONSTRUCTION COST (MILLIONS OF DOLLARS)
NOTES
1. Single ship bid from U.S. shipyard (Nov. 1989) with a 1992 delivery
2. Service speed is 14 Knots
3. Designed for ice operations in Cook Inlet / Prince William Sound
4. Main propulsion - diesel engine(s)
5. Hydraulic unit for thruster / cargo pumps
CONSTRUCTION COST OF A B / 15 DOUBLE HULL TANKER
CONSTRUCTION COST OF A CONVENTIONAL SINGLE HULL
50
75
100
125
150
175
200
225
250
275
DEADWEIGHT LONG TONS / 1000

FIGURE V - 6

Shipbuilders Council of America

1110 Vermont Avenue, N.W.
Washington, D.C. 20005-3553
202-775-9060

January 12, 1990

SHAN

To The Editor:

Your January 9 article, "Double Bottom Doubts" presents several arguments for why Congress should not mandate double bottoms and double hulls on oil tankers entering U.S. ports as a solution to preventing catastrophes such as the EXXON VALDEZ oil spill. Several of those arguments are based on incorrect facts and deserve to be clarified for your readers.

The article cautions Congress on not mandating a technological solution when there may be more cost-effective ways to deal with the problem of safety. Your example of a less costly alternative is to require tankers to have internal vacuum pumps that could hold oil in if the hull of a ship is ruptured. This option would certainly be cheap, and in fact, is the alternative strongly endorsed by the oil industry. The question is would it be an effective alternative.

Naval architects and other experts in the field of tanker designs have recommended vacuum pumps as an added safety feature, but they are by no means being recommended as a substitute or viable alternative to a double bottom or hull. In the case of a collision, a vacuum pump would provide no protection in reducing or preventing a spill. Any time a tank is ruptured on its side, the pump could not possibly maintain air tightness in the tank which is how this system works. It has been estimated that a vacuum pump would be effective in less than 10 percent of tanker accidents. By comparison, a double hull would be effective in 90 to 96 percent of all collision incidents and 70 to 96 percent of all groundings. No other technology or safety feature can provide anywhere near the protection of a double hull.

The Coast Guard conducted an analysis following the VALDEZ accident and concluded that as much as 60 percent of the oil spilled would have been prevented if the ship had a double bottom. That estimate is based strictly on actual tanks punctured. It does not take into account the amount of oil from those punctured tanks which would not have been lost because it would have been trapped in the empty space between the two hulls. Although your article referred to this study, it is troubling that a 60 percent reduction was treated as "no big deal". Sixty percent of 11 million gallons is 6.6 million gallons. I doubt very seriously that pollution prevention of 6.6 million gallons of oil would be considered a little thing by the people of Alaska and elsewhere who have witnessed the vast destruction to Alaska's wildlife, marine life, and its coastal waters. A spill of 6.6 million gallons would constitute the third largest oil spill disaster ever in American waters!

Eight of eleven oil tanks on the EXXON VALDEZ were punctured.

Since the Coast Guard study, naval architects and engineers have examined the actual ship and estimate that only three of the eleven tanks would have been punctured with a double bottom resulting in a 75 percent spill reduction. The reason for fewer tanks actually being punctured is based on the fact that a double bottom ship comes much harder aground which prevents ship movement resulting in additional tank damage after the initial impact. The oil industry has long argued that because a double bottom makes the ship ground firmer that it could cause the ship to capsize, or sink, or at a minimum make salvage more difficult. Studies, and actual case analysis, by the Coast Guard and Office of Technology Assessment have determined just the opposite. A firm grounding is beneficial in the salvage operation. Had the EXXON VALDEZ come off Bligh Reef, for example, it would have sunk according to the Coast Guard.

The less oil spilled and the slower the rate of discharge, the more time available for cleanup response. The VALDEZ lost its 11 million gallons of oil in five hours. If it had been a double hull ship, the actual oil lost would have occurred over a 12 to 24 hour time period. This would have allowed more time for response and would have reduced the overall cleanup effort by 75 percent.

