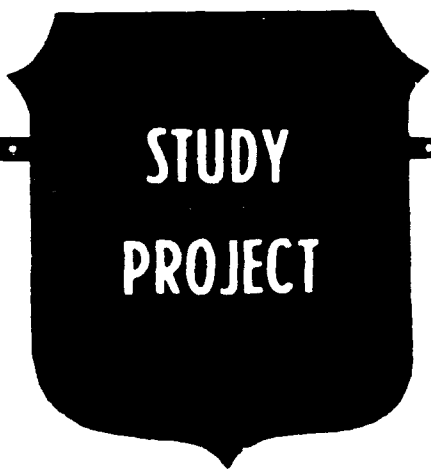


2

AD-A234 810



The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

COMPLETING THE DEPARTMENT OF TRANSPORTATION:
CAPTURING WATERWAY POLICY FROM THE
CORPS OF ENGINEERS

BY

COMMANDER TIMOTHY L. TERRIBERRY
United States Coast Guard

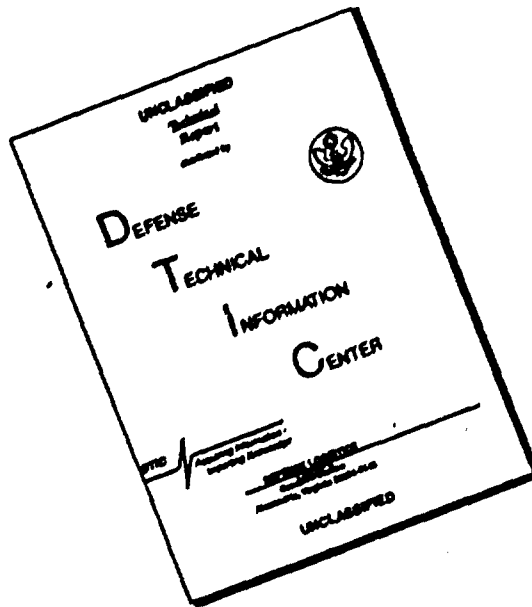
DISTRIBUTION STATEMENT A: Approved for public
release; distribution is unlimited.

USAWC CLASS OF 1991



U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED			1b. RESTRICTIVE MARKINGS		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release. Distribution is unlimited.		
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE			4. PERFORMING ORGANIZATION REPORT NUMBER(S)		
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION U.S. Army War College		6b. OFFICE SYMBOL (if applicable)	7a. NAME OF MONITORING ORGANIZATION		
6c. ADDRESS (City, State, and ZIP Code) Carlisle Barracks, PA 17013-5050			7b. ADDRESS (City, State, and ZIP Code)		
8a. NAME OF FUNDING / SPONSORING ORGANIZATION		8b. OFFICE SYMBOL (if applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER		
8c. ADDRESS (City, State, and ZIP Code)			10. SOURCE OF FUNDING NUMBERS		
		PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) Completing the Department of Transportation, Capturing Waterway Policy From the Corps of Engineers (U)					
12. PERSONAL AUTHOR(S) CDR Timothy L. Terriberry					
13a. TYPE OF REPORT Military Studies Project		13b. TIME COVERED FROM 8/8/90 TO 4/5/91		14. DATE OF REPORT (Year, Month, Day) 91/4/5	15. PAGE COUNT 34
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	Waterways, rivers and harbors, Corps of Engineers, Department of Transportation (DOT), civil works, navigation infrastructure, locks, channels,		
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
This paper traces the Corps of Engineers involvement in waterways navigation and the creation of the Department of Transportation as the answer for the development of an integrated national transportation policy. The paper shows that the Department of Transportation is incomplete and unable to integrate policy. The author determines that operational elements of the Corps of Engineers navigation program should be transferred to the Department to fill the void in waterways expertise. Specific recommendations are to (1) transfer operations of navigational locks and dams to the Department, (2) reverse the roles of the Secretary of the Army and the Secretary of Transportation with respect to the Inland Waterways Users Board, and (3) forward the recommendations of the Rivers and Harbors Board through the Secretary of Transportation to Congress.					
20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED		
22a. NAME OF RESPONSIBLE INDIVIDUAL COL David E. Shaver			22b. TELEPHONE (Include Area Code) (717) 245-3275	22c. OFFICE SYMBOL AWCI	

18. Subject Terms

taxation, transportation policy and long range planning, FAA, FRA, UMTA, MARAD, U.S. Coast Guard, Title 33 U.S. CODE.

UNCLASSIFIED

A-1

USAWC MILITARY STUDIES PROGRAM PAPER

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

COMPLETING THE
DEPARTMENT OF TRANSPORTATION:
CAPTURING WATERWAY POLICY FROM
THE CORPS OF ENGINEERS

AN INDIVIDUAL STUDY PROJECT

by

Commander Timothy L. Terriberry
United States Coast Guard

Colonel David E. Shaver
Project Advisor

**DISTRIBUTION STATEMENT A: Approved for public
release; distribution is unlimited.**

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013

UNCLASSIFIED

91 4 24 045

ABSTRACT

AUTHOR: Timothy L. Terriberry, CDR, USCG
TITLE: Completing the Department of Transportation:
Capturing Waterway Policy From the Corps of
Engineers
FORMAT: Individual Study Project
DATE: 5 April 1991 PAGES: 34 CLASSIFICATION:
Unclassified

This paper traces the Corps of Engineers involvement in waterways navigation and the creation of the Department of Transportation as the answer for the development of an integrated national transportation policy. The paper shows that the Department of Transportation is incomplete and unable to integrate policy. The author determines that operational elements of the Corps of Engineers navigation program should be transferred to the Department to fill the void in waterways expertise. Specific recommendations are to (1) transfer operations of navigational locks and dams to the Department, (2) Reverse the roles of the Secretary of the Army and the Secretary of Transportation with respect to the Inland Waterways Users Board, and (3) Forward the recommendations of the Rivers and Harbors Board through the Secretary of Transportation to Congress.

INTRODUCTION

While inspecting Coast Guard units in the Central Mississippi Valley in 1985, I visited eight units in six days. Everywhere I turned, the Army Corps of Engineers (COE) was present: St. Louis, Memphis, Vicksburg, Natchez, Sallisaw. I became curious of the COE's role on the inland waterway system and navigation in general. I had encountered the COE before: dredging harbor channels on the East and West coasts of the United States and operating the Cape Cod and Chesapeake and Delaware canals. I was aware that the COE had built the Panama Canal at the turn of the century and had constructed many locks, dams, and flood control systems, in addition to military bases and airfields. Assigned to the U.S. Army War College for a year of study, I wanted to learn more about the COE's navigation role. I discovered that the COE's near monopoly on engineering talent early in our nation's history, and ability to deliver a finished product, created an ever expanding program of civil works. In this paper I will develop the theme that part of the role of the U.S. Army Corps of Engineers should be changed. The COE's roles in harbors, rivers, and waterways, its navigation program, will be my focus. Narrowing this paper further, I will concentrate on the COE's role in operations of its navigation program, not its construction. I will also explore the origins and responsibilities of the Department of Transportation (DOT). In order for DOT to execute its legislated mandate, I believe that

some operational aspects of the COE's navigation program should be transferred to DOT.

CIVIL WORKS

MG Julian L. Schley described the COE as: "(1) a part of the combat team ... and (2) a construction agency capable by training and experience to handle major construction."¹ It is as a construction agency that the COE has evolved a civil works program. Today that program involves harbors, rivers, waterways, flood control, environmental protection, wetlands rehabilitation, hydroelectric generation, and water resource development. It constructs projects for other Federal agencies, such as NASA, in addition to military and national defense construction projects. From time to time the Civil Works program has been challenged by critics. Proposals have been forwarded to combine Civil Works with the Department of Interior, or to form a super construction corps. The Army has maintained that for mobilization purposes it needs a large number of experienced engineers, able to handle large construction projects, using the latest techniques. Having the COE perform Civil Works projects is the least expensive way to train and maintain the talent that might be necessary to support the Army.² Forgotten in these arguments is who should operate the projects that the COE constructs. When a project is constructed for a customer, such as the Department of Energy or the National Aeronautics and Space Administration, then operations are turned over. When there is no clear customer,

such as a Congressionally authorized navigation project, the COE operates the completed project.

EARLY BEGINNINGS

COE formal involvement in navigation began in 1824 when funds were appropriated by Congress to conduct a general survey of roads and canals of national importance, recognizing their usefulness in national defense and in promoting the general welfare. This was a period of westward expansion of the United States. Prior to this, individual states and private corporations had been funding toll road and canal construction to develop the infrastructure to support the movement of people and goods between the Atlantic Coast and the interior, represented by the Great Lakes, and Ohio and Mississippi river valleys. These state and private ventures had mixed construction and financial success. The COE was recognized as having the largest body of experienced civil engineers. COE expertise was believed necessary to ensure completion of a system of internal communications. This system would support commerce and military operations. It would tie together the string of coastal and frontier fortifications under construction. President Monroe felt that Federal funds and assistance could be made available to the states and private corporations that retained jurisdiction of projects, including their subsequent operations.³

At the same time as the General Survey Act, a second law was

enacted by Congress that directed the COE to improve navigation on the Ohio and Mississippi Rivers by removal of snags and deepening of channels. It was the first act committing the Federal government to improving the river navigation system. Within days, another Act was passed directing the COE involvement in improving the harbor entrance to Erie, PA and Plymouth Beach, MA.* Prior to this time, harbor improvements had only been undertaken in connection with designating ports of entry and regulating foreign trade through the Treasury Department, or in providing for harbor defense and safe naval anchorages through the War Department.

The Secretary of War gave his approval in 1826 for the first federal government snag boat to be constructed. The UNITED STATES STEAM BOAT HELIOPOLIS was completed in 1829 and the COE began operations of its first vessel. In 1832 a second vessel, the snag boat ARCHIMEDES joined the fleet.†

The COE recognized that statistical data on waterway utilization was necessary to prioritize the many river and harbor projects it was being directed to investigate. Since the opening of the floodgate of Federal funds for waterway improvement projects in 1824, Congress had realized the benefits of "pork". Many proposals benefited local jurisdictions, but contributed little to development of a national system. Information was needed to determine where the best investments could be made for the greatest benefit. In 1838, the COE began collecting statistical

data on internal navigation.⁶

The COE was not alone in surveying rivers and harbors. The Treasury Department was directing a coastal survey using Army topographical engineers in keeping with their responsibilities for regulating commerce. In the early part of the 19th century the Treasury Department was the only other cabinet office that had any responsibilities in harbor development. Through the Office of Customs, ports of entry and the collection of duties on imports had to be established and regulated. Federal funds were first appropriated to improve ports of entry, in order to attract foreign trade. Designation as a port of entry was a criteria in early harbor development appropriation bills. The limited number of trained engineers and people trained in scientific procedures available in the United States reduced the value of the Treasury Department results. The Congress legislated based on the more accurate COE information.⁷

The General Survey Act of 1824 and the specific river and harbor surveys directed by the Congress led to the creation of two boards by the COE to review the premise of the projects and the plans and estimates of required improvements. These boards classified the projects as national or local in character. They advised on whether the project was "... of such general interest and importance ... to deserve the support of the nation."⁸

This classification became particularly important to the administration when making recommendations to the Congress for

the expenditures of funds. But Congress, retaining ultimate power of the purse, directed projects to be completed with little thought to a systematic plan. Of primary importance to Congress was balancing sectional interests and satisfying local constituents. For example, the largest river and harbor bill prior to the Civil War appropriated funds for 100 works in 1852.⁹ The 1890 Rivers and Harbors Act distributed funds for over 440 projects and called for numerous surveys of potential future projects. The COE executed a chaotic program.¹⁰