The mere suggestion that mandating double hulls is premature ignores the benefits of double hulls, and the long history of this issue. Former President Jimmy Carter instructed the Coast Guard to make double bottoms mandatory in 1976 and to negotiate that requirement internationally. The International Maritime Organization, IMO, a United Nations affiliate, rejected the U.S. proposal because of oil industry opposition world wide. The same situation exists today. In 1978, the oil industry's more cost-effective alternative was to require segregated ballast tanks. Segregated ballast tanks only cover 40 percent of a ship's periphery. As the EXXON VALDEZ illustrated, segregated ballasts provide very little oil spill prevention in a grounding. In the case of a collision, they do provide some protection if the point of contact occurs in that 40 percent area where a ballast tank is located. Today, as in 1978, the oil industry is arguing that there is a better, more cost-effective solution - vacuum pumps. Even though vacuum pumps, as I mentioned earlier, are inexpensive and do provide some benefit, IMO rejected them two years ago as ineffective.

The Alaska Oil Spill Commission, in its December 8 report, recommends double hulls for tankers and several additional design upgrades such as auxiliary thrusters, a navigation display system, an automated cargo control system, and centralized bunker tanks. The Commission's analysis shows that with all of these features incorporated into tankers, the increase in capital construction cost would be ten percent. Over the fifteen year life of a 250,000 dwt tanker such as the VALDEZ, the increased capital cost would result in an increase in the cost of a gallon of gas at the tank of only $0.0013 or .1 percent of a penny.

This cost increase does not factor in the operational savings that would be realized with a double hull tanker. For example, the oil in the bottom of the cargo tanks on a single hull tanker cannot be pumped out for lack of pressure. This results in wasted cargo carrying capacity. With a double hull tanker, all the oil could be offloaded because the portion at the bottom would be drained from below in the space between the two hulls.

A double hull tanker would also lower the cost of vessel insurance.

Tanker safety and double hulls have been studied exhaustively. The argument to wait for the completion of yet another study by the National Academy of Sciences only postpones long overdue safety upgrades. Now is not the time for study, but for decisive concrete action. It is interesting to note that the Committee on Tank Vessel Design, which was formed to do the study for the National Academy of Sciences, does not even include a shipyard representative. One would think that a panel dedicated to the study of ship designs would benefit from the experience and expertise of a shipbuilder. The panel will, nevertheless, include at least two representatives from the oil industry.

Since the late 1970s, there have been no safety upgrades to oil tankers. This record clearly illustrates industry's lack of dedication to safety and its unwillingness to impose self-discipline. The only way to provide the maximum protection to our environment is for Congress to endorse the House passed version of the oil spill bill which mandates double bottoms and double hulls. Anything short of a legislative mandate will result in a less than acceptable alternative.

Sincerely,

John J. Stocker
President

Mr. Stanford Erickson
General Manager
THE JOURNAL OF COMMERCE
110 Wall Street
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Double Bottom Doubts

A STRONG BILL TO COVER THE COST OF cleaning p oil spills stands on the verge of congressional passage. he most controversial issue facing the House-Senate conference committee when it meets this week is whether nkers entering U.S. ports should be required to have ouble bottoms and, eventually, full double hulls. The need or greater tanker safety is unquestioned, but Congress hould be wary of mandating a specific technological solu-ion when there may be more cost-effective ways to deal ith the problem.

A double bottom is a second underside on a tanker, eparated from the outer hull by an air space as much as 9 feet thick. A double hull is an upward extension of this tructure to cover the entire hull. According to U.S. Coast Guard studies, double hulls help keep a vessel's oil tanks ntact even when its outer hull is ruptured in an accident, iminishing the size of oil spills and preventing many of hem.

When it approved the oil spill legislation last Novem-er, the House provided that all tankers entering U.S. ports must have double bottoms within seven years and the nore-costly double hulls within 15 years. The Senate man-dated that all new tankers be built with double hulls, unless he secretary of transportation determines that they will ot enhance safety, but it imposed no requirements on the stimated 3,800 tankers now in service around the world.

Just under 600 of those tankers now have double hulls; 12 of them operate under the U.S. flag.

The debate over the merits of double bottoms is an old one. Back in 1978, the United States pushed the Interna-tional Maritime Organization, a United Nations affiliate, to require all tankers to have them. When resistance from other countries killed that initiative, Congress backed off from requiring them on ships in U.S. waters, mandating ins ead that smaller tankers have either crude oil washing sy ems, which clean tanks in an environmentally safe manner, or segregated ballast tanks, which form a buffer between the cargo tanks and certain parts of the hull.