Initially the locks and canals that the COE provided surveys, plans and estimates for, and Congress eventually partially or fully funded, were state or private enterprises. Early success of the steam boat made inland waterway travel appear to be the wave of future travel for people and commerce. Many of these projects were barely completed before the technology of the railroad captured private development funds and left waterway navigation behind as the method of choice for movement. Canals and locks could not pay their way. Pressure was put on Congress to continue to support these projects. Slowly, the Federal government became more involved. In 1855 it ordered the enlargement of the locks of the Louisville and Portland Canal Company (Ohio River) in order to keep pace with steamboat development. By 1872, these locks had become the responsibility of the COE to rehabilitate and operate.¹¹ In 1874, the COE was authorized to buy out the rights, claims, and title of the Wabash Navigation Company to the lock and dam at Grand Rapids on the

Wabash River, to be operated for the interest of free navigation.¹² Legislation in 1880 allowed the COE to accept the Sault Ste. Marie locks from the state of Michigan to improve and operate.¹³ By 1881, the COE was operating four canal systems. Through the next decade acquisition of canal systems by the COE, authorized by Congress, continued. The Rivers and Harbors Act of 1890 authorized the purchase of four canal systems and permitted the private development of a lock and dam at Galena, IL with a guaranteed purchase price by the Federal government one year after completion and commencement of operations. The Act also specified the size of a lock for the Illinois and Mississippi canal system on a route to be selected by the COE and on land to be purchased by the government.¹⁴ The Federal government was no longer bailing out non competitive private or state owned canal and navigation projects, but was accelerating its own navigation infrastructure. The process of Federal assumption of waterway operations continued into the twentieth century.

The Congress promoted waterway development in response to public demands and concern for the railway monopolies that came about after the Civil War. When the Northwest Territories were accepted in the new United States, a condition was that the rivers were to be free of all tolls and tariffs. Congress extended this provision to all the waterways that Federal money had developed or improved. This policy, along with government capital investment, ensured low cost competition for the

railroads.

The COE became the operator of this system of waterways because it was the only element of the Federal government that was present everywhere in the expanding country: exploring the frontiers, mapping and surveying interior routes for land and water transport, constructing coastal fortifications and harbor improvements. It was the largest source of trained engineering talent available. West Point was the only engineering school in the country until 1824 and the most prestigious until after the Civil War. The COE had supervised the construction of many of the waterway improvements. When Congress began to acquire locks and dams from state and private concerns, these structures needed maintenance and improvements to ensure operation. The COE was called upon to make these improvements and left with operating the results.

During the 100 years since the first COE involvement in navigation, the Treasury Department was still collecting customs duties in the harbors, marking navigational channels with buoys and lighthouses, and enforcing federal laws on the high seas through the Revenue Marine. Its role on the navigable waterways had changed little. The Steamboat Inspection Service was created (1852) after a series of fatal boiler explosions to protect waterborne commerce, and the goods and people carried. It did not have authority over waterway operations. Jurisdiction for the Lighthouse Board to mark the inland waterways was not

extended until 1874. The only other significant Federal agency established (1877) that had an interest in transport was the Interstate Commerce Commission (ICC). It focused on regulating the railroads. Congress exempted most waterborne commerce from ICC jurisdiction. The ICC never developed any operational capability.¹³

CURRENT RESPONSIBILITIES

The majority of COE responsibilities for its navigation program are codified in Title 33 of the United States Code (USC). The specific citations from the law are paraphrased in Appendix A. These responsibilities are a direct result of the history detailed above. Many of the laws date from the last century. The COE manages to retain functions even when new agencies are created that could assume these duties, such as the Environmental Protection Agency and pollution control laws.

Today the COE groups the waterways it operates in two major categories; those subject to fuel tax payable by users and those not. Within the group subject to fuel tax, 27 waterways have been aggregated into nine major segments. These total 10,944 miles, 167 locks and 216 lock chambers. Details of this group are shown in Table 1.

TABLE 1 16

WATERWAYS

WATERWAY	LOCKS	LOCK CHAMBERS
Upper Mississippi River	28	33
Middle Mississippi River	2	3
Lower Mississippi River	24	24
Illinois Waterway	8	8
Ohio River	58	95
Gulf Intracoastal	16	18
Mobile River	19	19
Atlantic Intercoastal	3	3
Columbia-Snake-Willamette	9	13
Totals	<u>167</u>	<u>216</u>

In the group not subject to fuel tax are the Erie Canal system, operated by the State of New York, and several small waterways. Additionally, there are harbor estuaries, channels, tidal reaches, and free flowing rivers maintained for navigation. The controlling depths of the fuel tax group (primarily the inland waterway system) is 9-14 feet. Channels in harbors and harbor approaches vary in depth from 50 feet dredged to naturally maintained depths as shallow as six feet.¹⁷ The lengths of waterways subject and not subject to fuel tax are shown in Table 2.

TABLE 2

FUEL TAX WATERWAY SEGMENTS

WATERWAY	LENGTH
Upper Mississippi River	663
Middle Mississippi River	966
Lower Mississippi River	1230
Illinois Waterway	357
Ohio River System	2545
Gulf Intracoastal Waterway	1547
Mobile River and Tributaries	992
Atlantic Intracoastal Waterway	1163
Columbia-Snake-Willamette Waterway	483
Total of Fuel Tax Segments	10944

WATERWAYS NOT SUBJECT TO FUEL TAX

WATERWAY	LENGTH
Minnesota, St. Croix, Black Rivers	52
Okeechobee Waterway	154
Cape Fear River	111
New York State Waterways	522
Total of Non Fuel Tax Segments	839

On the inland waterway system 29,300 dry cargo barges with a capacity of 38 million tons and 4,250 tank barges with a capacity of 10.8 million tons are propelled by 5000 towboats and tug boats.¹⁹

In The 1988 Inland Waterway Review, the Chief of Engineers stated that his objective was to:

... manage (the) waterway system to enhance economic efficiency in consonance with the full range of existing environmental laws and regulations. Operate inland waterway projects to satisfy navigation and many other

authorized water resource purposes...²⁰

The review did not question whether the COE should be the operator of the waterway system or not.

The COE operates 21 dredges, 170 survey boats and 841 workboats to maintain the waterway system. Four of the dredges are ocean going, the others are for use on the shallow inland system. The majority of dredging work is done by private vessels under contract. The COE operates five driftwood recovery vessels. In some harbors this is contracted to private operators. The COE spent \$146 million for waterway operations and \$451 million for maintenance of locks, dams and dredging of waterways in fiscal year 1990. A total of 3406 full time equivalent work years are involved in waterways operation and maintenance. All of this is supported by Civil Works appropriations, separate from other Department of Defense funding.²¹

The COE operates a Supervisor of the Harbor in New York, Baltimore, and Hampton Roads harbors as required by law. Other major harbors do not have such a position. In the three designated harbors, COE boats make inspection trips of the harbors for the Supervisors. Elsewhere, inspection operations are done with available workboats or other government craft, such as Coast Guard patrol boats.²²

THE NATION'S TRANSPORTATION SYSTEM

Transportation involves the movement of goods and people to satisfy demands based on time and space factors. Transportation functions are performed by a variety of institutions, which can be grouped into the public and private sectors. Governments can have a substantial influence over transportation through tax, investment, subsidy, infrastructure development, and other policies. Our waterway transport system is one of many modes of moving freight. Other modes are by truck, pipeline, rail, and to a very limited extent, air. Movement of passengers on our waterway system is limited today. Ferry systems do operate in some major harbors, and there are a few excursion boats on the river system.

Historical circumstances play a large role in how our current system developed. Mr. Herman Mertins, Jr. has called this the 'power of the past.'²³ The COE has been a victim or beneficiary of this power, as waterway and harbor development evolved. The COE's civil works program expanded as different sections of the country bartered for transportation expenditures.²⁴

Transportation organizes and maintains the country unity. Earliest investments linked the interior (Ohio and Mississippi River valleys) to the Eastern seaboard and access to foreign commerce. But the Northwest Territories looked North and South.

not East, for their outlet to foreign markets. Canals faced financial ruin. Railroads provided competition and surpassed canal travel for speed of delivery of passengers and freight. They linked the Far West with the East. Technology, in the form of the personal automobile, forced new investment in a different system - highways. This allowed interstate trucking to compete successfully with the railroads and disadvantaged the waterways even more, except for bulk commodity shipments. One must recognize the interrelationships between transportation systems.

EARLY TRANSPORTATION POLICY

From the Federal government's earliest involvement, no national transportation policy has existed. 'Long tradition, sunk costs, well-established pressure groups, and a multitude of control points within the Federal government ... exert a tenacious influence over the formation and implementation of national transportation policy.'²⁵ The use of land grants for railroad development was equivalent to a four percent subsidy. Waterway development amounted to an 85 percent subsidy of waterway carriers costs. Federal highway programs have subsidized as much as 90 percent of highway construction, allowing commercial trucking to thrive in direct competition with the railroads.²⁶

The first national transportation policy was adopted in the Transportation Act of 1940. It recognized all three forms of freight transportation - rail, water, and road. It called for

the development, coordination, and preservation of a national system. However no one was put in charge. The ICC, an independent agency, used its regulator powers to implement the policy. But Congress continued exempting the majority of domestic water carriers from ICC regulation. The Act also created a Board of Investigation and Research to study the integration of transportation policy. Among its findings was the recommendation to create a national transportation authority.²⁷ Subsequently, the National Resources Planning Board, commissioned by President Roosevelt in 1940, made the same recommendation. This authority

...would coordinate all Federal development activities in relation to a carefully conceived plan ... Its primary responsibilities would include whether individual projects were in accord with overall plans of sponsoring agency, whether such projects formed desirable parts of the master transportation plan, whether ... the timing and rate of transportation expenditures were properly adjusted, and whether a proper correlation existed among Federal, state, and local transportation objectives.²⁸

The Second World War interrupted any ideas of creating this new authority. The post war Hoover Commission, studying Federal government reorganization, again called for revising the approach to transportation planning.²⁹

DEPARTMENT OF TRANSPORTATION

Successful establishment of the Department of Transportation occurred in 1966. This represented the culmination of 14 legislative attempts over the previous 100 years to consolidate transportation functions in one office. As such, it was a compromise after much bureaucratic in-fighting.

The variety and complexity of these problems are reflected in the numerous Government Organizations and the historic accumulation of statutes which had to be considered in framing the bill for a new department . . . Inevitably some compromises were made, and some matters were left open. The committee has not tried to wrap up in one package every conceivable problem or agency in the transportation field.³⁰

DOT provided a focal point for consolidating many basic elements of national transportation policy. It was a first step, but not all functions were captured. Most significant among those functions was that the inland waterway development process of the COE remained outside DOT's jurisdiction or responsibility.

The purpose of DOT, as legislated in 49 USC 101, is to ensure

... the coordinated and effective administration of transportation programs, encourage cooperation of Federal,

State, and local governments to achieve transportation objectives, stimulate technological advances in transportation, and develop and recommend to the President and Congress transportation policies and programs to achieve transportation objectives."

Different modes of transportation are represented by the modal agencies that have primary jurisdiction over them:

airlines - Federal Aviation Administration

highways - Federal Highway Administration

railroads - Federal Railroad Administration

light rail, intra-city bus - Urban Mass Transit
Administration (UMTA)

marine transportation - Maritime Administration and
U.S. Coast Guard

pipelines - Office of Pipeline Safety,

Prominently missing is any DOT agency responsible for waterway development, regulation or oversight. The Coast Guard provides safety of navigation services to existing waterways, in the form of channel markings, search and rescue services, inspection of ships, barges, tugs, and tow boats, and licensing of operating personnel. The Maritime Administration (MARAD) promotes waterway usage through a deputy administrator and an office for marketing and domestic enterprise, who focus on commercial users. No input is provided to the COE for determining what waterways should be

developed by the Federal government.³¹

DOT has responsibility for water transportation development assigned by law, 49 USC App. 142. These include investigating the appropriate types of boats suitable for different classes of waterways; investigating water terminals; their location and use; investigating any matter that promotes inland water transportation; and publishing useful data concerning transportation on inland waterways. MARAD is where this responsibility is executed, but by any measure this has been less than adequate.