As international interest in enhancing tanker safety has increased over the last decade, other nations have taken the lead on double hulls. Scandinavian countries are considering requiring all tankers entering their ports to have double hulls. In an effort to achieve the same end through economic means, Finland, at year's end, started taxing single-hulled tankers calling at its ports 30 cents a barrel, while charging double-hulled tankers only a fraction as much.

Double hulls would help reduce the number of spills stemming from low-impact accidents. But they would not necessarily reduce the number of large-scale catastrophes. In the case of the Exxon Valdez, which spilled 11 million gallons of oil despite segregated ballasts, a full double hull would not have reduced the spill by more than half, accord-ing to a Coast Guard analysis.

And in some cases, double hulls actually may make spills worse. Flooded double bottoms make ships more dif cult to salvage. Seawater in between the hulls increases instability and weight, which under some circumstances causes a ship to capsize or sink. Vaporized oil between the hulls can pose a fire hazard to salvage workers' cutting torches.

The limited protection double hulls afford doesn't come cheap. Installing one adds from $6 million to $30 million to the $90 million cost of an average new tanker. The Coast Guard estimates the costs in the lower end of that range; tanker operators figure it to be near the high end.

Mandating double hulls is premature, because there may be more efficient ways of enhancing tanker safety. One alternative is to require tankers to have internal vacuum pumps that could hold oil in if the hull is ruptured. Another lower-cost alternative is to reduce current allow-able tanker loads by about 20% by limiting storage of oil above the waterline. This would reduce the internal pres-sure that forces oil into the water when the hull is rup-tured.

At the behest of the Coast Guard, a panel of the National Academy of Sciences is examining tanker safety. The interim report, due in June, is expected to yield information about the relative costs and benefits of double hulls and other alternatives.

Congress should not prejudge the results of that study by mandating double hulls at this time. In the wake of the disastrous Exxon Valdez spill, there is good reason to require enhanced safety features for oil tankers. But Con-gress should allow tanker operators to adopt or develop the most cost-effective technology to reduce spills, rather than mandating a specific technological fix.

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KEY ENVIRONMENTAL VOTE

January 23, 1990

Dear Colleague:

Soon the House will appoint conferees for the Oil Prevention, Response Liability and Compensation Act of 1989.

I intend to offer a motion to instruct the conferees to stand by the House's earlier vote that mandated the double hull/double bottom requirement on all tank vessels that use U.S. ports.

It is time the United States Congress take a step towards PREVENTION of these devastating oil spills. Double hulls give us that margin of prevention by as much as 90 percent in cases of tanker groundings. All other safety measures combined will not reduce the risk of massive oil spills as well as the double hull requirement.

Many studies have been done during the past 15 years of delay. The findings of the most recent study by the Alaskan Oil Spill Commission and earlier studies by the Coast Guard are conclusive -- double hulls prevent oil spills.

A requirement for double hulls has already been approved by the House and was only two votes short of approval in the Senate. So, I ask my colleagues to join me in sending a strong signal to the conferees that the House stands by its position -- the time to begin implementing this requirement is now, not later, and not after another disaster.

For further information, please call me or Ed Kranik of my staff at x55034.

Sincerely,

Dean Gallo

DEAN A. GALLO
Member of Congress

Congress of the United States (X)

Washington, DC 20515

January 25, 1990

Dear Colleague:

When the conferees for the Oil Prevention, Response Liability and Compensation Act are appointed, we plan to offer a motion to instruct the conferees to insist on the House's position that mandates the double hull/double bottom requirement. This vote could occur as early as next Tuesday. A vote in favor of instructing the conferees is a vote in favor of double hulls/double bottoms and a vote in favor of protecting our environment.

Since we debated this issue two months ago, the arguments in favor of the double hull/double bottom requirement have been further strengthened.

First, the Alaska Oil Spill Commission's report, released in early January, shows that the single most effective action that can be taken to minimize the potential for another Valdez disaster is to require double hulls/double bottoms on all tank vessels.

Second, there is a window of opportunity now that will not be open again for more than two decades. The world fleet is aging. By 1992, more that 40% of the current world fleet will be more than 20 years old and another 25% will be in the 15 to 19 year old range. So, a valuable opportunity will be lost if we allow the replacement of the fleet without double hulls/double bottoms.

Third, many argue that the cost would be too high if double hulls/double bottoms were required. When calculated over the 15 year lifetime of a tanker, the cost for double hulls is less than one tenth of one cent per gallon.