MARAD came to DOT in 1981 from the Department of Commerce, 16 years after DOT was formed. Prior to that, in 1977, DOT published a report on the future transportation potentials for the next 50 years. This report makes no mention of waterway development. It predicts the reemergence of railroads for long haul freight, the principle competitor to waterway freight transport. The report goes into considerable detail on rail and truck freight systems, projecting positive growth in both. Under the general heading of shipping, referring to ocean commerce, it forecasts new technology in barge traffic to allow the direct movement from the oceans to inland ports. It recognizes that inland ports are under utilized and makes no attempt to tie the inland and coastal water transportation facilities into a single system, other than through new barge technology. Only seven pages of this two volume report are devoted to shipping and only

two paragraphs to new barge technology. The remainder of the seven pages focus on transocean shipping.³² No discussion of what waterways were needed in the future was included. The U.S. Army and the COE were not listed among the contributing elements of the Federal government to the report.

In February 1990, DOT issued its latest report on national transportation policy. This policy is to be "...equitable in dealing with the various modes and forms of transportation."³³ It is to ensure that an unfair competitive advantage is not provided to any mode of transportation. DOT sets a goal for itself: continuing multidisciplinary, multimodal strategic planning of transportation. This 129 page policy document acknowledges that the COE operates the harbors and inland waterways in one sentence. No further mention is made of the needs of this system. No analysis for waterways, comparable to the other modes of transportation, is contained in this document. A key policy item is the need to foster a sound financial base for transportation. Reliance will be placed on user charges to finance the Federal share of transportation expenditures. The states and local municipalities are encouraged to support transportation infrastructure improvements through local use fees. Attraction of private capital is encouraged.³⁴

It is clear that without a strong, knowledgeable advocate within DOT for the waterway system, DOT will not be able to integrate this mode of transportation with the others. MARAD has not

provided that advocacy effectively. Interagency coordination for the development of a coordinated policy has not captured the waterway system into an integrated transportation system, judging from the two efforts over the last 15 years.

President Bush, on 13 February 1991, announced the first step in implementing the new DOT policy by submitting a legislative proposal for highway improvements: the Surface Transportation Assistance Act of 1991. His remarks noted that "...the status quo will not get us there."³⁵ The status quo will not do for the waterways system.

The legislative hearings and debate that created DOT realized the Department would not remain static as configured. In particular, the House committee report recognized that

"(t)he maritime phase of our transportation system does not exist alone and by itself. With very few exceptions, the transportation of goods which are carried in ships neither begins nor ends at the docks. Exports are crated and shipped or shipped in bulk from points within the United States to the dockside and imports are brought from the docks to their points of consumption within the country. Studies and work on the improvement of transportation must encompass the complete flow of goods through the national channels of transportation. The elimination of one essential element would lead to gaps in the job that has to

be done...we believe that when the problems of all other modes of transportation are being put under a Department whose purpose is to foster their growth, improve their efficiency and strengthen them economically, any major phase of our transportation industry which is left out of this Department would suffer because it would not have the same vigorous Cabinet-level push behind it.¹³⁶

Over time, UMTA and MARAD have been added to DOT. I propose that some elements of the COE be added to DOT so that waterways can be integrated into the national transportation system.

All modes of transportation in DOT have a trust fund associated with them. DOT agencies make recommendations through the Secretary, to the Administration, Office of Management and Budget, and the President on how funds should be spent. Congress acts on the final recommendations in the appropriations process. Waterways do have a trust fund, from the user fuel tax collected. In addition, a Harbor Maintenance Trust Fund has been created. While these funds are collected by the Treasury Department, the COE influences how they are spent. Two Boards are utilized in the process.

First, Public Law 99-662 established the Inland Waterways Users Board. This board is selected by the Secretary of the Army from the various users of the inland and intracoastal waterways. DOT may provide an observer to the Board (currently the Deputy

Administrator for Inland Waterways of MARAD).³⁷ The board provides recommendations to the Secretary of the Army regarding the construction and rehabilitation priorities of projects. It also recommends spending levels. It forwards its report to the Secretary of the Army and the Congress.³⁸

The second board is the COE's Board of Engineers for Rivers And Harbors. This board is composed of COE division chiefs. It reviews all reports of examination and surveys of river and harbor projects authorized by the Congress. It recommends start or continuation of rivers and harbor improvement projects. Its report goes to the Chief of Engineers and the appropriate committees of Congress. While this is an engineering technical review board, it does influence priorities. DOT is not represented in any way on this Board.³⁹

These two boards, along with the trust funds, give the COE the clout to influence waterway improvements. Waterway users go to the COE, not DOT, to support waterway development. COE has the funds, the engineering talent, and oversees priority recommendations to the Congress. MARAD's small staff has no funds, engineering talent, or influence, so there is little reason for the domestic waterway users to come to DOT. This must be changed if DOT is to fulfill its legislated responsibility to promote an integrated transportation system.

EXPAND DOT ROLE

Integral to setting transportation policy is the need to maintain expertise in the various modes and influence the expenditure of funds. As I have discussed, DOT has neither expertise or influence. DOT needs to develop greater expertise in the waterway system. Day-to-day operations of the navigation locks should be shifted from the COE to DOT. The lock masters are civil service employees. They provide a transportation service. They collect utilization data that tracks the commercial health of the waterway system. Expansion of the Saint Lawrence Seaway Commission of DOT or MARAD would provide a home for this function. This would further strengthen DOT involvement in waterway operations and development. The COE would still manage construction and improvement projects, at the request of DOT and as appropriated by Congress.

To develop more influence in waterway and harbor development DOT must gain the ability to set priorities and recommend the allocation of funds. Thus DOT must control the trust funds and the Inland Waterways Users Board. This can most easily be done by reversing the roles of the Department of Army and Transportation with the Users Board. DOT should appoint the members of the Users Board. Its recommendations should be forwarded through DOT vice the Army to Congress. In that way, waterway navigation improvements could be integrated into other transportation systems. The Army, represented by the COE, would

sit as an observer to the Users Board. They could provide the engineering expertise the Inland Waterways Users Board may require.

Additionally, the report of the Rivers and Harbors Board should be forwarded to Congress through DOT. This would allow DOT to endorse those projects which conform to the national policy and an integrated transportation system.

I believe these three changes would satisfy the criticism identified by the National Transportation Study Commission. They identified the key issue as a "...need for comprehensive planning of waterway systems and their inclusion in national transportation plans."⁴⁰ The result will be improved coordination of water transportation with other modes.

CONCLUSION

LTG J. K. Bratton described the COE as "...an inherited national asset which has the capability and potential to provide high-quality and essential planning, engineering, and construction support to the Army, to other Defense elements, and to the Nation."⁴¹ It is important to preserve this asset. At the same time, transportation planning must become fully integrated. President Bush is proposing to Congress a new transportation agenda. Waterway transport is not included. My three proposals: (1) shifting day-to-day waterway operations to DOT, (2) DOT

assume the lead role in the Inland Waterway Users Board, and DOT endorsing the results of the Rivers and Harbors Board, will bring water transport into DOT without destroying the COE's considerable contributions to supporting the civil engineering work of this nation and preserving its potential to rapidly mobilize to support the defense needs of the United States. Ultimately, it is the Congress which must act. The current situation is rooted in law. The Administration can do little on its own to bring these needed changes to fruition. DOT must be completed if transportation investment is to be performed wisely.

END NOTES

1. U.S. Department of the Army, Office of the Chief of Engineers, Historical Vignettes, EP 873-1-1 Vol 2, p. 83.
2. See statements of Stanley Resor, Secretary of the Army 1967, and GEN Harold K. Johnson, Chief of Staff U.S. Army 1967, before the Senate Subcommittee on Executive Reorganization, Committee on Government Operations.
3. Forest G. Hill, Roads, Rails, & Waterways, pp 37-44.
4. Ibid., pp 163-164.
5. Ibid., pp. 167-171.
6. Ibid., p. 176.
7. Ibid., p. 177.
8. Ibid., p. 187.
9. Ibid., p. 191.
10. Ibid., pp. 193-195.
11. Drago, Harry Sinclair, Canal Days in America, pp. 251-254.
12. U.S. Congress 43rd, 1st Session, Laws Affecting the Corps of Engineers U.S. Army, Chap. 457, p. 19.
13. U.S. Congress 46th, 2nd Session, Laws Affecting the Corps of Engineers U.S. Army, Chap. 211, p. 18.
14. U.S. Congress 51st, 1st Session, Laws Affecting the Corps of Engineers U.S. Army, pp. 57-73.
15. Capron, Walter C., U.S. Coast Guard, pp. 40-51.
16. U.S. Department of the Army, Corps of Engineers, Institute for Water Resources, The 1988 Inland Waterway Review, pp. 9-14.
17. Ibid., pp. 9-26.
18. Ibid., p. 15.
19. Ibid., p. 28.
20. Ibid., p. 85.
21. COL Carol Todd, U.S. Army Corps of Engineers, letter to author, 7 February 1991.
22. Ibid.

23. Herman Mertins Jr., National Transportation Policy in Transition, p. 3.
24. Ibid., p. 5.
25. Ibid., p. 31.
26. Ibid., p. 32.
27. Ibid., pp. 35-36.
28. Ibid., p. 38.
29. Ibid., p. 63.
30. U.S. Congress, House, Committee Report No. 1710, in United States Code Congressional and Administrative News, 1965 Vol. 3, p. 3374.
31. Telephone interview with Director Howard G. Norseth, Officer of Domestic Shipping, Maritime Administration, Washington DC, 8 February 1991.
32. U.S. Department of Transportation, Transportation in America's Future Potentials for the Next Half Century, Vol. 2, pp. 63-69.
33. U.S. Department of Transportation, Moving America New Directions. New Opportunities p. 29.
34. Ibid., pp. 1-129.
35. George Bush, Remarks Announcing the Proposed Surface Transportation Assistance Act of 1991, 13 February 1991.
36. U.S. Congress, House, Committee Report No. 1710, p. 3384.
37. Norseth.
38. United States Code, 1988, Vol. 13, Title 33, section 2251, p. 1203.
39. Telephone interview with Mr. Charles Sargent, Rivers and Harbors Board, U.S. Army Corps of Engineers, Washington DC, 15 February 1991.
40. National Transportation Policy Study Commission, National Transportation Policies Through The Year 2000. Final Report, p. 64.
41. U.S. Army Corps of Engineers White Paper 1982, Challenges for the 1980's in Serving the Army and the Nation, 15 October 1982.

BIBLIOGRAPHY

- Clement, Fred. The Department of the Interior. New York, NY: Chelsea House Publishers, 1989.
- Cramsey, John J. Transportation Diary. Woodbridge, VA: 1989.
- Drago, Harry Sinclair. Canal Days in America. New York, NY: Clarkson N. Potter, Inc./Publisher, 1972.
- Griffin, Robert J. Jr., The Department of Commerce. New York, NY: Chelsea House Publishers, 1991.
- Hill, Forest G., Roads, Rails, & Waterways.
- Maass, Arthur. Muddy Waters The Army Engineers and the Nation's River. Cambridge, MA: Harvard University Press, 1951.
- Mertins, Herman Jr., National Transportation Policy in Transition. Lexington, MA: Lexington Books, 1972.
- National Transportation Policy Study Commission, National Transportation Policies Through the Year 2000. Final Report. Washington, DC: U.S. Government Printing Office, 1979.
- Todd, Carol, COL U.S. Corps of Engineers. Letter to author, 7 February 1991.
- U.S. Congress, House, Committee Report No.1710, United States Code Congressional and Administrative News, 1966 Vol. 3. St. Paul, MN: West Publishing, 1967.
- U.S. Department of the Army, Annual Report of the Secretary of the Army on Civil Works Activities for FY 1987. Volume II.
- U.S. Department of the Army, Annual Report of the Secretary of the Army on Civil Works Activities for FY 1988. Volume I.
- U.S. Department of the Army, Corps of Engineers, Navigation: The Role of the Corps.
- U.S. Department of the Army, Corps of Engineers, The History of the U.S. Army Corps of Engineers. EP 360-1-21.
- U.S. Department of the Army, Corps of Engineers, Institute for Water Resources. The 1988 Inland Waterway Review. IWR Report 88-R-7 1988.
- U.S. Department of the Army, Corps of Engineers, Shubert, Frank N. (Editor), The Nation Builders. A Sesquicentennial History of the Corps of Topographical Engineers 1838-1863. EP870-1-37. Washington, DC: U.S. Government Printing Office, 1988.
- U.S. Department of Transportation, 1974 National Transportation

Report Current Performance and Future Prospects. Washington, DC:
U.S. Government Printing Office, July 1975.