Lastly, the Senate version of the bill calls for yet another study. The Senate vote to mandate double hulls fell short by only two votes. Fifteen years ago, Congress debated this same issue and was given assurances that double hulls would be required on tankers carrying Alaskan oil, but again the regulations failed to mandate them. We cannot wait another fifteen years. The time has come to PREVENT oil spills.

We urge you to support the motion to instuct the conferees. Again, a vote in favor of instructing the conferees is a vote in favor of double hulls/double bottoms and a vote in favor of protecting our environment.

Sincerely,

DEAN A. GALLO

ROBERT TORRICELLI

STEVE GUNDERSON

JIM MCDERMOTT

DUNCAN HUNTER

GEORGE MILLER

(X)

Congress of the United States

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January 18, 1990

TWO N.J. CONGRESSMEN CITE NEW EVIDENCE THAT TANKER SPILL IN NEW YORK HARBOR WOULD BE DEVASTATING; RENEW CALL FOR SAFETY HULLS

WASHINGTON -- Two New Jersey Congressmen today released new evidence that a major tanker spill in New York harbor would devastate the entire bay area, including the Hudson and East Rivers within 48 hours of the accident.

Congressmen Dean Gallo and Robert Torricelli, who led the fight for double hulled and bottomed vessels during last years' House debate on oil spill legislation, said today that a computer model developed by a consultant for the Alaska Oil Spill Commission provides graphic proof that a tanker accident would immediately lead to disaster.

"After reviewing this new evidence, as well as the findings of the Alaska Oil Spill Commission, there should be no doubt in anyone's mind that we must fight to keep double hull and double bottom requirements in the oil spill act," said Gallo, R-NJ 11th.

"These safety measures would provide a substantial measure of protection for the environment since groundings and collisions are the most frequent causes of oil spills," said Torricelli, D-NJ 9th. "A Coast Guard report has shown that double bottoms alone would have been effective in 96 percent of oil tanker accidents studied."

"In highway safety, we require seat belts to save lives. Double hulls and double bottoms on tankers provide similar protection for our environment," said Gallo, who amended the oil spill bill in the House to require double hulls on all tankers within 15 years.

"If oil spill legislation is going to work, prevention must be an integral part of it," said Torricelli, who amended the oil spill bill in the House to require double bottoms within 7 years.

"Even the most sophisticated oil spill response equipment would pick up only five percent of the oil spilled in the fast-moving currents of New York Harbor and other, similar harbors. Once the oil leaks from the tanker, the damage is done. The idea is to do all we can to foreclose that possibility," Torricelli said.

"In the near future, a Conference Committee will decide whether to accept our requirements, contained in the House bill, or go back to Senate language that calls for yet another study of the question. That is where Congress dropped this question 15 years ago. We have studied this to death. We can't afford to wait until the nightmare of another tanker spill becomes reality, as this computer model clearly shows," Gallo said.

The computer model, developed by a Maryland firm who provided supporting materials for the recent report issued by the Alaska Oil Spill Commission, assumed a spill the size of the Valdez disaster resulting from a tanker striking the Verrazano Narrows Bridge, spilling 11 million gallons of crude oil.

"The most disturbing aspect of this model to me is the finding of total devastation in less than 48 hours.

"Normally, these models are based on a one-week projection, but the consultant stopped the model before the 48 hour point, because the devastation was already total. That is a frightening thought, when you consider that even the fastest spill response teams would need six to twelve hours to be fully operational," Gallo said.

"The cost of requiring double hulls and double bottoms pales in comparison to the cost of doing without them," Torricelli said.

"According to figures provided in the Alaska Oil Spill Commission report, the cost of a double hull would add less than a tenth of a cent to every gallon of oil a tanker would carry over its lifetime. The cost of not building double bottoms and double hulls, however, can be seen on the shores of Prince William Sound. That is not a price the people of New Jersey should have to pay," Torricelli said.

New Jersey's tourism and fishing industries, with annual revenues of more than $3 billion would also be devastated by a major spill, according to the Congressmen.

They also indicated that area refineries receive 39 million metric tons of crude and refined petroleum products annually valued at $4.5 billion, most of which travels in and out of New York and northern New Jersey deep ports.

The Alaska Oil Spill Commission strongly recommended double hull and double bottom requirements to provide an added measure of safety in tanker accidents.