U.S. Department of Transportation, Transportation in America's
Future Potentials for the Next Half Century. Menlo Park, CA:
Stanford Research Institute, June 1977.

U.S. Department of Transportation, Moving America New Directions,
New Opportunities.

APPENDIX A

NAVIGATION LAWS THAT AFFECT THE CORPS OF ENGINEERS

TITLE 33 UNITED STATES CODE

Section 1: The Secretary of the Army shall prescribe such regulations for the use, administration and navigation of the navigable waters of the United States for the protection of life and property or the operations of channel improvement. (Aug 18, 1894)

Section 2: The Secretary of the Army is authorized to make such rules and regulations for the navigation of the South and Southwest Passes of the Mississippi River as to him shall seem necessary or expedient for the purpose of preventing any obstruction to the channels. (Mar 3, 1909)

Section 3: The Secretary of the Army is authorized to prescribe such regulations for the use and navigation of the navigable waters of the United States endangered or likely to be endangered by artillery fire. (Jul 9, 1918)

Section 7: The Government iron pier in Delaware Bay near Lewes Delaware, shall be open to public use under regulations to be prescribed by the Secretary of the Army. (Jul 27, 1916)

Section 403: The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited . . . except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army. (Mar 3, 1899)

Section 403b: Whenever the Secretary considers a permit application for a dock or a boat launching facility under section 403, he shall consider the needs of such facility for lighting from sunset to sunrise. (Nov 17, 1986)

Section 404: Where it is made manifest to the Secretary of the Army that the establishment of harbor lines is essential to the preservation and protection of harbors he may, and is authorized to cause such lines to be established. (Mar 3, 1899)

Section 405: The provisions of section 404 are made applicable to the Potomac and Anacostia Rivers. (Jul 25, 1912)

Section 407: It shall not be lawful to throw, discharge, or deposit, or cause, suffer or procure to be thrown, discharged, or deposited either from or out of any ship, barge, or other

floating craft of any kind, or from the shore, wharf, manufacturing establishment, or mill of any kind, any refuse matter of any kind or description whatever other than that flowing from streets and sewers and passing therefrom in a liquid state, into any navigable water of the United States or any tributary of any navigable water... provided further, That the Secretary of the Army, whenever in the judgement of the Chief of Engineers anchorage and navigation will not be injured thereby, may permit the deposit of material above mentioned in navigable waters. (Mar 3, 1899)

Section 407a: In places where harbor lines have not been established, and where deposits of debris of mines and stamp works can be made without injury to navigation, within lines to be established by the Secretary of the Army, said officer may, and is authorized to, cause such lines to be established; and within such lines such deposits may be made. (Aug 5, 1886)

Section 408: It shall be unlawful take possession of, use, or injury harbor or river improvements Provided further, the Secretary may, on the recommendation of the Chief of Engineers, grant permission for the alteration or permanent occupation or use of any of the aforementioned public works. (Mar 3, 1899)

Section 409: It shall not be lawful to tie up or anchor vessels or other craft in navigable channels in such a manner as to prevent or obstruct the passage of other vessels or craft; or to sink, or permit or cause to be sunk, vessels or other craft in navigable channels; or to float loose timbers and logs, or to float what is known as 'sack rafts of timber and logs'. (Mar 3, 1899)

Section 410: The prohibition contained in section 409 against floating loose timber and logs, or sacks rafts ... shall not apply ... whereon the floating of loose timber and logs and sack rafts of timber is the principal method of navigation ... subject to the rules and regulations prescribed by Secretary of the Army ... The said rules and regulations shall be so framed as to equitably adjust conflicting interests between the different methods and forms of navigation. (May 9, 1900)

Section 412: Masters, pilots, and engineers or any person acting in such capacity on board any boat or vessel who shall knowingly engage in towing any scow, boat, or vessel loaded with any material specified in section 407 to any point or place of deposit or discharge in a navigable water, elsewhere than within the limits defined and permitted by the Secretary of the Army, or Who shall willfully injure or destroy any work contemplated in section 408, or who shall willfully obstruct the channel of any waterway in the manner contemplated in section 409 shall be deemed guilty of a violation, and upon conviction shall be punished as provided in section 411. (Mar 3, 1899)

Section 413: The Department of Justice shall conduct the legal

proceedings necessary to enforce the provisions of sections 401, 403, 404, 405, 407, 408, 409, 411, and 412 whenever requested to do so by the Secretary of the Army or by any other officials hereinafter designated, including the collectors of customs and other revenue officers. (Mar 3, 1899)

Section 414: Whenever the navigation of navigable waters of the United States shall be obstructed or endangered by any sunken vessel, boat, watercraft, raft, or other similar obstruction and such obstruction has existed for a period longer than 30 days, then the Secretary of the Army shall cause such obstruction to be removed, broken up, sold or otherwise disposed of at his discretion, without liability for any damages from the owners of the same. (Mar 3, 1899)

Section 415: Under an emergency the Secretary of the Army can have removed immediately an obstruction mentioned in section 414. (Mar 3, 1899)

Section 418: Nothing contained in sections 401, 403, 404, 405, 407, 408, 409, 411 to 416, and 502 shall be construed as affecting in any manner sections 441 et seq. regarding the protection of New York Harbor. (Mar 3, 1899)

Section 419: The Secretary of the Army is authorized and empowered to prescribe regulations to govern the transportation and dumping into any navigable water, or water adjacent thereto, of dredgings, earth, garbage, and other refuse materials of any kind, whenever in his judgement such regulations are required in the interest of navigation. (Mar 3, 1905)

Section 441: The placing, discharging, or depositing, by any process or in any manner, of refuse, dirt, ashes, cinders, mud, sand, dredgings, sludge, acid, or any other matter of any kind, other than that flowing from streets, sewers, and passing therefrom in a liquid state in the waters of New York Harbor, Hampton Roads Harbor, and Baltimore Harbor, within the limits which shall be prescribed by the supervisor of the harbor, is strictly forbidden. (Jun 29, 1888)

Section 442: Masters and engineers, or any person acting in such capacity, respectively, on board of any boat or vessel, who shall knowingly engage in towing any scow, boat, or vessel loaded with any such prohibited matter to any point or place of deposit, or discharge in the waters of section 441, or to any point elsewhere than within the limits defined and permitted by the supervisor of the harbor shall be deemed guilty of a violation of section 441. (Jun 29, 1888)

Section 451: An officer of the COE shall for each harbor of section 441, be designated by the Secretary of the Army as supervisor of the harbor, to act under the direction of the Chief of Engineers in enforcing the provisions of section 441 et seq., and in detecting offenders against the same. Each such officer

shall have personal charge and supervision under the Chief of Engineers, and shall direct the patrol boats and other means to detect and bring to punishment offenders against the provisions of section 441 et seq. (Jun 29, 1888)

Section 451a: Lists the harbors of New York, Hampton Roads, and Baltimore as being subject to sections 441 et seq. (Jun 29, 1888)

Section 451b: Defines the waters for each of the harbors in section 451a. (Jun 29, 1888)

Section 541: There shall be organized in the office of the Chief of Engineers, United States Army, by detail from time to time from the CCE, a board of seven engineer officers, a majority of whom shall be of a rank not less than LCOL, whose duties shall be fixed by the Chief of Engineers, and to whom shall be referred for consideration and recommendation, in addition to any other duties assigned, so far as in the opinion of the Chief of Engineers may be necessary, all reports upon examinations and surveys provided for by Congress, and all projects or changes in projects for works of river and harbor improvement. The board shall submit to the Chief of Engineers recommendations as to the desirability of commencing or continuing any and all improvements upon which reports are required. In the consideration of such works and projects the board shall have in view the amount and character of commerce existing and reasonably prospective which will be benefited by the improvement, and the relation of the ultimate cost of such work, both as to cost of construction and maintenance, to the commercial interests involved, and to the public necessity for the work and propriety of its construction, continuance, or maintenance at the expense of the United States. (Jun 13, 1902)

Section 542: All reports on examinations and surveys authorized by law shall be reviewed by the Board of Engineers for Rivers and Harbors as provided for in section 541 and all special reports ordered by Congress shall, at the discretion of the Chief of Engineers, be reviewed. (Jun 13, 1902)

Section 562a: The Chief of Engineers is hereby authorized to maintain authorized river and harbor projects in excess of authorized project depths where such excess depths have been provided by the United States for defense purposes and whenever the Chief of Engineers determines that such waterways also serve essential needs of general commerce. (Aug 13, 1968)

Section 572: Direct allotments from appropriations for the maintenance and improvement of existing river and harbor works, or from other available appropriations may be made by the the Secretary of the Army for the collection and removal of drift in Baltimore Harbor and its tributary waters. (Jun 30, 1948)

Section 602: The Secretary of the Army is directed to take charge of the maintenance of the South Pass of the Mississippi

River and maintain efficiently. (Aug 11, 1888)

Section 603a: The Secretary of the Army is authorized to remove accumulated snags and other debris for improvement of rivers and harbors, and for protecting, clearing, and straightening channels in navigable harbors and streams. (Mar 2, 1945)

Section 604: The Secretary of the Army is authorized to remove snags, wrecks, and other obstructions in the Mississippi River, the Atchafalaya and Old Rivers. (Aug 11, 1888)

Section 605: The Secretary of the Army is authorized to secure the uninterrupted work of operating snag boats on the Upper Mississippi River, the Illinois River, and the Minnesota River and other tributaries of the Upper Mississippi River improved by the United States. (Aug 11, 1888)

Section 606: The Secretary of the Army is authorized to secure the uninterrupted work of operating snag boats on the Ohio River in order to remove snags, wrecks, and other obstructions in said river. (Sept 19, 1890)

Section 607: The Secretary of the Army is authorized in New York Harbor and its immediate tributaries to collect and remove drift from the waterways. (Aug 8, 1917)

Section 622a: The Secretary of the Army, acting through the Chief of Engineers, shall by contract or otherwise, carry out projects for improvement of rivers and harbors in the manner most economical and advantageous to the United States. (Aug 11, 1888)

Section 622b: The Secretary of the Army shall retain only the minimum federally owned fleet capable of performing the work of subsection 622a needed for emergency and national defense work. (Apr 26, 1978)

Section 652: It is the intent of Congress to recognize the Upper Mississippi River system as a nationally significant ecosystem and commercial navigation system. The affected states may enter into cooperative agreements with the United States for the comprehensive planning for the use, protection, growth, and development of the Upper Mississippi River system. The Secretary of the Army shall identify those measures developed by the Secretary, in consultation with the Secretary of Transportation and the affected states or their agencies, to be undertaken to increase the capacity of specific locks throughout the system. The Secretary of the Army shall monitor traffic movement for the purpose of verifying lock capacity so as to verify the need for future capacity expansion. (Nov 17, 1986)

Section 2251: The Secretary of the Army shall appoint to the Inland Waterways Users Board eleven members. They shall represent various regions of the country and a spectrum of the primary users and shippers utilizing the inland and intracoastal

waterways for commercial purposes. The Secretary of the Army shall designate, and the Secretaries of Agriculture, Transportation, and Commerce may each designate an observer of the Board. (Nov 17, 1896)

Section 1321o(3): Nothing in this section (Duties of the EPA) shall be construed as affecting or modifying any other existing authority of any Federal department, agency, or instrumentality, relative to onshore or offshore facilities under this chapter or any other provision of law. (Dec 27, 1977)

Section 1341c: The Secretary of the Army, acting through the Chief of Engineers, is authorized to permit the use of spoil disposal areas under his jurisdiction by Federal licensees or permittees. (Jun 30, 1948)

Section 1344: The Secretary of the Army may issue permits for the discharge of dredged or fill material into the navigable waters at specified disposal sites. (Jun 30, 1948)